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Federal Grain Inspection Service

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Rice Inspection Handbook

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Program Handbook

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Foreword

The Rice Inspection Handbook sets forth the policies and procedures for sampling, inspecting, and certifying rice in accordance with the regulations under the Agricultural Marketing Act (AMA) of 1946, as amended. These regulations establish the basic guidelines for inspecting rice and authorize the issuance of such additional guidelines as may be necessary for the interpretation and application of the United States Standards for Rice.

The information contained in this handbook is applicable to official rice inspection services performed by the Federal Grain Inspection Service (FGIS)—a program under the Agricultural Marketing Service (AMS)—an agency or department of the Federal Government that has an interagency agreement, a State Agency, or other entity that has an agreement with FGIS to conduct commodity inspection services under the AMA. Persons interested in obtaining official services may contact any FGIS field office or cooperator.

Trade names are used solely to provide specific information. The mention of trade names does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture or an endorsement by the Department over other products not mentioned.

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GENERAL INFORMATION

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1.1 INTRODUCTION

The inspection of rice is a service provided under the United States Agricultural Marketing Act (AMA) of 1946, as amended. Service is provided by either a Federal Grain Inspection Service (FGIS) field office or a cooperator upon request depending upon the location of the lot and the type of inspection requested.

1.2 DEFINITIONS

Appeal Inspection. A review by FGIS of the result(s) of an original inspection or retest inspection service.

Board Appeal Inspection. A review by the FGIS - Board of Appeals and Review of the result(s) of an original inspection or appeal inspection service on graded commodities.

Cargo Shipment. Bulk or bagged rice that is loaded directly aboard waterborne carrier for shipment. Rice loaded aboard a land carrier for shipment aboard a waterborne carrier must not be considered a cargo shipment.

Carrier. A truck, trailer, truck/trailer(s) combination, railroad car, shipping container, barge, ship, or other container used to transport bulk, sacked, or packaged commodity.

Certification. The process of issuing an official certificate that indicates the quality of a lot or sample of rice or the results of some other official service.

Checkcounting. The process of determining the total number of filled outer containers in a lot in order to determine that the number of containers shown by the applicant is correct and certifying the results.

Checkloading. The process of performing a stowage examination on a carrier, computing the number of filled rice containers loaded aboard the carrier, observing the condition of the rice containers loaded aboard the carrier, sealing the carrier, if practicable, and certifying the results.

Checkweighing. The process of weighing a selected number of containers from a rice lot, determining the estimated total gross, tare, and net weight, or the estimated average gross or net weight per filled container, and certifying the results.

Composite Sample. A single sample composed of small portions (component samples) taken throughout a lot. A composite sample may be inspected as a sublot or a single lot.

Condition Inspection. The process of determining whether an identifiable rice lot is water damaged, fire damaged, or has rodent or bird contamination, insect infestation, or any other deteriorating condition and certifying the results.

Container. A carrier (e.g., trucks, railcars, barges, ships, and shipping containers) or a bin, other storage space, bag, box, or other receptacle for rice.

Cooperator. An agency or department of the Federal Government that has an interagency agreement or State agency that has a reimbursable agreement with FGIS.

Interested Person. Any person having a contract or other financial interest in a commodity as the owner, seller, purchaser, warehouseman, carrier, or otherwise.

Lot. Any identified amount of rice offered by an applicant for inspection.

Lot (Quality) Inspection. The process of obtaining a representative sample(s) of an identified rice lot, examining or testing the sample(s), examining relevant records of the lot, and certifying the results.

Not Standardized Rice. A lot/sample offered for inspection that does not meet the U.S. Standards for Rough Rice, Brown Rice for Processing, or Milled Rice.

Observation of Loading. The process of determining that an identified lot has been moved from a warehouse or carrier and loaded into another warehouse or carrier and certifying the results.

Official Personnel. Any authorized Department employee or person licensed by FGIS to perform all or specified functions under the AMA.

Official Sample. A representative sample drawn by official personnel licensed or authorized by FGIS.

Plant Examination. The process of performing a facility examination according to the Food and Drug Administration requirements found in the FGIS Sanitation and Food Defense Handbook.

Plate. An approved laboratory device with a perforated tray and a fixed back plate mounted on a frame for use in separating particles of various sizes.

a. 5 Plate. A laminated metal plate 0.142-inch thick, with a top lamina, 0.051-inch thick, perforated with rows of round holes 0.0781 (5⁄64) inch in diameter, 5⁄32-inch from center to center, with each row staggered in relation to the adjacent rows, and a bottom lamina 0.091-inch thick, without perforations.

b. 6 Plate. A laminated metal plate 0.142-inch thick, with a top lamina 0.051-inch thick, perforated with rows of round holes 0.0938 (6/64) inch in diameter, 5/32-inch from center to center, with each row staggered in relation to the adjacent rows, and a bottom lamina 0.091inch thick, without perforations.

Representative Sample. A sample that has been (1) obtained by official personnel, (2) has been obtained, handled, and submitted in accordance with the instructions and (3) is of the size prescribed in the instructions.

Sampling. The process of drawing a sample from a lot of rice.

Security Container. A locked container in which official personnel store rice samples, supplies, and equipment.

Sieve. Approved laboratory device with perforations for use in separating particles of various sizes.

a. 2 ½ Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.0391 (2 ½ /64) inch in diameter, 0.075-inch from center to center, with each row staggered in relation to the adjacent rows.

b. 4 Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.0625 (4/64) inch in diameter, 1⁄8 inch from center to center, with each row staggered in relation to the adjacent rows.

c. 5 Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.0781 (5⁄64) inch in diameter, 5⁄32 inch from center to center, with each row staggered in relation to the adjacent rows.

d. 5 ½ Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.0859 (5 ½ /64) inch in diameter, 9⁄64 inch from center to center, with each row staggered in relation to the adjacent rows.

e. 6 Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.0938 (6/64) inch in diameter, 5/32 inch from center to center, with each row staggered in relation to the adjacent rows.

f. 6 ½ Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.1016 (6 ½ /64) inch in diameter, 5/32 inch from center to center, with each row staggered in relation to the adjacent rows.

g. 30 Sieve. A woven wire cloth sieve having 0.0234-inch openings, with a wire diameter of 0.0153 inch, and meeting the specifications of American Society for Testing and Materials Designation E-11-61, prescribed in FGIS instructions.

Southern Production. Rice grown in Arkansas, Louisiana, Mississippi, Missouri, Texas, or the surrounding areas.

Stowage Examination. The process of visually determining if an identified carrier or container is clean; dry; free of live infestation, rodents, toxic substances, and foreign odors; and suitable to store or carry rice, then certifying the results.

Submitted Sample. A sample that has been provided by the applicant and/or a sample that does not meet the criteria of a representative sample.

Submitted Sample Inspection. The process of grading or testing a sample of rice submitted by an applicant and certifying the results.

Type Sample. Samples of rice (not officially sampled) obtained by an applicant and sent to prospective buyers to demonstrate product quality or analyze for conformance to a prospective buyer's standards. The quantity is identified as the entire lot.

Western Production. Rice grown in California and surrounding areas.

1.3 ABBREVIATIONS

The following abbreviations may be shown on work records.

AV	Average	LBK	Large broken kernels	RUF	Rough rice
B	Brewers	LG	Long grain	RWM	Reasonably well-milled
BDA	Badly-damaged appearance	LGBR	Long Grain Brown Rice for Processing	s	Sampling
BK	Broken kernels	LGMR	Long Grain Milled Rice	S	Sieve
BMR	Brewers Milled Rice	LGRUF	Long Grain Rough Rice	SC	Screenings
BRK	Brown rice kernels	LIG	Light gray	SD	Seeds
C	Color	LIM	Lightly milled	SG	Sample grade
CC	Checkcounting	LS	Lightly stained	SH	Second head
CE	Condition examination	LW	Live weevils	SHG	Short grain
CH	Chalky kernels	M	Moisture	SGBR	Short Grain Brown Rice for Processing
CL	Class	m	meter(s)	SGMR	Short Grain Milled Rice
CLO	Checkloading	MD	Milling degree	SRUF	Short Grain Rough Rice
cm	Centimeter(s)	MG	Medium grain	SHMR	Second Head Milled Rice
COFO	Commercially objectionable foreign odor	MGBR	Medium Grain Brown Rice for Processing	SLG	Slightly gray
CR	Creamy	MGMR	Medium Grain Milled Rice	SLRO	Slightly rosy
CT	Count	MRUF	Medium Grain Rough Rice	SMR	Screenings Milled Rice
CTD	Coated	ml	Milliliter(s)	SK	Smutty
CW	Checkweighing	mm	Millimeter	SOUR	Sour
DG	Dark gray	MOTH	Angoumois moth	SR	See reverse
DHT	Damaged by heat	MR	Milled rice	STE	Stowage examination

DK	Damaged kernels	MREQ	Milling requirement	TBK	Total broken kernels
DKG	Dockage	MUST	Musty	TR	Total rice
DLQ	Distinctly low quality	MY	Milling yield	TS	Total seeds
DW	Dead weevils	NOBS	Non-objectionable seeds	TW	Test weight per bushel
ENR	Enriched milled rice	NPB	Nonparboiled rice	UGK	Ungelatinized kernels
ERA	Extremely red appearance	NSR	Not standardized rice	UM	Under milled
FE	Facility examination	O	Odor	URM	Unrelated material
FM	Foreign material	OB	Observing of loading	V	Variety
FORT	Fortified milled rice	OBS	Objectionable seeds	VR	Very rosy
FSUB	Unknown foreign substance	ODI	Other dead insects	WH	White
ft	Foot (Feet)	OLI	Other live insects	WF	Witness of fumigation
g	Gram(s)	OT	Other types	WK	Whole kernels
GRL	Granulated	P	Paddy Kernels	WLBK	Whole and large broken kernels
HDP	Heat-damaged kernels, kernels damaged by heat, or parboiled kernels in non parboiled rice	PL	Plate	WM	Well milled
HP	Handpicked	PB	Parboiled	WMK	Well milled kernels
HT	Heat-damaged kernels	PBD	Parboiled dark	WVLY	Weevily
HTG	Heating	PBL	Parboiled light	XBR	Mixed Brown Rice for Processing
INR	Insect refuse	RLSR	Roundlot-see reverse	XMR	Mixed Milled Rice

INW	Insect webbing	RO	Rosy	XRUF	Mixed Rough Rice
kg	Kilogram(s)	RM	Related material	#	U.S. No.
lb	Pound(s)	RR	Red rice	#SG	U.S. Sample grade

1.4 ORIGINAL INSPECTION SERVICES

a. Any interested person may request an original inspection.

b. Requests may be made verbally, in writing, or electronically, using FGIS-907, "Application for Inspection and Weighing Services." Cooperators must use a similar form.

(1) Verbal requests must be confirmed, in writing. All written requests must be made in English and include the following:

(a) The identification, quantity, and location of the rice;

(b) The type of service(s) requested;

(c) The applicant account number;

(d) Names and mailing addresses/email addresses of interested persons; and

(e) Any other relevant information that official personnel require.

c. Copies of FGIS-907, "Application for Inspection and Weighing Services," can be found at the link provided here, or may be obtained from any FGIS field office. Contact the cooperator to request copies of similar forms. If all required documentation is not available when the request is made, it must be provided as soon as it is available. At their discretion, official personnel may withhold inspection service pending receipt of the required documentation.

d. Requests for services, other than submitted sample inspections, must be made with the FGIS field office or cooperator responsible for the area in which the service will be provided.

e. Requests for submitted sample inspections may be made with any FGIS field office or cooperator that provides original rice inspection services.

f. Requests for services to be performed during loading, unloading, handling, or processing must be submitted far enough in advance so official personnel can be present.

Note: Only Appeal and Board Appeal Inspections are available after an original inspection for rice, there is no reinspection. The applicant, however, may request to bypass an Appeal inspection and go directly to a Board Appeal.

1.5 RETEST INSPECTION SERVICES

a. Any interested person may request a retest inspection service on chemically tested (nongrade) factors (e.g., Total Oil and Free Fatty Acid, enrichment, and aflatoxin). When more than one interested person requests a retest inspection, the first interested person to file is the applicant of record.

b. Requests may be made verbally or in writing.

(1) Verbal requests must be confirmed in writing. All written requests must be made in English and include the following:

(a) The identification, quantity, and location of the rice;

(b) The type of service(s) requested;

(c) The applicant account number;

(d) Names and mailing addresses/email addresses of interested persons; and

(e) Any other relevant information that official personnel require.

(2) Requests must be filed with the FGIS field office responsible for the area in which the original inspection was performed.

(3) Copies of request forms may be obtained from any FGIS field office or cooperator. If all required documentation is not available when the request is made, it must be provided as soon as it is available. At their discretion, official personnel may withhold inspection service pending receipt of the required documentation.

c. A retest inspection must only be performed by an authorized person. Official personnel must not perform, participate in performing, or issue a certificate if they participated in a previous inspection or certification of the lot unless there is only one authorized person available at the time and place of the requested retest inspection.

d. Only one retest inspection may be obtained from any original inspection.

e. The scope of a retest inspection may be requested for any or all quality factors tested. If the request specifies a different scope, the request must be dismissed.

f. A retest inspection must be limited to an analysis of the file sample.

g. A retest inspection certificate supersedes the original inspection certificate. The superseded certificate will be considered null and void as of the date of the retest inspection certificate.

h. A retest inspection certificate must be issued before the close of business on the business day following the date the retest inspection is completed. A complete list of approved statements for retest inspections can be found in section 6.18(f) of this handbook.

i. A request for a retest inspection must be dismissed when one of the following occurs:

(1) The scope is different from the scope of the original inspection;

(2) The condition of the rice has undergone a material change;

(3) A representative file sample is not available;

(4) The applicant requests a new sample; or

(5) The reasons for the retest are frivolous.

j. Official personnel must notify the applicant of the proposed dismissal of service. The applicant must then be afforded reasonable time to take corrective action or to demonstrate there is no basis for the dismissal. If the corrective action has not been adequate, the applicant must be notified of the decision to dismiss the request for service; and any results of service must not be released.

k. An applicant may withdraw a request for retest inspection any time before official personnel release results, either verbally or in writing. Verbal requests must be confirmed, in writing. All written requests must be made in English

Note: Applicants who withdraw a request for service may be billed for all expenses incurred prior to withdrawal.

1.6 APPEAL INSPECTION SERVICES

a. Any interested person may request an appeal inspection. When more than one interested person requests an appeal inspection, the first interested person to file is the applicant of record.

b. Requests may be made verbally or in writing.

(1) Verbal requests must be confirmed, in writing. All written requests must be made in English and include the following:

(a) The identification, quantity, and location of the rice;

(b) The type of service(s) requested;

(c) The applicant account number;

(d) Names and mailing addresses/email addresses of interested persons; and

(e) Any other relevant information that official personnel require.

(2) Requests for appeal inspection services on quality (grade) factors must be filed with the FGIS field office responsible for the area in which the original inspection was performed. Requests for appeal inspection services on chemically-tested (nongrade) factors must also be filed with the FGIS field office responsible for the area in which the original inspection was performed. This office must then forward the request, with the file sample(s), to the appropriate office.

(3) Requests for appeal inspection services must be made before the rice has left the place where the inspection being appealed was performed and not later than the close of business on the second business day following the date of the inspection being appealed. However, the AMS FGIS Deputy Administrator may extend the time requirement, as deemed necessary.

(4) Copies of request forms may be obtained from the cooperator or FGIS field office. If all required documentation is not available when the request is made, it must be provided as soon as it is available. At their discretion, official personnel may withhold inspection service pending receipt of the required documentation.

c. An appeal inspection must only be performed by an authorized person.

d. Official personnel must not perform, participate in performing, or issue a certificate if they participated in a previous inspection or certification of the lot, unless there is only one authorized person available at the time and place of the requested appeal inspection.

e. Only one appeal inspection may be obtained from any original or retest inspection service.

f. The scope of an appeal inspection is limited to the scope of the original inspection. If the request specifies a different scope, the request will be dismissed. When chemically tested factors are appealed, all chemically tested factors must be tested and certified.

g. An applicant for service may request an appeal or Board appeal inspection of a specific factor(s) or official grade and factors. Appeal and Board appeal inspection for grade may include a review of any pertinent factor(s), as deemed necessary by official personnel.

h. The applicant may request that an appeal inspection be based on the file sample or the results based on a new sample. However, an appeal inspection must be based on a new sample only if the lot can positively be identified by official personnel as the lot that was previously inspected, and the entire lot is available and accessible for sampling and inspection.

i. An appeal inspection is limited to a review of the sampling procedures and an analysis of the file sample when, as a result of the original inspection, the rice is found to be contaminated with filth or to contain a deleterious substance. If it is determined that the sampling procedures were improper, a new sample will be obtained if the lot can be positively identified as the lot which was previously inspected, and the entire lot is available and accessible for sampling and inspection.

j. An appeal inspection certificate supersedes the original inspection certificate. The superseded certificate will be considered null and void as of the date of the appeal inspection certificate.

k. An appeal inspection certificate must be issued before the close of business on the business day following the date the appeal inspection is completed. A complete list of approved statements for appeal inspections can be found in section 6.18(f) of this handbook.

l. A request for an appeal inspection must be dismissed when one of the following occurs:

(1) The scope is different from the scope of the original inspection;

(2) The condition of the rice has undergone a material change;

(3) The request specifies a file sample and a representative file sample is not available;

(4) The applicant requests that a new sample be obtained and a new sample cannot be obtained; or

(5) The reasons for the appeal inspection are frivolous.

m. Official personnel must notify the applicant of the proposed dismissal of service. The applicant will then be afforded reasonable time to take corrective action or to demonstrate there is no basis for the dismissal. If the corrective action has not been adequate, the applicant must be notified of the decision to dismiss the request for service, and any results of service must not be released.

n. An applicant may withdraw a request for appeal inspection any time before official personnel release results, either verbally or in writing. Verbal requests must be confirmed, in writing. All written requests must be made in English

Note: Applicants who withdraw a request for service may be billed for all expenses incurred prior to withdrawal.

1.7 BOARD APPEAL INSPECTION SERVICES

a. Any interested person who is dissatisfied with the original or appeal inspection results may appeal to the FGIS Board of Appeals and Review (BAR). However, if the applicant elects to forgo the appeal and requests a Board Appeal, no further appeal may be made.

b. The Board appeal inspection must only be performed for physically determined quality (grade) factors and must be limited to an analysis of the file sample.

(1) When a request for a Board appeal inspection is filed, the file sample(s) and all other pertinent information must be immediately submitted to the BAR.

(2) The FGIS field office must act as a liaison between the BAR and the applicant.

(3) The Board appeal certificate must supersede any certificate previously issued and will be the final appeal inspection service.

c. A complete list of approved statements for board appeal inspections can be found in section 6.18(f) of this handbook.

1.8 NEW ORIGINAL INSPECTIONS

a. When the identity of the lot has been lost and /or circumstances prevent a retest, an appeal, or a Board appeal inspection, an applicant may request a new original inspection on any previously inspected lot. However, a new original inspection must not be performed on an identifiable rice lot that, as a result of a previous inspection, was found to be contaminated with filth or to contain a deleterious substance.

Note: Identity is not lost if the identity of the rice, carrier, or container is not lost. A new original inspection cannot be performed on the same identified lot of rice, carrier, or container in the same assigned area of responsibility within 5 business days after the last official inspection.

b. A certificate issued as a result of a new original inspection is, in fact, an original inspection certificate. It must be based on a new sample and must not be restricted to the scope of any previous inspection. Subsequently, the applicant for a new original inspection may request any or all of the inspection services provided for by the regulations.

c. A new original inspection certificate must not supersede any previously issued certificate.

1.9 CONTRACT SERVICE AGREEMENTS

a. Applicants for rice inspection services in areas served by an FGIS field office, may enter into a contract service agreement with the field office in order to ensure timely services and to obtain lower inspection charges.

(1) A contract service agreement is an agreement whereby the applicant agrees to pay contract rates for 8 hours of service per day for a predetermined number of official personnel, for at least 5 consecutive days per week.

(2) In turn, FGIS agrees to make official personnel available to the applicant for the specified period and to perform all requested services at reduced hourly rates.

(3) All hours of service worked in excess of the service agreement are charged at the noncontract rate.

(4) Service charges are not assessed under the service agreement for recognized federal holidays when, upon request of the applicant, service is not performed. The applicant should make this request not later than 2 p.m. the preceding business day.

b. To enter into a contract service agreement, the applicant must provide the appropriate FGIS field office with 60 days written notice specifying the proposed effective date of the service agreement. A service agreement may become effective prior to the proposed effective date with the consent of both parties.

If official grading and/or quality inspections are required onsite, the applicant must provide lab space for official inspections in accordance with *FGIS Directive 9160.5*, "Official Inspection Laboratory Location, Design and Maintenance Requirements."

c. To terminate a contract service agreement, the applicant must provide the appropriate FGIS field office with 60 days written notice specifying the date of termination. However, a service agreement may be terminated at any time by mutual consent of both parties.

d. FGIS reserves the right to the following:

(1) Determine the number of official personnel needed to perform the service for the contracted applicant, which may be different than the number of official personnel under contract;

(2) Terminate a contract service agreement by giving the applicant 60 days written notice specifying the date of termination; and

(3) Temporarily reassign official personnel from a contracted applicant when, in the opinion of FGIS, the official personnel are not needed to perform service for the contracted applicant.

Note: Charges will be assessed in accordance with Section 868.91, "Fees for certain Federal rice inspection services," of the regulations under the AMA.

1.10 REGISTERED TYPE AND TYPE SAMPLE INSPECTIONS

Registered Type Sample Inspections.

a. Applicants may request that the quality of rice in a lot be compared with the quality of an identified rice type sample that has been registered with an FGIS field office or cooperator.

When a registered type sample inspection is requested, the applicant must follow the below procedure:

(1) Submit a clearly identified rice sample for an inspection for quality or other criteria:

(a) The sample must not be less than 1,200 grams for milled rice, 1,800 grams for brown rice for processing, and 2,300 grams for rough rice.

(b) Official personnel may require a larger sample if portions are to be sent to other offices, or if the applicant requests that the sample be divided into several portions for submission to prospective buyers or brokers.

(2) If FGIS is requested to forward registered type sample(s) to prospective buyers or brokers, the applicant must supply the necessary containers and labels for samples to be shipped.

(3) Specify, in writing, all pertinent information, including the following:

(a) Identification of the type sample (e.g., Corkin Rice Mills type “Aunt Carolina Brand” or Duncan Rice Mill type 311); and

(b) Quality factor information or any other criteria information that is desired.

b. Official personnel must follow the below procedure:

(1) Perform a quality inspection as specified by the applicant and approved by the FGIS field office or cooperator;

(2) Issue a submitted sample inspection certificate;

(3) Register the type sample in the field office or office of the cooperator; and

(4) Retain a representative portion of the type sample, under refrigeration, for comparison with the sample(s) obtained from identified lot(s).

(a) Because of limited refrigerated storage and file space, and the possibility of quality factor change due to prolonged storage, type samples will not be retained for more than 1 year from the submitted sample inspection certificate issuance date.

(b) Notify the applicant of record at least 30 days prior to the expiration date of the type sample; and

(c) Destroy the type sample on the expiration date.

(5) When requested by the applicant, send a copy of the submitted sample inspection certificate and a sample of the rice to the BAR, other FGIS field offices, or cooperator offices that have been requested to compare the quality of an identified lot of rice against the type sample.

(6) If the applicant requests that one or more representative portions be divided out from the type sample for submission to prospective buyers or brokers, securely seal each representative portion in a plastic bag that has a label affixed.

Show the following information on the label:

(a) The statement, “This representative portion of rice was taken from type sample (sample identification) and was inspected, registered, and sealed by the (USDA, FGIS, or name of cooperator).”

(b) Office of inspection (city and state).

(c) Applicant (name, city, and state).

(d) Registration date (date).

(e) Expiration date (date).

(f) Submitted sample inspection certificate issued (identification).

(g) Name and signature of FGIS field office inspector or cooperator.

(7) Issue a lot inspection certificate when the quality of an identified lot of rice is compared against the type sample. State that the quality of the rice in the lot was either "equal to or better than" or "not equal to" the type sample.

For Example: "(Type of rice/grade and kind of rice). (Quality equal to or better than/Quality not equal to) (name of registered type sample)."

Type Sample Inspections. "Type" samples are samples of rice (not officially sampled) obtained by an applicant and sent to prospective buyers to demonstrate product quality or analyze for conformance to a prospective buyer's standards. The quantity is identified as the entire lot.

For Example: A 5-pound bag of Long Grain Milled Rice represents itself, a 5-pound bag of Long Grain Milled Rice.

Issuing Certificates. Issue an appropriate Submitted Sample Inspection Certificate as follows:

a. "Identification" section, show the identification of the sample provided by the applicant;

b. "Quantity" section, enter total weight (grams/pounds) of type sample; and

c. "REMARKS" section, identify the sample as a "Type" sample.

1.11 GRADE OPTIONS

a. Applicants for inspection may obtain “Option 1” or “Option 2” certification by requesting it on the application for inspection. The request must be filed prior to the beginning of the inspection.

(1) Under “Option 1,” rice offered for inspection is certified as a specific grade (e.g., “U.S. No. 2 Long Grain Rough Rice”).

(2) Under “Option 2,” rice offered for inspection would be certified as being a specific grade “or better” (e.g., “U.S. No. 3 or better Long Grain Rough Rice”). (Not available for submitted samples.)

Note: If no request for either option is submitted prior to the beginning of inspection, certification must be “Option 1.”

1.12 OTHERWISE GRADE INSPECTIONS

a. Applicants may request information as to what the quality of rice in a lot or sample would “otherwise grade” if the results of one or more factors were not considered.

b. When requested, official personnel must follow the below procedure:

(1) Determine and show the actual grade of the lot or sample in the space provided for the grade designation; or determine requested factors only and show the type or class of the rice on the grade line (e.g., “Milled Rice”).

(2) Show the grade determining factor results and the results of other analyses in the factor information space.

(3) Show the following statement in the “REMARKS” section of the certificate:

> “(Desired grade and kind) except for (factor(s) that prevent the lot or sample from being assigned the desired grade).”

c. The following are examples of otherwise grade designations:

EXAMPLE 1: An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is U.S. No. 4 Long Grain Milled Rice because of 17.0 percent total broken kernels.

Grade Designation. "U.S. No. 4 Long Grain Milled Rice."

Statement. "U.S. No. 3 Long Grain Milled Rice except for total broken kernels."

EXAMPLE 2: An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is of the class Mixed Milled Rice because of 18.9 percent other types.

Grade Designation. "U.S. No. 3 Mixed Milled Rice. Long grain whole kernels 72.0 percent, medium grain whole kernels 12.9 percent, long grain broken kernels 9.0 percent, medium or short grain broken kernels 6.0 percent, and seeds 0.1 percent."

Statement. "U.S. No. 3 Long Grain Milled Rice except for other types."

EXAMPLE 3: An application is received to inspect a lot of U.S. No. 5 Long Grain Milled Rice. The inspection determines that the rice is U.S. Sample Grade Long Grain Milled Rice because of 57.4 percent total broken kernels. The applicant does not want U.S. Sample Grade to be shown on the grade line. The factor results meet the grade limits for U.S. No. 3 Second Head Milled Rice.

Grade Designation. "Milled Rice."

Statement. "U.S. No. 3 Second Head Milled Rice except for whole kernels."

1.13 ORIGIN INSPECTIONS

a. Applicants may request that origin inspection certificates be issued which show that their rice is a product of the soil and industry of the United States.

b. When an origin inspection is requested, official personnel must follow the below procedure:

(1) Request from the applicant all relevant records that may indicate the origin of the rice;

(2) Obtain a representative sample; and

(3) Analyze the sample to verify that the rice compares favorably with types of rice known to be grown in the United States. The length/width ratios, size, shape, and other kernel characteristics should be considered in making this determination.

c. If after reviewing the relevant records and analyzing the rice, there is no indication that the rice is not a product of the soil and industry of the United States, show the following statement on the certificate:

> "The rice described herein and relevant records indicating the origin of the rice have been examined, and the rice is found to be a product of the soil and industry of the United States."

d. When records are not available or if the records are not sufficient to substantiate that the rice is a product of the soil and industry of the United States, but the representative sample appears to be of a type of rice common to the United States, the following statement may be shown on the certificate:

> "Applicant states that this rice is a product of the soil and industry of the United States."

1.14 COMBINED-LOT INSPECTIONS

a. Applicants may request a combined-lot inspection to be performed on single lots of rice during loading, unloading, at rest, or after officially inspecting and certifying rice as two or more single lots.

b. Requests for service must be in writing and include the following:

(1) The estimated quantity of rice that is to be certified as one lot;

(2) The contract grade, if applicable;

(3) The identity of each carrier into which the rice is being loaded or from which the rice is being unloaded; and

(4) Any other relevant information that official personnel require.

Note: For recertification of single lots as a combined-lot, the request for service must be filed no later than two business days after the latest inspection date of the single lots.

c. Rice in two or more carriers that are to be officially inspected as a combined-lot must be sampled in a reasonably continuous operation. Representative samples must be obtained from the rice in each individual carrier and inspected in accordance with the procedures as prescribed in Chapter 2, Sampling, of this handbook.

d. Rice that has been officially inspected and certified as two or more single lots may be recertified as a combined-lot if the following criteria is met:

(1) The rice in each single lot was sampled in a reasonably continuous operation;

(2) The original inspection certificates issued for the single lots have been voided by official personnel;

(3) Representative file samples of the single lots are available;

(4) The rice in the single lots is of one grade and quality;

(5) Official personnel who performed the inspection service for the single lots and those who are to recertify the rice as a combined-lot, determine that the samples used as a basis for the inspection of the rice in the single lots were representative at the time of sampling and have not changed in quality or condition; and

(6) The quality or condition of the rice meets uniformity requirements established by Chapter 2, Sampling, of this handbook.

e. Official factor and official criteria information shown on a certificate for rice in a combined-lot must be based on the weighted or mathematical averages of the analysis of the sublots in the lot and must be determined in accordance with the procedures shown in Chapter 7, Round-Lot Inspection Plan, of this handbook.

f. If rice in a combined-lot is offered for official inspection as it is being loaded aboard a carrier and the rice, or a portion of the rice, in a lot is found to be infested, the applicant must be notified and given one of the following options:

(1) Removing the infested rice from the lot;

(2) Receiving a grade certificate with a special grade or sample grade designation, as appropriate, indicating that the entire lot is infested; or

(3) For rough rice, fumigating the rice in accordance with FGIS instructions and receiving a grade certificate without the special grade designation.

g. Samples obtained from rice officially inspected as a combined-lot must be examined for uniformity of quality. If the rice in the samples is found to be uniform in quality and the rice is loaded aboard or is unloaded from the carriers in a reasonably continuous operation, the rice in the combined-lot must be officially inspected and certified as one lot. The requirements of this paragraph, with respect to reasonably continuous loading or unloading, do not apply to rice which is at rest in carriers when the rice is offered for inspection.

h. When rice officially inspected as a combined-lot is found to be not uniform in quality or if the rice is not loaded or unloaded in a reasonably continuous operation, the rice in each portion, and any rice which is loaded or unloaded at different times, must be officially sampled, inspected, graded, and certified as single lots.

i. Each official certificate for a combined-lot inspection service must show the identification for the “combined-lot” or, at the request of the applicant, the identification of each carrier in the combined-lot.

If the identification of each carrier is not shown, the following statement must be shown on the inspection certificate, in the space provided for "REMARKS":

"Carrier identification available on official inspection log."

j. If a request for a combined-lot inspection service is filed after the rice has been officially inspected and certified as single lots, the combined-lot inspection certificate must show the following:

(1) The date of inspection of the rice in the combined-lot (if the single lots were inspected on different dates, the latest of the dates must be shown);

(2) The location of the rice, if at rest, or the name of the facility from which or into which the rice in the combined-lot was loaded or unloaded;

(3) A statement showing the approximate quantity of rice in a combined-lot;

(4) A completed statement showing the identification of any superseded certificates; and

(5) A statement indicating that the superseded certificates have not been surrendered must be clearly shown in the "REMARKS" section of the certificate.

"This certificate supersedes Certificate No. ____, dated _____. The superseded certificate has not been surrendered and is no longer valid for commerce."

k. After a combined-lot inspection certificate has been issued, there must be no further combining and no dividing of the certificate.

l. Combined-lot inspection certificates must not be issued for the following:

(1) For any official inspection service other than as described in this handbook; or

(2) Which shows a quantity of rice in excess of the quantity in the single lots.

1.15 FACTOR ONLY INSPECTIONS

a. Applicants may request a factor only inspection to be performed on any lot or sample of rice.

b. Requests for service must specify the factor(s) or other criteria for which analysis is required. "Other criteria" includes, but is not limited to, dockage, test weight per bushel, milling analysis, quantitative analysis, and specifications prescribed by federal agencies, trade associations, and contracts.

c. When requested, official personnel must follow the below procedures:

(1) Determine the factors results according to the procedures in Chapter 3, Rough Rice; Chapter 4, Brown Rice for Processing; and Chapter 5, Milled Rice, of this handbook, or as approved in specific cases by the FGIS Deputy Administrator;

(2) Show the factor results on the inspection certificate according to the procedures in Chapter 6, Certification, of this handbook; and

(3) The class of rice must be recorded on the grade line of the work record and the official certificate. The type may be recorded on the grade line upon request. (e.g., "Milled Rice" or "Long Grain Milled Rice.") A numerical grade will not be assigned on the grade line of the certificate. Factors must be recorded on the work record and in the "RESULTS" section on the official certificate.

Note: If a Submitted Sample does not contain a sufficient amount of rice to perform an accurate and complete analysis for an official grade, the request will be dismissed or a factor only inspection may be performed upon request.

Note: Upon request, also show the following statement in the "REMARKS" section:

> **"The quality of this rice, (show factor results that meet or exceed the desired rice grade), are equal to or better than the grade requirements of (desired grade)."**

1.16 WITHHOLDING AND WITHDRAWAL OF AMA INSPECTION SERVICES

Procedures. Section 868.24 of the regulations under the AMA, provides for the conditional withholding of inspection service for correctable causes, which can be found in section 868.21, such as (1) failure to pay bills for inspection services, (2) unsanitary plant conditions, or (3) plant conditions which would subject the inspector to unusual hazard or discomfort.

a. Inspectors at the plant must report any such conditions to the field office or cooperator as soon as possible.

(1) The final decision to withhold service must be made by the field office manager or the cooperator manager.

(2) The field office manager or the cooperator manager may conditionally withhold service upon notification to the applicant.

b. Section 868.25 of the regulations provides for the denial or withdrawal of service due to (1) a willful violation of the AMA, regulations, or directives; or (2) intimidation, threat, assault, or other improper action that interferes with or obstructs official personnel in the performance of their duties.

(1) Denial or withdrawal of service requires that the applicant be accorded due process and must, therefore be conducted by FGIS headquarters in accordance with the Rules of Practice Governing Formal Adjudicatory Proceedings Instituted by the Secretary of Agriculture under Various Statutes (7 CFR Part 1, Subpart H).

(2) When circumstances warrant denial or withdrawal of service, the field office manager or cooperator manager must report the circumstances in accordance with *FGIS Directive 9070.6*, "Reporting Violations of the U.S. Grain Standards Act, and The Agricultural Marketing Act of 1946."

Note: If a situation, such as assault, occurs that threatens the safety of official personnel and also is a violation of the AMA, the field office managers and cooperator managers may withhold service on the grounds that official personnel are subject to hazardous conditions. Such situations should be reported in accordance with *FGIS Directive 9070.6*, "Reporting Violations of the U.S. Grain Standards Act & the Agricultural Marketing Act of 1946."

c. Withholding Notice.

(1) When deemed necessary by the field office manager and cooperator mangers, notify the applicant why service may be withheld and afford the applicant time to correct the problem or demonstrate why service should not be withheld.

(2) If a resolution is not reached, the field office manager or cooperator manger must notify the applicant, in writing, of the decision to withhold service.

(3) Use the following statements to notify the applicant that services are being withheld. The wording of these statements may be modified provided the meaning is not altered and the statement is approved by the field office manager.

(a) Unsanitary or Hazardous Conditions.

"Pursuant to the 7 CFR Part 868 regulations under the AMA, effective immediately, all services performed by this (cooperator or field office, Service) at your (plant, mill, etc.) are being conditionally withheld because of (unsanitary, hazardous plant conditions). A written description of the (unsanitary, hazardous condition(s)) will follow. Notify the FGIS field office at (field office location) when you have eliminated or corrected the specified (unsanitary, hazardous condition(s)). If it is determined upon examination of your (plant, mill, etc.) that these conditions have been eliminated or corrected, inspection services will be restored immediately or as soon thereafter as a sampler or inspector can be made available. If you have any questions concerning this action, contact the (field office location) Field Office. Copies of the Part 868 regulations are being mailed to you today."

(b) Nonpayment of Bills.

"Pursuant to the 7 CFR Part 868 regulations under the Agricultural Marketing Act of 1946, effective immediately, all services performed by this (field office, cooperator, Service) for your account are being conditionally withheld because of nonpayment of bills for services. Upon payment of these delinquent bills, services will be restored immediately, or as soon thereafter as a sampler or inspector can be made available. If you have any questions concerning this action, contact the (field office location) Field Office. Copies of the Part 868 regulations are being mailed to you today."

d. Reinstatement of Service Notice.

(1) If the conditions causing withholding of service are corrected, service must be reinstated. The field office manager or cooperator manager must notify the applicant, in writing, of the decision to reinstate service.

(2) Use the following statements to notify the applicant that service will be reinstated. The wording of these statements may be modified provided the meaning is not altered and the statement is approved by the field office manager.

(a) Unsanitary or Hazardous Conditions.

"On (date of withholding), the USDA, AMS, Federal Grain Inspection Service, conditionally withheld services from your (plant, mill, etc.) because of (unsanitary, hazardous) conditions. Upon reexamination of your (plant, mill, etc.) on (date), the specified conditions were found to be (corrected or eliminated). You are hereby informed that services are restored effective (immediately or give date)."

(b) Nonpayment of Bills.

"On (date of withholding notice), the USDA, AMS, Federal Grain Inspection Service, conditionally withheld services from your (plant, mill, etc.) because of nonpayment of bills for services. These delinquent bills have now been paid and you are hereby informed that services are restored effective (immediately or give date).

1.17 WEIGHTS, MEASURES, AND CONVERSION FACTORS

Weights and Measures.

1 kilogram	=	2.2046 pounds
1 metric ton	=	2204.6 pounds
	=	22.046 hundredweights
	=	10 quintals
	=	1000 kilograms
1 hectare	=	2.4710 acres
1 acre	=	0.40469 hectares

Rough Rice Conversion Factors.

1 hundredweight = 2.22 bushels = 0.617 barrel = 0.0453 metric ton

1 bushel = 0.45 hundredweight = 0.277 barrel = 0.0204 metric ton

1 barrel = 3.6 bushels = 1.62 hundredweight = 0.0734 metric ton

1 metric ton = 48.992 bushels = 13.609 barrels = 22.046 hundredweights

bushels per acre x 0.5044 = quintals per hectare

pounds per acre x 0.01121 = quintals per hectare

1.18 RICE INSPECTION SURFACES

Minimum picking surface size: 16" x 24"

Factors Determined on Approved White Surface:
(work surface Plexiglass White 7328 or P – 95 matte)

Foreign Material	Red Rice and Damage	Smutty Kernels
Heat	Seeds	

Factors Determined on Approved Blue Surface:
(work surface any Dull Blue)

Chalky	Milling Yield	Well-Milled Kernels
Class	Other Types	

Factors Determined on Approved White and/or Blue Surface:

Paddy	Unrelated Material
Related Material	

ATTACHMENT 1:
[BLANK] FGIS-983, "CONTRACT SERVICE AGREEMENT"

This is a fillable form; fill out, print, sign original, and mail to service area FGIS Field Office.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
FEDERAL GRAIN INSPECTION SERVICE

CONTRACT SERVICE AGREEMENT

FORM APPROVED OMB NO. 0580-0013. According to the Paperwork Reduction Act of 1995, no agency may conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0580-0013. The time required to complete this information collection is estimated to average10 minutes per response including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

I (we), the undersigned, apply to _____inspection services in accordance with applicable provisions and conditions stated below:

1. The contract service shall be governed by the Agricultural Marketing Act of 1946 (7 U.S.C. 1621 et seq.), Part 68 of the regulations, and the applicable standards and instructions thereunder.

2. The applicant(s):

   a. Agrees to provide the Federal Grain Inspection Service (FGIS) 60 days written notice specifying the proposed effective date of the agreement; provided, that the contract agreement may become effective prior to the proposed effective date by mutual consent.

   b. Agrees to pay for a minimum of 8 hours of service per day per person, 5 consecutive days per week, and for all other hours worked as prescribed in Part 68 of the regulations.

   c. Agrees to assume an even number of the 8 hours per day per person when the applicant shares the contract agreement with another applicant.

   d. Agrees to terminate the contract agreement by notifying FGIS in writing 60 days prior to the effective date of termination.

3. The Federal Grain Inspection Service:

   a. Agrees to make official personnel available to perform inspection services for the applicant(s) in the circuit served by the approving field office.

   b. Agrees to perform the service(s) at the location(s) specified by the applicant(s).

   c. Reserves the right to terminate the contract agreement by notifying the applicant(s) in writing, 60 days prior to the effective date of the termination.

   d. Reserves the right to determine the number of official personnel needed to perform the service(s).

   e. Reserves the right to reassign official personnel when, in the opinion of the field office manager or his designee, the personnel are not needed to perform service(s) for the applicant. The applicant in these circumstances would be credited with the number of contract hours charged to other applicants or activities of FGIS.

   f. Will begin hourly rate charges when official personnel depart the FGIS field office or assigned duty location to travel to the point of service and end such charges when they return from the point of service, computed to the nearest quarter hour (less mealtime, if any).

Special Provisions:

	NAME AND ADDRESS OF APPLICANT	SIGNATURE DATE TITLE	MINIMUM NUMBER OF HOURS PER DAY EFFECTIVE DATE
1			
2	NAME AND ADDRESS OF APPLICANT	SIGNATURE DATE TITLE	MINIMUM NUMBER OF HOURS PER DAY EFFECTIVE DATE

APPLICATION APPROVAL (For use by USDA, GIPSA)

SIGNATURE	NAME AND TITLE (Type or print)	DATE

Form FGIS-983 (01/18) Previous editions are obsolete. Expires January 2021

CLEAR FORM

Instructions for Submitting FGIS-983

A. Applicants for rice inspection services in areas served by a Federal Grain Inspection Service (FGIS) field office may enter into a service commitment with the field office in order to ensure timely services and to obtain lower inspection charges.

1. A commitment (contract) service is an agreement whereby the applicant agrees to pay for 8 hours of service per day for a predetermined number of official personnel, for at least 5 consecutive days per week.

2. FGIS in turn, agrees to make official personnel available to the applicant for the specified periodand to perform all requested services at reduced hourly rates.

3. All hours of service worked in excess of the commitment are charged at the no commitment rate.

4. Service charges are not assessed under commitment service for recognized federal holidays when, upon request of the applicant, service is not performed. The applicant is requested to make this request not later than 2 p.m. the preceding business day.

B. To enter into a commitment service agreement, the applicant must provide the appropriate FGIS field office with 60 days written notice specifying the proposed effective date of the commitment. A commitment may become effective prior to the proposed effective date with the consent of both parties.

C. To terminate a commitment service agreement, the applicant must provide the appropriate FGIS field office with 60 days written notice specifying the date of termination. However, a commitment agreement may be terminated at any time by mutual consent of both parties.

D. FGIS reserves the right to:

1. Determine the number of official personnel needed to perform the service for a commitment applicant, which may be different than the number of official personnel under commitment;

2. Terminate a commitment agreement by giving the applicant 60 days written notice specifying the date of termination; and

3. Temporarily reassign official personnel from a commitment applicant when, in the opinion of FGIS, the official personnel are not needed to perform service for the commitment applicant.

NOTE: Charges will be assessed in accordance with Section 68.91, "Fees for Certain Federal Rice Inspection Services," of the regulations under the Agricultural Marketing Act of 1946, as amended.

CONTACT INFORMATION:

Contact the field office responsible for the geographic area in which the service will be provided. Details for these locations can be found on the FGIS website.

The signed form should also be mailed to this location. For further information on Contract Service Agreements contact:

Anthony Goodeman, Acting Director
Field Management Division

Anthony.T.Goodeman@ams.usda.gov

ATTACHMENT 2:
[EXAMPLE] FGIS-907 APPLICATION FOR INSPECTION

This is a fillable form; fill out, print, sign original, and mail to service area FGIS Field Office.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE FEDERAL GRAIN INSPECTION SERVICE **APPLICATION FOR INSPECTION AND WEIGHING SERVICES**	**FORM APPROVED OMB NO. 0580-0013.** According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Pursuant to Section 7 and 7a of the United States Grain Standards Act as amended (7 U.S.C. 79 and 79a) and the regulations thereunder (7 CFR 800 et. seq.) and/or Section 203(h) of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1622) and the regulations and standards thereunder (7 CFR Parts 57 and 868), we apply for services described below

1. Type of Services (check all that apply)

- (●) Original Inspection
- ( ) Reinspection
- ( ) Appeal Inspection
- ( ) Official Weighing
- ( ) Review of Weighing
- ( ) Board Appeal Inspection
- ( ) Supervision of Weighing
- ( ) Retest

2. Where are the services to be performed (check one)

- (●) United States
- Canada

3. Kind of Official Inspection Service Requested (check all that apply)

- (●) Official Sample Lot
- Sampling
- Stowage Examination
- (●) Condition
- ( ) Submitted Sample
- ( ) Official Weighing
- (●) Grade and Factor
- ( ) Factors Only
- (●) Checkweigh
- (●) Checkload
- (●) Checkcount
- ( ) Supervision of Weighing
- ( ) Official Commercial
- ( ) Other Criteria (list in remarks)

4. Type of Grain/Commodity	5. Location of Grain/Commodity	6. Contract Number (if applicable)
Long Grain Milled Rice	Stuttgart, AR	4100012345-6
7. Carrier or Other Identification	**8. Quantity (specify in pounds, bushels, etc.)**	**9. Contract Grade (Factor or Specifications)**
		#2 O/B Long Grain Milled Rice Max 7% TBK
10. Number and Kind of Containers	**11. Container Markings**	**12. Appeal Request**
875 - 24/2 lb. Polyethylene bags in polyethylene bales		File Sample New Sample

13. Name, Address and Telephone Number of Applicant (Firm Name)	14. Name and Address of Interested Party (agent, consignee)
Rice Express Stuttgart, AR (123) 456-7890	

13a. Applicant FGIS Account Number:
3116998

15. Remarks
No Infestation clause; Determine enriched
Applicant states: Description 12-3J14-19-B-1090 and PO 4100012345 / 3100029153
Applicant states: PO Item No. 6 / Sales Reference # 5004215 49 - Item 500 / Solicitation # 3089
Show Code Dates

In submitting this application, we expressly agree that the fees and charges for the inspection and weighing services shall be assessable to and payable by us in accordance with the fees and charges described in the regulations (7 CFR 800 et. seq.) under the United States Grain Standards Act and/or described in the regulations (7 CFR 868) under the Agricultural Marketing Act of 1946. I declare that the foregoing statements are true to the best of my knowledge, information and belief.

16. Date (mm/dd/yy)	17. Name of Firm	18. Signature of Person Making Application
2-19-2019	Rice Express	

Warning: Attempts to influence any official personnel with respect to the performance of his/her duties under the U.S. Grain Standards Act may upon conviction thereof, be subject to imprisonment for not more than 5 years and/or a fine of not more than $20,000. 18 U.S.C. 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both, for false or fraudulent statements made to an agency of the United States. The offering of any gratuity, as described in 7 CFR 800.187, will be deemed an attempt to influence official inspection personnel.

For Use by FGIS

19. Application Received By	20. Date (mm/dd/yy)	21. Field Office	22. Fees

23. Certificate No. or Nos.	24. Remarks

FORM FGIS-907 (01/18) Previous editions are obsolete. Expires January 2021.

CLEAR FORM

Instructions for Completing FGIS 907

Action by Applicant. Complete items 1 through 18. Return the original to the appropriate FGIS field office and retain a copy for your records.

1. Check the box for the services needed. More than one box may be checked if a combination of services is requested.

2. Check the appropriate box to indicate whether the service is to be performed in the United States or Canada.

3. Check the box indicating the kind and scope of service being requested. For checkweigh, checkload, checkcount services use the remarks section for the specific service requested. Also, for condition of container examinations use the remarks section for this specific service.

4. Enter the type of grain or commodity for the service being requested.

5. Enter the location of the grain or commodity for the service being requested.

6. Enter the contract number if applicable.

7. Enter the carrier or identification for the service being requested.

8. Enter the quantity in pounds, bushels etc., for the grain or commodity to be inspected.

9. For inspections during loading, enter the contract grade along with any special grade or other contract requirements. This information is not applicable to carriers that are to be inspected at rest.

10. Enter the number and kind of containers.

11. Enter the container markings, use the words: "Standard", "Commercial", or "Special" for the type of markings. For "Special" enter the complete container markings in the remarks section. If there are no markings enter "None". For bulk rice, enter "Bulk".

12. Check the box indicating the type of sample required:

13. Enter the name and address of the applicant; i.e., the party that will be billed for the service.

13a. Enter the applicant's FGIS Account number.

14. If applicable enter the name and address of the agent or person of interest if any.

15. Enter additional information if necessary.

16. Enter the date the application was prepared.

17. Enter the name of the firm that is requesting the service.

18. Enter the name and signature of the person completing the application.

Action by field office. Review Form FGIS 907. If incomplete, either return the form to the applicant for completion or insert and initial the missing information. Complete items 19 through 24:

19. Enter the name of the person who received the application.

20. Enter the date the application was received.

21. Enter the name of the field office where the application was filed.

22. Enter the amount of fees that are to be assessed.

23. Enter the inspection certificate(s) numbers including the lettered prefix.

24. Enter any additional pertinent information.

Action by Applicant. For appeal, Board appeal or review services complete items 25 through 31.

25. Use the lot, carrier, or other identification shown on the certificate for the service in question. Identify a barge by name, number and any letterhead prefixes and suffixes; a railcar by its initials and number; a truck or trailer by license number and name or abbreviation of State (include time of sampling when necessary); and a vessel its name preceded by its means of propulsion (M/T, M/V, S/S, etc.)

26. Enter the quantity in terms of bushels, pounds, weight loaded or unloaded, or to be loaded or unloaded for cargos. For a lot of sacked grain, also enter the type, number, and weight of sacks; e.g., 6000, 100-lb cotton sacks. For a truckload or trailerload, show truckload, trailerload, part-truckload or part-trailerload as the case may be. For a railcar, enter the marked capacity of the carrier or "over 130 000 lb" or under 130 000 lb" as the case may be.

27. Enter the grain and reason for the appeal, Board appeal, or review; e.g., the grade determining factors or other criteria. For requests filed in advance, show the kind of grain and contract grade.

28. Enter the sample basis desired for the appeal inspection. All Board appeal inspections will be performed on the basis of the official file sample.

29. Enter the date of the original service. For applications filed in advance of loading, enter the expected date and time of loading if possible.

30. Indicate whether the original certificate for the inspection being appealed is attached. If the certificate is not attached, explain in item 31.

31. Enter any additional pertinent information.

CONTACT INFORMATION:

Contact the field office responsible for the geographic area in which the service will be provided. Details for these locations can be found on the FGIS website. The signed form should also be mailed to this location. For further information on the Application for Inspection and Weighing Services contact:

Patrick McCluskey, Chief
Field Management Division
Policies, Procedures, and Market Analysis Branch

patrick.j.mccluskey@ams.usda.gov

CHAPTER 2:
SAMPLING

CONTENTS

2.1 SAFETY

The safety requirements referenced in this section are mandatory for official personnel[1].

a. General. Comply with all FGIS safety requirements and the AMS Safety Handbook, as well as all pertinent Occupational Safety and Health Administration (OSHA) requirements (e.g., 29 CFR 1910-60).

(1) Obey all posted warning signs and wear appropriate protective equipment when conditions warrant (e.g., hard hats and dust masks).

(2) When necessary and practical, carry a communication device (e.g., two-way radio for communication).

(3) Before sampling railcars, check to see if a fall assessment is required, in accordance with *FGIS Directive 9170.14*, "FGIS Rolling Stock Fall Protections." FGIS employees must complete Fall Hazard Awareness Training in accordance with the directive. The requirements of this directive apply to FGIS employees only. Official Agencies may adopt this policy or use it as a guideline to establish their own policy to comply with local and national safety requirements.

b. Life Vests. Wear a U.S. Coast Guard approved Type I, II, III, or V PFD life vest while aboard barges, launch boats, or other vessels (midstream or dockside). Before putting on the life vest, inspect it for any potential defects and to ensure proper fit.

Note: Life vests must be international orange in color, must contain reflective panels, and must not be of an inflatable type. If used at night, the vests must be equipped with a light and a whistle.

[1] The requirements referenced in this section are mandatory for FGIS employees. All other are strongly encouraged to also follow these guidelines.

c. Clothing.

(1) Wear hard hats that meet the American National Standards Institutes (ANSI) Z89.1 or Z89.2 criteria.

(2) Wear shoes or boots that have nonslip soles and definite heels for good footing on ladders.

(3) Wear clothes that are reasonably close fitting to reduce the possibility of becoming snagged on ladders or other structural elements.

(4) Wear gloves when climbing ladders and opening or closing hatches and doors.

Note: FGIS personnel must follow the clothing requirements found in *FGIS Directive 4735.2*, "Uniform and Identity Apparel and Dress Code Policy."

d. Gangways and Ladders. Check the gangway before boarding or disembarking barges and other vessels. Do not use defective gangways. Exercise extreme care when using ladders that are permanently affixed to the carrier wall. Do not hand carry sampling equipment, radios, or other equipment while climbing ladders.

e. Chemical Treatments. Remain alert to your physical condition, especially when drawing samples inside carriers. Rice is sometimes treated with chemicals, usually for the purpose of controlling insect infestation. Contact with toxic fumes or sprays from these chemicals can cause serious injury or death. The following symptoms can be indicative of a dangerous atmosphere:

(1) Shortness of breath;

(2) Light- headedness;

(3) Drowsiness; and

(4) Headache.

When any of the above symptoms are experienced, leave the area immediately and seek medical attention.

f. Transportation.

(1) Travel to and from barges at midstream and other vessels at anchor via U.S. Coast Guard-approved launch, tugboat, licensed water taxi, or by Federal Aviation Administration-approved helicopter or air taxi.

(2) Do not jump on or off a barge or other vessel. You must be able to step easily from the launch to the vessel (or vessel to the launch) without stretching or straining over water; expect slippery or obstructed deck conditions when boarding a vessel.

g. Dock Areas.

(1) While walking on a dock or wharf, be alert for loose or rotting boards that may not support your weight.

(2) Learn the locations of life rings, emergency ladders, and telephones.

(3) Stay clear of cables whether slack or under tension.

h. Boats, Barges, and Ships.

(1) FGIS employees must not board any launch boat service to board any ships, barges, or floating rigs unless a licensed boat captain and deckhand are present on board the launch vessel. Before boarding the ship, barge, or floating rig, ensure that the deckhand is nearby and ready to provide aid in an emergency.

(2) If the launch boat is not staffed with at least one captain and one deckhand, inform the driver that you are unable to board for safety reasons and contact your supervisor for further assistance. Upon boarding the launch boat, familiarize yourself with the location of any lifesaving devices and request instruction from the captain or deckhand as to the proper use of such equipment.

(3) Do not probe sample barges at night unless the barge is docked and sufficient artificial light is provided. Use caution when walking on decks and barge tops since they are uneven, slippery when wet, and have protruding cleats and latches. Do not remain on barges while they are being moved and be aware of nearby barges, docks, or vessels which could collide with the barge you are working on. Do not permit hatches to be opened or closed while you are inside the barge.

i. Trucks.

(1) Do not walk through a break in a string of trucks separated by only a few feet.

(2) Be alert to such hazards as moving trucks, cables, debris, metal strapping, or broken ladders.

(3) Avoid breathing diesel exhaust fumes.

j. Railcars.

(1) Before entering a railyard, notify your immediate supervisor, the yardmaster, or switch-crew foreman, and any other essential persons of your presence. Do not sample railcars in a railyard alone unless you are being monitored by someone who is in a position to render aid if needed. (e.g., One of the two persons that must be present may be an elevator employee.) Inquire about possible switching activities, cars carrying hazardous cargo, and any other unusual activity.

(2) Require that all activity cease on the track where they are working. Require the track to be locked out, or derails installed at both ends of the string of cars, or other appropriate, locally-approved precautions (e.g., using blue flags with radio communication between you and the switch engine driver, using one or more additional employees as a safety observer to warn off approaching railcars, or using blue flags and a lockout switch on an elevator hold track where no railcar or switch engine movement takes place during the performance of official functions).

(3) Do not probe sample railcars at night unless adequate artificial light is provided. Do not walk on the rails; walk parallel to the set of tracks and never between the two rails. Ensure that no power lines are close enough to present a hazard (minimum safe distance - 25 feet vertically and horizontally).

(4) Check for placarded railcars. If a car is placarded or if a car is not placarded and a fumigant odor is detected, withhold the inspection (do not enter the car or sample the rice) and notify your supervisor immediately.

(5) Never crawl under railcars. Avoid climbing through railcars and over couplings and never walk through a break in a string of railcars separated by only a few feet (minimum safe distance - 20 feet). Be alert to such hazards as moving railcars, cables, debris along tracks, metal strapping, or broken ladders hanging from railcars.

(6) Be alert to seasonal conditions, such as icy walking surfaces in the winter, and rodents, snakes, scorpions, wasps, and hornets in the warmer months.

(7) Exercise caution when opening or closing car hatches or doors. If a hatch or door is stuck, request assistance from the applicant. Use a cutting tool or pry bar to break seals; do not use your hands.

(8) Do not ride on an engine or car being moved or switched. If a car starts to move while you are on or inside, assume a sitting or kneeling position on top of or in the car to avoid losing your balance, and hold on. Do not attempt to descend a ladder or jump to the ground until the car has stopped and you can do so safely. Report all incidents of car movement to the yardmaster and your supervisor. (Supervisors should also report such movements to either OSHA or the Federal Railroad Administration.)

(9) Notify the yardmaster (or foreman) when you leave the work area and report all “bad order cars” (e.g., missing ladder rungs, broken doors) to the car owner, the railroad, or the applicant for inspection.

k. Warehouses. Watch out for forklifts and tow-motors. Also, be alert for bags slipping (falling) from improperly stacked pallets and overhead conveyor belts.

2.2 REPRESENTATIVE SAMPLE

Obtaining a representative sample from a lot of rice is an important and essential part of the rice inspection process. If the sample is not representative, the inspector's final determination will not reflect the true quality of the lot. For a sample to be considered representative, it must be the following:

a. Obtained by official personnel in accordance with official procedures;

b. Obtained using FGIS-approved equipment (see the FGIS Equipment Handbook);

c. Of the prescribed size (3,000 grams or more for rough rice and brown rice for processing, and 1,500 grams or more for milled rice); and

d. Handled securely and protected from manipulation, substitution, and careless handling.

2.3 DETAILED WORK RECORD

a. The accurate recording of the lot's identity and its condition at the time of sampling is essential to the correct certification of the lot's quality. Samplers must record all unusual conditions and other pertinent information on FGIS-919, FGIS-992, or other applicable forms. If the condition is not reported on the detailed work record, the lot could be inadvertently graded incorrectly.

b. Detailed work records must contain the following information:

(1) The sampler's signature or initials;

(2) The date the sample was obtained;

(3) The location of the lot of rice at the time of sampling (if the city and/or state in which the sampling took place is not obvious, this must also be shown);

(4) Full identification of the lot;

(5) When applicable, information related to the condition of the carrier's storage area; and

(6) Any other pertinent information that may affect the grading or certification of the lot.

c. The original or copy of the work record must be retained by the issuing office in accordance with the Files Maintenance and Records Disposition Handbook.

2.4 CARRIER, CONTAINER, AND LOT IDENTIFICATION

a. Official Lots. Carrier, container, lot, and seal identification may be shown on lot inspection certificates.

Care should be taken to ensure that the proper identification information is recorded. For lot inspections, official personnel must obtain identification information personally. Do not transcribe the information from the application or other documents supplied by the applicant or others.

Obtain identifying information as follows:

(1) Oceangoing vessel identification must be taken from the vessel hull or obtained from the vessel master or representative.

(2) Barge identification must be taken from the hull, not from removable tops.

(3) Railcar identification must be taken from the side of the car, not from the ends.

Note: In certain instances, it may be necessary to separately certify the rice in one or more compartments of a hopper car because of different class, quality, or condition.

In such instances, the first bay, or compartment at the car's brake end, should be identified as "B-1," and the remaining compartments or bays should be numbered consecutively towards the car's non-brake end. A statement identifying the compartment must be shown after the car initials and number, and it should be followed by the seal identification applied to the compartment, if applicable.

(4) Truck (without trailer(s)) identification may be taken from a state license plate or other truck identification. In the case of a truck which cannot be sealed, the truck identification need not be shown. If a truck cannot be sealed and if requested by the applicant, the truck may be identified by other identification, such as load number, scale ticket number, or other information which will facilitate the identification of individual trucks.

(5) Truck trailer identification may be taken from a state license plate on the trailer or other trailer identification. In the case of a trailer which cannot be sealed, the trailer identification need not be shown. If a trailer cannot be sealed and if requested by the applicant, the trailer may be identified by other identification, such as load number, scale ticket number, or other information which will facilitate the identification of individual trailers.

(6) Container (e.g., ocean containers, containerized unit loads, or piggy-back loads) identification must be taken from the front of the container. The identification number consists of four letters followed by five or six numbers. The last letter or number, after the number which is separated by a dash, blank space, or surrounded by a box may be disregarded.

For Example: If "SEAU12345-9" is printed on the container, the identification would be "SEAU12345," unless the applicant requested that the "-9" be shown.

(7) Storage bin identification may be taken from information shown on the bin or from other reliable sources (e.g., warehouse receipt number).

(8) Warehouse lot identification must be taken from the schematic layout of the warehouse or from other reliable sources (e.g., warehouse receipt number).

b. Submitted Lots. A submitted sample may be identified by the applicant by sample number, producer's name, letters of the alphabet, or any other identification, including a lot or carrier identifier. If a submitted sample is not adequately identified, the inspector may assign a number to the sample or request the applicant to assign a number or other identifier to the sample.

Note: Identification cannot reference the weight or quantity of the lot.

2.5 ACCESSIBILITY

a. To obtain a representative sample, the entire lot must be completely and safely accessible.

Note: Labor and equipment necessary for making a lot accessible must be furnished by the applicant.

(1) If a lot is not completely accessible for sampling, dismiss the request for service or, at the applicant's request, sample that portion that is accessible and issue a "partial inspection" certificate.

(2) When a "partial inspection" is requested, make notations on the work record indicating the total number of containers in the lot and the number of containers that were accessible for sampling and state "PARTIAL INSPECTION".

For Example: There are 1,263 containers in a lot, but only 400 containers are accessible.

The sampler's ticket should read the following:

"Sample represents 400 containers only; balance of containers inaccessible for sampling; total containers in pile 1,263."

b. For the purpose of sampling bagged rice stored in a warehouse or similar facility, the lot will be considered accessible when a minimum of one side of each pallet in the lot is accessible for sampling.

(1) Not every bag in the lot has to be exposed and accessible for sampling.

(2) It is the sampler's prerogative to request any or all bags in the lot to be made accessible for sampling should there be any reason to suspect that the lot is not uniform in quality.

(3) The following are some examples of when the sampler should suspect that a lot may not be uniform:

(a) Weathered, dirty, wet, or sour smelling bags mixed in a lot of clean bags. These bags may contain rice of lower quality.

(b) Bags with different markings. This could indicate the mixing of bags from another lot which had different quality requirements.

(c) Bags that appear to have trier penetration marks may have been previously sampled, graded, and found to be of lower quality.

c. When the entire lot is not accessible, or a representative sample cannot be obtained official personnel can conduct a partial inspection of the accessible portion. The work record and the certificate must indicate that the inspection is limited to the accessible portion and conspicuously show in the "REMARKS" section the words "PARTIAL INSPECTION." An inspection will be considered a partial inspection when the following conditions are met:

(1) Bulk rice in bins and shipholds are sampled by a 12-foot bulk probe that does not reach the bottom of the lot. Show the following statement "Top ____ feet sampled. Bottom not sampled." On the work record and in the "REMARKS" section of the certificate.

Note: Do not issue a partial inspection certificate for bulk rice in hopper cars or barges that are sampled using the approved length probe (see section 2.13(a)) that does not reach the bottom of the lot when fully inserted.

The following statement must be shown on the work record and in the "REMARKS" section of the certificate:

"Top _____ feet sampled. Bottom not sampled."

(2) Bulk or bagged rice is offered for inspection at rest in a container and is loaded in such a manner that it is possible to secure only a door-probe, mustow-probe, door-bag-probe, or surface-bag-probe sample(s) of the lot, or the rice is not trimmed, or otherwise does not have a reasonably level surface, the carrier or container will be considered to be "heavily loaded" and a partial inspection certificate issued.

For the purpose of this handbook, the following terms must have the following meanings:

(a) Door-Probe Sample. A sample taken with an approved probe from a bulk rice lot which is loaded so close to the top of the carrier or container, that it is possible to insert the probe only in the rice in the vicinity of the door or hatch of the carrier or area in the container in which the rice is located.

(b) Mustow-Probe Sample. A sample taken with an approved probe from a bulk rice lot which is loaded so close to the top of the carrier or container, that it is possible to insert the probe in the rice at the prescribed locations, but only at an angle greater than the angle prescribed in the handbook.

(c) Door-Bag-Probe Sample. A sample taken with an approved trier from a bagged rice lot which is loaded so close to the top of the carrier, that it is possible to insert the trier only in the rice bags in the vicinity of the door or hatch of the carrier or area in the container in which the bags are located.

(d) Surface-Bag-Probe Sample. A sample taken with an approved trier from a bagged rice lot which is loaded or placed, that it is possible to insert the trier only in the rice in the bags in the upper portion, sides, or ends of the lot.

d. If a partial inspection is made, the rice must be sampled as thoroughly as possible with an approved trier or probe. The work record and the inspection certificate issued must have the words “PARTIAL INSPECTION” conspicuously shown in the “REMARKS” section of the certificate.

(a) In addition, the work record and the certificate must show the type of sample(s) obtained. The type of sample(s) will be described as “door-probe,” “mustow-probe,” “door-bag-probe,” or “surface-bag-probe” samples will be shown in the “REMARKS” section of the certificate.

(b) In the case of packaged rice (including bagged rice), the approximate number of containers accessible for sampling and the approximate number of containers in the lot must be shown on the work record and in the “REMARKS” section of the certificate. (e.g., “800/100-pound polypropylene bags, part of an undivided lot of 1,250 bags.”)

2.6 SAMPLE HANDLING AND SECURITY

a. A representative sample must never be out of the control and/or observation of the sampler. Special care must always be taken to protect samples from manipulation, substitution, and improper handling. There are many ways in which a sample may lose its representativeness. For example, a sample will no longer be considered representative if it is:

(1) Spilled, no matter how little is lost or how much is recovered;

(2) Stored in an improper manner or in an area, not under the control of official personnel; or

Note: When samples are not analyzed on the same day they are obtained, store them in a cool, dry place to prevent any change in condition.

(3) Transported by means which do not ensure the integrity of the sample.

Note: Official samples may be shipped via U.S. mail or commercial parcel service, provided that the samples are delivered directly to official personnel and all other necessary security precautions are taken. Such precautions may include securing the sample with an official numbered seal if warranted.

b. Lockboxes or other security containers must be provided by the applicant at plants where official services are performed on a continuing basis. The lockboxes must be:

(1) Of sufficient size to contain samples, sampling supplies and equipment, and checkweighing scales (it is not intended that items such as dividers and probes be stored in the lockbox); and

(2) Placed in the immediate work area (lockboxes must not be placed in the basement or in any other remote locations). If it is impossible or impractical to locate the lockboxes in the immediate sampling area, a portable locked container, such as a locked metal pail, should be used; and

(3) Equipped with a hasp for a padlock (padlocks must be provided by official personnel and, under no circumstances, will keys to the padlocks be issued to or made accessible to unauthorized persons).

2.7 PLANT SANITATION EXAMINATIONS[2]

a. Official personnel must examine or survey rice plants for unsanitary conditions when:

(1) Required by federal law or purchase contract;

(2) Required by FGIS Program Directive;

(3) Requested by the applicant for inspection; or

(4) Deemed necessary by official personnel.

b. Unsanitary conditions include those conditions that, in the opinion of official personnel, would render the rice unfit for human consumption, but which may not be adequately reflected by the grade assigned to the rice.

Unsanitary conditions include, but not be limited to, the presence of the following:

(1) Vermin or insects;

(2) Toxic substances;

(3) Decayed animal or vegetable matter;

(4) Other filth; and

(5) Harmful substances, such as broken glass and metal shavings.

c. If the plant is approved, services may begin or continue at a time agreed upon by plant management and official personnel.

d. If the plant is not approved, official inspection services must be conditionally withheld pursuant to the procedures in Section 868.24 of the regulations under the AMA, the FGIS Sanitation and Food Defense Handbook, and *FGIS Directive 9100.3*, "Withholding and Withdrawal of AMA Inspection Services."

[2] The premises, buildings, structures, and equipment (including but not limited to machines, utensils, vehicles, and fixtures located in or about the premises) used or employed in the preparation, processing, holding, transporting, and storage of rice. Establishments engaged only in the harvesting, storage, or distribution of rice prior to the rice being cleaned, shelled, milled, or otherwise processed for human consumption are not considered as "plants" for the purpose of this handbook.

2.8 EXAMINATION OF FILLED CONTAINERS

a. Official personnel must examine filled containers to determine if the rice being offered for inspection may have been contaminated or may become contaminated as a result of the condition of the container.

b. Filled container examinations include checking the containers, such as burlap, jute, cotton, paper, or polypropylene bags; cases; or bales to determine whether they are free from dirt, stains, tears, live or dead insects, insect webbing, and insect refuse.

c. If adverse conditions are found, note the conditions, kind of containers, and all container markings on the work record and in the “REMARKS” section of the certificate.

2.9 CONTAINER MARKINGS INFORMATION

Most packaged rice has identifying marks on the containers. These marks are required to be shown on the rice inspection certificate if the marks indicate a different quality of rice than what is actually in the container. All other times, the markings may be shown upon request of the applicant. Show such markings on the work record and certificates as follows:

a. Uniform Markings.

(1) When container markings are uniform for an identified rice lot, then all markings may be shown on the work record and the certificate.

Some markings shown on the containers, identify the container manufacturer and/or some other container specification, and does not serve any useful purpose with regard to identifying marks. Such information does not need to be shown as identifying marks, unless requested by the applicant.

(2) Markings are usually shown in lines one above the other, as follows:

RICE
PRODUCT OF U.S.A.
EXTRA FANCY
LONG GRAIN
888
SAM, INC.
STUTTGART, AR

Space permitting, such markings may be shown on the work record and the certificate as shown above but are usually shown with slash marks indicating the end of each line of markings, as follows:

RICE/PRODUCT OF U.S.A./EXTRA FANCY/LONG GRAIN/888/
SAM, INC./STUTTGART, AR

b. Nonuniform Markings.

(1) On some occasions, an identified rice lot will have varied markings shown on the containers. Such markings are usually the result of the use of “leftover” containers accumulated and used by a shipper at the end of a shipping season.

(2) When such marks are found and the applicant does not request that such marks be shown, the statement “No Common Marks” may be shown in the space provided for remarks on the work record and on the certificate.

(3) If the applicant requests that such varied markings be shown, the applicant has the responsibility of separating the containers by the various markings so that the number of containers of each marking can be determined, or the applicant can furnish the count.

c. Nonuniform Markings - With Uniform Sublot Markings.

(1) There are occasions when several sublots, with uniform markings within each sublot but varying markings from each other, will be accumulated in warehouses and designated as one overall lot.

(2) In such instances, a record will be kept of the number of bags of each set of uniform markings contained within the overall lot. Such information may be shown in the space provided for remarks on the work record and on the certificate.

For Example: An identified warehouse lot consisting of 10 separate cars (1,200 100-pound bags each) was unloaded on a warehouse floor. Six of the carlots have one set of uniform markingsm, and four of the carlots have another set of uniform markings.

The certificate (with regard to markings) would be issued substantially as follows:

7,200 bags marked: RICE/Product of U.S.A./Jones Rice Co./Eunice, LA/(Reverse) LARENCO MARQUES

4,800 bags marked: RICE/Product of U.S.A./Smith Rice Inc./Houston, TX/ (Reverse) LARENCO MARQUES

d. Tag Markings. When containers are tagged with identifying markings, the tag information may be shown in the space provided for remarks on the work record and on the certificate as follows:

EXPORT/RICE/SOUTH AFRICA/LONG GRAIN

e. Contract Specification Markings. An applicant may request that the markings be checked only for compliance with contract specifications. In such cases, show on the work record and in the "REMARKS" section of the certificate, one of the following statements:

(1) "Bag markings as specified by (contract number, agency, or other pertinent information)."

(2) "Bag markings not as specified by (contract number, agency, or other pertinent information) because (reason (e.g., code number omitted or letter size incorrect))."

f. Registered Trademark Markings.

(1) Many rice companies, exporters, and shippers have registered trademarks (brand names) for rice packaged by or for them. Such markings may contain artwork, such as an eagle, crossed rifles, a plantation home, and many other markings which frequently are not necessary, practicable, or requested by the applicant.

(2) When such instances occur and all of the brand name information is not needed or requested by the applicant, the brand name may only be shown in parenthesis followed, if necessary, by any export marks shown on the reverse of the bag. In such cases, show on the work record and in the "REMARKS" section of the certificate as follows:

(Eagle Brand) (Reverse) XYC/RICE/SOUTH AFRICA/LONG GRAIN

2.10 EXAMINATION OF CARRIERS (STOWAGE EXAMS)

a. When rice is to be sampled during loading, examine the carrier prior to loading for conditions that could adversely affect the quality of the rice. (See *FGIS Directive 9180.48*, "Stowage Examinations.") Adverse conditions include, but are not limited to, the presence of the following:

(1) Live insect infestation or other injurious insects;

(2) Odors of previously transported cargoes;

(3) Water;

(4) Previous cargo;

(5) Decaying animal or vegetable matter;

(6) Protruding objects which may damage the containers;

(7) Holes in the carrier's roof, sides, doors, or floor; and

(8) Rust scale, dirt, chemicals, and unknown substances.

b. Record the results of the examination on a stowage examination worksheet, sampling ticket, FGIS-911, inspection log, general service worksheet, or other work record.

c. If no adverse conditions are found, sampling/loading may begin or continue at a time agreed upon by the plant management and official personnel.

d. If adverse conditions are found, official inspection service will be conditionally withheld pursuant to the procedures in Section 868.24 of the regulations under the AMA.

e. In lieu of removing rust scale from lash or other types of barges that are to be loaded with bagged rice, a woven polyethylene liner may be used to cover the walls and floors.

(1) If a liner is installed, verify that the rust scale is effectively covered and show the following statement on the work record and in the "REMARKS" section of the certificate:

> "Woven polyethylene liner installed in barge in lieu of removing rust scale."

(2) Bulk rice offered for official inspection may not be loaded into carriers that have woven polyethylene liners covering either the bottom or the side of the carrier, because such liners may tear and contaminate the rice. However, bulk rice may be loaded into standard intermodal containers and truck trailers that contain polyethylene disposable bag-type liners. (Stowage exam must be performed prior to the liner/bag being installed).

f. When rice is sampled after loading, examine the accessible portions of the carrier and note any adverse conditions on the work record and in the "REMARKS" section of the certificate.

Note: For rice lots, stowage examinations on river barges are *not* allowed from the main deck. You must enter all carriers (except bulk hopper cars and bulk hopper trucks) when stowage examinations are performed for rice.

Note: Stowage examinations are not required for outbound domestic railcar shipments of rice that are sampled at the time of loading, if: (1) the applicant for inspection, with the mutual agreement of all interested parties, request that a stowage examination not be performed; and (2) official personnel verify that the railcars' previous cargo was the same type of rice to be loaded and is not 'out of condition'.

2.11 FACILITY EXAM

a. When rice is to be loaded at a bulk loading facility, examine the delivery system to ensure the rice to be loaded will not be adversely affected by the condition of the loadout system. A facility exam is ONLY required when sampling bulk rice during movement. The facility examination should include any areas of the facility that will come in direct contact with the rice or present conditions that could potentially cause the quality of the rice to be adversely affected (e.g., pit, elevators legs, boot, conveyor system, the entire length of the belt(s)). If the facility uses a pit that trucks drive over to offload, the approaches must be maintained as to not allow anything to enter the pit that will adversely affect the quality of the rice (e.g., rock, mud, water, glass).

Note: The belt should be allowed to run a full cycle to confirm the belt is clean, dry, and free of debris and damage (rips, tears, excessive fraying, etc.). It is not recommended to have the spout in the carrier when the belt is running during this part of the exam

Adverse conditions include, but are not limited to, the presence of the following:

(1) Live or dead insect infestation or other injurious insects;

(2) Odors of previously loaded cargoes;

(3) Water;

(4) Previous cargo;

(5) Decaying animal or vegetable matter; and

(6) Dirt, chemicals, and unknown substances.

b. Record the results, the date and time the exam was completed on the work record.

(1) If no adverse conditions are found, sampling/loading may begin or continue at a time agreed upon by the plant management and official personnel. Show the following statement in the “REMARKS” section of the certificate:

> “The bulk loading facility was examined on (date) at (military time) and found to be clean, dry, free of insect infestation, and suitable to maintain the quality of the (type of rice).”

c. If adverse conditions are found, official inspection service may be conditionally withheld until conditions are corrected. Show the following statement in the "REMARKS" section of the certificate:

> "The bulk loading facility was examined on (date) at (military time) and found not suitable to maintain the quality of the (type of rice).

d. This service is not mandatory may be requested by the applicant.

2.12 EXAMINATION OF SAMPLE PORTIONS

Compare each sample portion taken from a lot of rice with other sample portions drawn from the same lot for uniformity of type/class, quality, and condition.

a. If all sample portions are uniform, composite the portions together.

b. If any sample portion is considered to be of distinctly different type/class, quality, or condition from the remainder of the sample portions, draw separate samples from the portion of the lot that contains the distinctly different rice, the remainder of the lot, and the entire lot. Keep the samples in separate containers and note on the respective work records the estimated quantity of the lot represented by each sample.

2.13 SAMPLING CONTAINERS

a. Randomly select an appropriate number of containers from the lot.

(1) Determine the number of containers in the lot.

(2) Determine the minimum number of containers from which samples need to be drawn (see Table 2.1 – Sampling Rate below).

TABLE 2.1 - SAMPLING RATE

Containers[1] In Lot	Sample Size	Containers[1] In Lot	Sample Size	Containers[1] In Lot	Sample Size
100 or less	10	1,601 - 1,681	41	4,901 - 5,041	71
101 - 121	11	1,682 - 1,764	42	5,042 - 5,184	72
122 - 144	12	1,765 - 1,849	43	5,185 - 5,329	73
145 - 169	13	1,850 - 1,936	44	5,330 - 5,476	74
170 - 196	14	1,937 - 2,025	45	5,477 - 5,625	75
197 - 225	15	2,026 - 2,116	46	5,626 - 5,776	76
226 - 256	16	2,117 - 2,209	47	5,777 - 5,929	77
257 - 289	17	2,210 - 2,304	48	5,930 - 6,084	78
290 - 324	18	2,305 - 2,401	49	6,085 - 6,241	79
325 - 361	19	2,402 - 2,500	50	6,242 - 6,400	80
362 - 400	20	2,501 - 2,601	51	6,401 - 6,561	81
401 - 441	21	2,602 - 2,704	52	6,562 - 6,724	82
442 - 484	22	2,705 - 2,809	53	6,725 - 6,889	83
485 - 529	23	2,810 - 2,916	54	6,890 - 7,056	84
530 - 576	24	2,917 - 3,025	55	7,057 - 7,225	85
577 - 625	25	3,026 - 3,136	56	7,226 - 7,396	86
626 - 676	26	3,137 - 3,249	67	7,397 - 7,569	87
677 - 729	27	3,250 - 3,364	68	7,570 - 7,744	88
730 - 784	28	3,365 - 3,481	59	7,745 - 7,921	89
785 - 841	29	3,482 - 3,600	60	7,922 - 8,100	90
842 - 900	30	3,601 - 3,721	61	8,101 - 8,281	91
901 - 961	31	3,722 - 3,844	62	8,282 - 8,464	92
962 - 1,024	32	3,845 - 3,969	63	8,465 - 8,649	93
1,025 - 1,089	33	3,970 - 4,096	64	8,650 - 8,836	94
1,090 - 1,156	34	4,097 - 4,225	65	8,837 - 9,025	95
1,157 - 1,225	35	4,226 - 4,356	66	9,026 - 9,216	96
1,226 - 1,296	36	4,357 - 4,489	67	9,217 - 9,409	97
1,297 - 1,369	37	4,490 - 4,624	68	9,410 - 9,604	98
1,370 - 1,444	38	4,625 - 4,761	69	9,605 - 9,801	99
1,445 - 1,521	39	4,762 - 4,900	70	9,802 - 10,000	100
1,522 - 1,600		40			

Containers[1] In Lot	Sample Size	Containers[1] In Lot	Sample Size	Containers[1] In Lot	Sample Size
Note: For lots packed in primary and secondary containers, the number of secondary (outer) containers in the lot must be used to determine the number of containers to be sampled. [1]If the lot contains more than 10,000 containers, divide the lot into 2 or more (approximately) equal sized sublots of 10,000 containers or less. Sample and grade each sublot separately.					

b. Draw a sample from each selected container using either an approved rice bag trier (see "List of Approved Equipment," in the FGIS Equipment Handbook) of sufficient length to reach the center of the container, a compartmented probe of sufficient length to reach the bottom of the container, or a ladle.

(1) When sampling rice in *large-sized containers* (22.5 kilograms/50 Pounds or more):

(a) For closed containers, use a 29.5-centimeter (11 5/8-inch) rice bag trier for brown rice or milled rice, and a 40.6-centimeter (16-inch) rice bag trier for rough rice. A 99-centimeter (39-inch) compartmented probe may also be used for any type of rice.

(b) For open containers, use a 99-centimeter (39-inch) compartmented probe or a ladle.

(2) For sampling rice in *medium-sized containers* (4.5 to 22.4 kilograms/10 to 49.9 pounds):

(a) For closed containers, use a 29.5-centimeter (11 5/8-inch) rice bag trier for brown rice or milled rice, and a 40.6-centimeter (16-inch) rice bag trier for rough rice.

(b) For open containers, use a ladle.

(3) For sampling rice in *small-sized containers* (4.5 kilograms/10 pounds or less), use a ladle or take the entire contents of selected containers.

c. The procedures for drawing a sample with a rice bag trier are as follows:

(1) Insert the trier into the bag.

(2) Give the inserted trier two or three short in-and-out motions to allow a free flow of rice through the trier into a sample container.

(3) Examine the sampled rice for uniformity of type/class, quality, and condition. If uniform, combine the rice with other rice of equal quality from the same lot, sublot, or component.

Note: Close all trier holes made during sampling.

d. Draw a sample with a compartmented probe as follows:

(1) Stand the container on end and insert the probe into the top of the container.

(2) Move the probe diagonally through the container until the end of the probe touches the bottom corner opposite the top corner from which it was inserted.

(3) Open the probe with the slots facing upward.

(4) While the slots are open, give the probe two or three short up-and-down motions so that the compartments in the probe can be filled.

(5) Close the probe gently to avoid damaging the rice, withdraw the probe, and place its contents full length on a sampling cloth.

(6) Examine the sampled rice for uniformity of type/class, quality, and condition. If uniform, combine the rice with other rice of equal quality from the same lot, sublot, or component.

e. The procedures for drawing a sample with a ladle are as follows:

(1) Dip the ladle into the open container before it is sealed.

(2) Pour the sample into a sample pan.

(3) Examine the sampled rice for uniformity of type/class, quality, and condition. If uniform, combine the rice with other rice of equal quality from the same lot, sublot, or component.

f. After samples have been taken from a lot offered for inspection, the applicant is responsible for closing all open containers from which samples have been drawn and replacing containers taken as samples. If the applicant does not replace the containers that were removed or properly seal the containers which were left open, note on the work record the number of whole/sealed containers remaining after sampling.

g. When rice in containers is sampled during movement (online), draw a sample from one of the first five containers that are packed, a sample from one of the last five containers, and the remaining samples at random intervals during the packing of the lot.

2.14 SAMPLING BULK RICE AT REST

a. Use an approved double-tubed compartmented probe (see "List of Approved Equipment," located in the FGIS Equipment Handbook) of sufficient length to reach the bottom of the carrier.

TABLE 2.2 – PROBE SAMPLING SPECIFICATION CHART

Carrier	Length of Probe	Compartments
Barge	12-foot	20
Hopper Car	10- or 12-foot	20
Boxcar	6-foot	12
Truck	5- or 6-foot	11 or 12
Hopper Truck	6-, 8-, or 10-foot	12, 16, or 20

b. Sample bulk rice at rest in a carrier as follows:

(1) Visually examine the lot of rice at rest in the carrier. Record any unusual conditions on the work record.

(2) Spread your tarp and make sure that it and the probe are clean and dry.

(3) For each type of carrier there is an established sampling pattern (see section 2.13(c)). Probe the rice in the areas identified by the sampling pattern for the particular carrier.

Note: At the discretion of the cooperator or Field Office manager or Cooperator manager, non-licensed personnel may assist official personnel in obtaining samples, provided that: (1) all non-licensed personnel are under the direct, physical supervision of official personnel at all times; (2) the ratio of official personnel to non-licensed personnel is reasonable and practical; and (3) official personnel determine the general condition of the commodity and whether additional samples are needed due to quality differences.

(4) Insert the probe at a 10-degree angle from the vertical, completely closed.

(5) If the rice contains fine debris (e.g., dockage, fine broken kernels) it is permissible to insert the probe with the slots facing downward to avoid "freezing" the probe. After the probe is inserted, turn the slots upward before opening. After the probe is fully inserted (*with the slots facing upward*), open the slots and move the probe up and down quickly in short motions until windows are mostly filled.

(6) Close the slots gently so as not to damage the rice (a slight opening between the slots and the probe is allowable). Grasp the probe by the outer tube and withdraw it from the rice. Do not pull the probe by the handle.

(7) Empty the probe on the tarp and compare the rice from each depth of the probe for uniformity of type/class, quality, and condition. Also compare the sample portion to others drawn from the same lot. If all sample portions are uniform, they must be composited and placed in a sample bag along with a completed work record. Sample tarp size must be proper length (at least as long as the probe).

Note: If the probe does not reach the bottom of the carrier, show the following on the work record:

"Top (depth reached) feet sampled, BNS."

c. The following figures indicate the standard sampling patterns. Each lot must be probed in as many additional locations as are necessary to assure that the sample is the required size and representative of the lot. Additional probes must be drawn in a balanced (proportional) manner.

The sampling patterns in this section must be used by all official inspection personnel when sampling rice at rest. Insert the probe at the points marked (X), with the tip of the probe pointed toward the direction of the arrowhead. When two arrow heads are shown, the tip of the probe may be pointed in either direction.

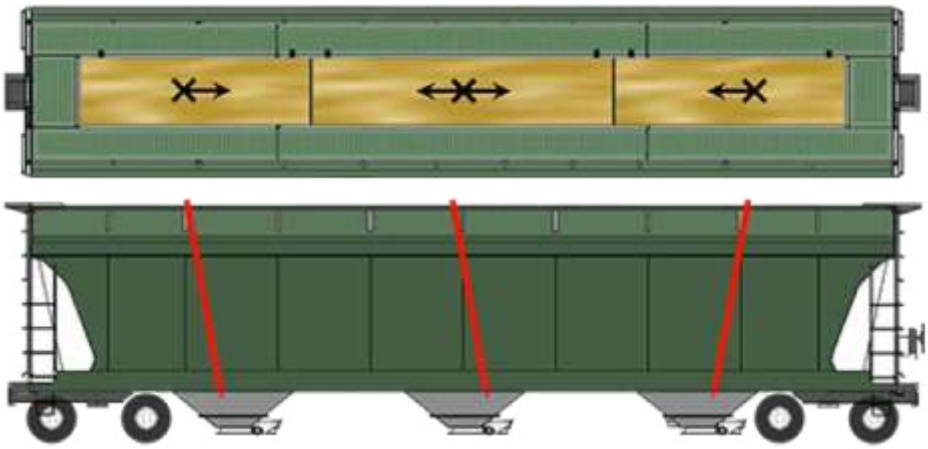


FIGURE 2.1 – HOPPER CAR SAMPLING PATTERN

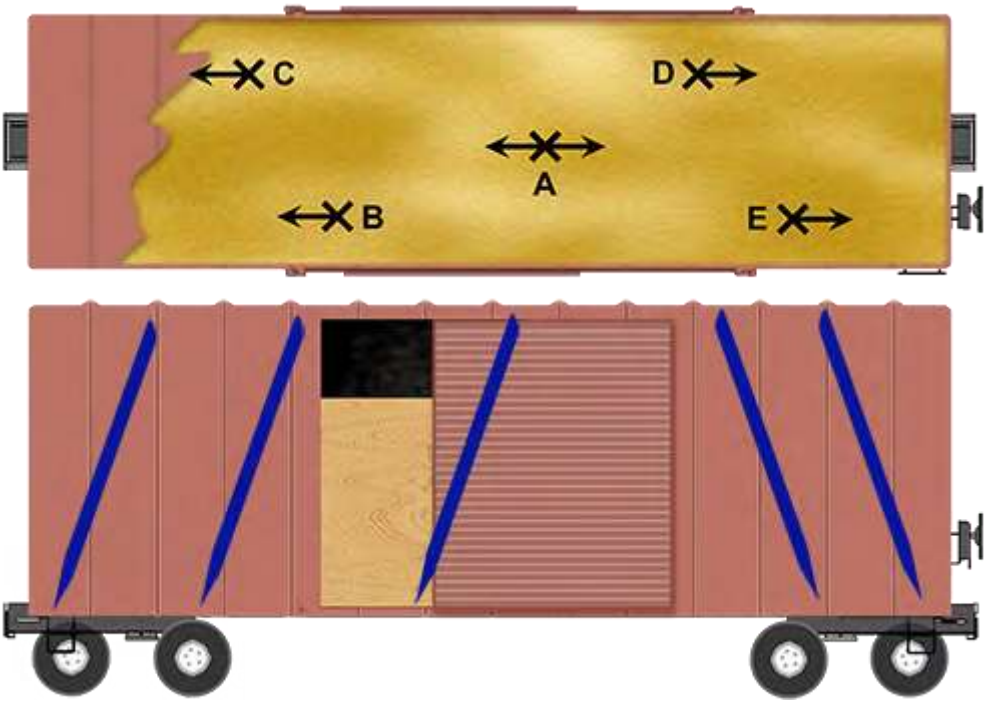


FIGURE 2.2 – BOXCAR, TRUCK, OR TRAILER SAMPLING PATTERN

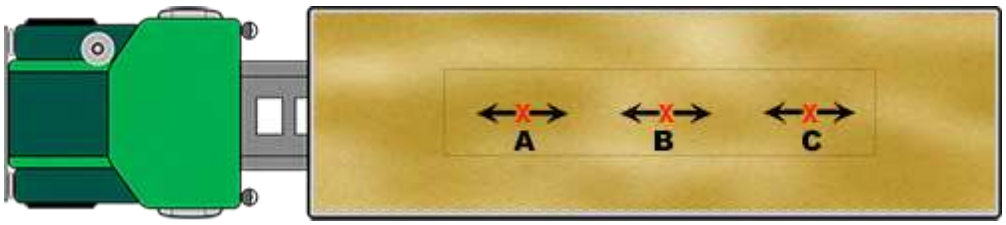


FIGURE 2.3 – HOPPER BOTTOM TRUCK SAMPLING PATTERN

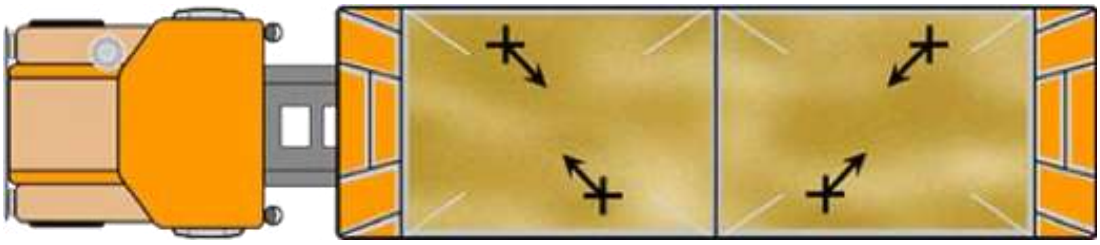


FIGURE 2.4A – DUAL HOPPER-BOTTOM TRAILER SAMPLING PATTERN

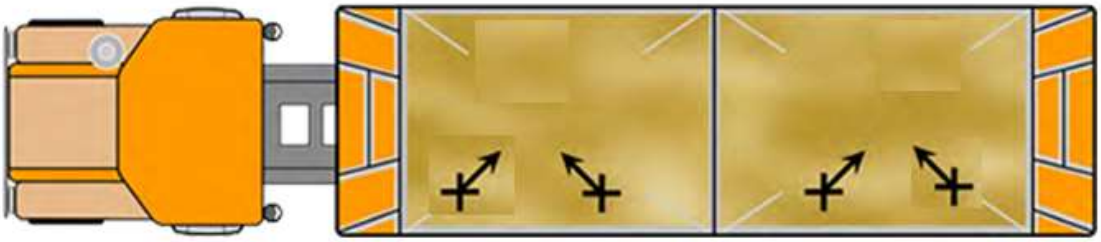


FIGURE 2.4B – DUAL HOPPER-BOTTOM TRAILER, SINGLE-SIDE SAMPLING

Note: Utilize single-side sampling pattern (Figure 2.4b – Dual Hopper-Bottom Trailer, Single-Side Sampling) when fall protection is limited to a single side.

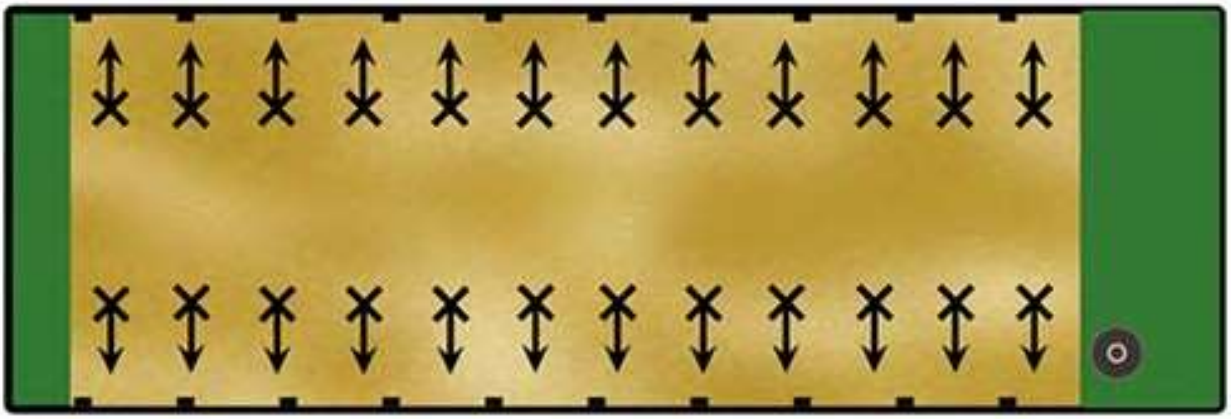


FIGURE 2.5 – ROLL TOP BARGE SAMPLING PATTERN

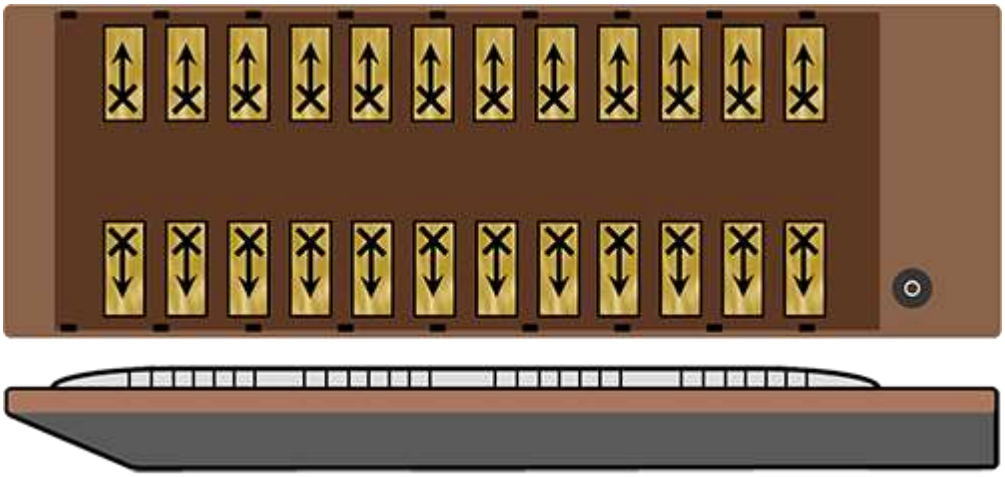


FIGURE 2.6 – LIFT TOP BARGE SAMPLING PATTERN

d. Sample bulk rice at rest in bins and elevators by inserting the probe into the rice through exterior inspection holes/doors. Record the following statement on the work record:

> "Sample represents an estimated (amount) only. Balance of bin inaccessible for sampling; total amount in bin estimated (amount)."

Caution: Do not enter closed bins.

e. Sample bulk rice in flat storage facilities/warehouses in as many places as practicable, but in no less than five locations.

f. Sample bulk rice in "tote" bags (e.g., large flexible containers holding 500-3000 pounds of rice) as follows:

(1) Lots of 1 Bag. Draw no less than five probes from the tote.

(2) Lots of 2 to 4 Bags. Draw at least two probes from each tote but no less than six probe samples from the entire lot. Always draw the same number of probe samples from each bag.

(3) Lots of 5 to 9 Bags. Draw at least one probe sample from each bag, but always draw the same number of probe samples from each bag

(4) Lots of 10 to 30 Bags. Draw no less than ten probe samples from the entire lots. Randomly select the bags to be probed and draw no more than one probe sample from each selected bag.

(5) Lots of 31 or More Bags. Draw one probe sample from at least 25 percent of the bags or ten probe samples from the entire lot, whichever is greater.

2.15 SAMPLING BULK RICE DURING MOVEMENT[3]

a. FGIS tested and approved *diverter-type mechanical samplers* (D/T) may be used to sample bulk rice during movement. (See the FGIS Mechanical Sampling Systems Handbook for testing and approval information.)

(1) Prior to using a D/T, ensure that the system is clean and free of rice or debris from a previous shipment.

(2) For sampling rice as it is being placed in bags or similar containers, set the D/T counter switch so that the pelican will traverse the stream at least once every 25 containers.

(3) For sampling rice being loaded into bulk carriers, set the timer in accordance with prescribed procedures.

b. FGIS tested and approved *Woodside-type mechanical samplers* may be used to sample bulk rice during movement. (See the Mechanical Sampling Systems Handbook for testing and approval information.)

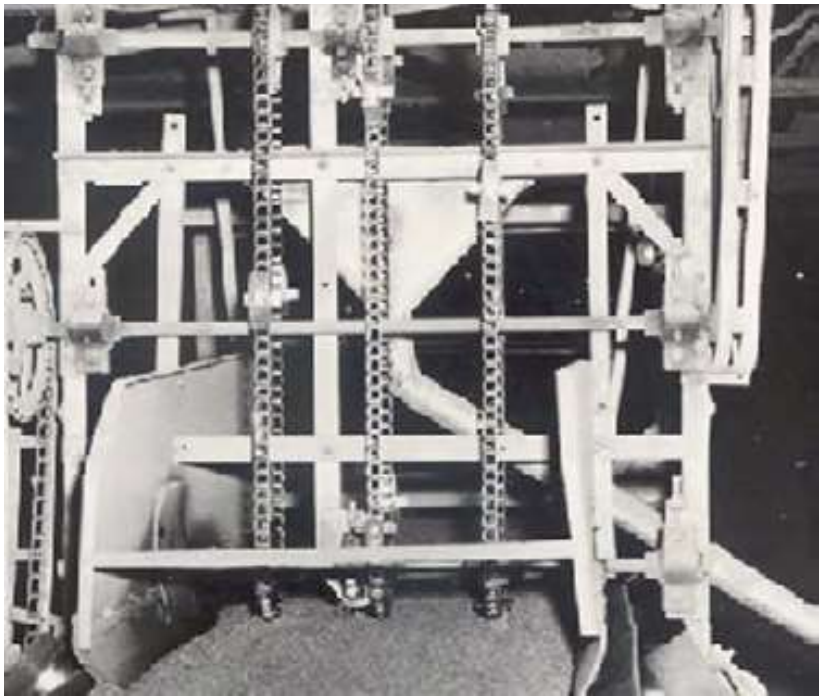


FIGURE 2.7 - WOODSIDE-TYPE MECHANICAL SAMPLER

[3] Refer to Book I, Grain Sampling, for additional guidelines and requirements.

c. FGIS-approved *pelican samplers* may be used to sample rice in a falling stream.

FIGURE 2.8 – PELICAN SAMPLER

Draw a sample using a pelican sampler as follows:

(1) Grasp the pelican's handle firmly.

(2) Then, swing the pelican completely through the stream in one continuous motion. This is known as taking a "cut."

The following is the minimum number of "cuts" required:

Hopper Car	2 cuts per carrier
Boxcar	4 cuts per carrier
Truck	2 cuts per carrier
Hopper Truck	2 cuts per carrier
Barge/Ship (30,000 lbs.)	1 cut per 13,500 kilograms

<u>Caution</u>: Sampling a free-falling stream of rice with a pelican sampler can be dangerous. Assure yourself of firm, nonskid footing. Retrieval lines may be attached to the handle of the pelican and to the carrier. Do not tie the line to a person.

d. FGIS-approved *Ellis cup samplers* may be used for sampling rice moving on a conveyor belt.

FIGURE 2.9 – ELLIS CUP SAMPLER

Draw a sample using the Ellis cup as follows:

(1) Hold the Ellis cup firmly and upright, with the sides of the cup parallel to the sides of the conveyor belt, and with the open end of the cup facing the oncoming flow of rice.

(2) Push the curved portion of the cup straight down in the center of the stream to the full depth of the rice. After filling, withdraw the cup and empty it.

(3) Then, immediately draw two more portions from the stream; one to the left of center and one to the right of center. This is known as taking a “set” of samples.

Note: When drawing samples with an Ellis cup from rice in a narrow stream or on a slow-moving conveyor belt, all portions may be taken from the center of the stream and portions may be drawn in a delayed manner, as necessary.

The following is the minimum number of “sets” required:

Hopper Car	2 sets per compartment
Boxcar	3 sets per carrier
Truck	1 set per carrier
Hopper Truck	1 set per carrier
Barge/Ship (30,000 lbs.)	1 set per 13,500 kilograms

<u>Caution</u>: Ensure that you have good footing to avoid falling onto the belt and that a U-shaped protective guard rail is installed no less than 2-1/2 feet above each belt and secured to the floor. Retrieval lines may be attached to the handle of the Ellis Cup and to the guardrail. Do not tie the line to a person.

2.16 UNUSUAL CONDITIONS

Note: If any unusual conditions are detected or suspected, notify your supervisor as soon as possible.

a. Do not allow yourself to be hurried to the point that the integrity of the sample is undermined or a condition, such as objectionable odor, insect infestation, or heating, is overlooked. Remember, obtaining a representative sample is the most important aspect of a sampler's job.

b. If you suspect that the quality of the rice in the sample is not indicative of the true quality of the rice in the lot, draw another representative sample using a slightly different sampling pattern, a longer probe, or draw an auxiliary sample.

c. An auxiliary sample is drawn only for the purpose of determining if the lot's true condition is indicated by the representative sample.

(1) An auxiliary sample is used to "backup" the representative sample, not as another representative sample. For example, if you suspect that a hopper car containing rice is contaminated with fertilizer, even though no fertilizer was present in the probe sample, draw an auxiliary sample.

(2) Auxiliary samples may be obtained in any safe manner that is effective in obtaining a sample from the portion of the lot that is suspected of being contaminated or of being a distinctly different quality than the remainder of the lot (e.g., in a hopper car), an unusually long probe may be used or a well may be dug so that the bottom of the carrier can be reached.

(3) If an unusual condition is found in an auxiliary sample, identify the auxiliary sample with a separate work record(s) and submit the auxiliary sample along with the representative sample.

(4) The identification should indicate the specific location in the lot where the auxiliary sample was drawn.

Example: **"Auxiliary Sample, N&W 176186, Compartment B-1."**

Note: Do not mix the auxiliary sample with the representative sample.

d. If you observe any of the following conditions in a lot, a representative sample, or an auxiliary sample, report the condition on the work record(s).

(1) Angoumois Moths. If moths are found flying or crawling around the lot or the carrier, record an estimate of the number observed.

(2) Infestation. If weevils, grain borers, insect larvae, bran bugs, or other insects injurious to stored rice are found on, around, or about the lot, note the number, type, and location where observed.

Note: To aid in insect identification, refer to FGIS Visual Reference Images (VRI) and/or the FGIS Stored-Grain Insect Reference.

(3) Large Debris and Other Sample Grade Factors. If any of the following conditions are observed in a lot, record the amount, size, number (whichever is more applicable) and the location where found:

(a) Large stones, large sticks, cement;

(b) Pieces of metal, glass, or fertilizer;

(c) Rodent or bird excreta;

(d) Castor beans, crotalaria seeds, treated seeds;

(e) Lumps of rice, grain, dirt and/or other commodities, unknown foreign substance, toxic material, or unnatural Odors (COFO); and

(f) Any material too large to enter a probe, Ellis cup, pelican DT sampler or any official sampling device.

(4) Heating Rice. When high temperatures develop in rice as the result of excessive respiration, such rice is called “heating.” Heating rice usually gives off a sour or musty odor.

(a) Note the location and quantity on the sample ticket.

(b) Do not confuse heating rice with rice that is warm due to storage in bins, cars, or other receptacles during warm weather.

(5) Distinct Differences in Quality or Other Unusual Conditions. Describe the condition in detail on the sample ticket.

(6) Odors. Odors should be detected on the original sample at the time of sampling.

(a) When an Agricultural Commodity Grader (ACG) is not available, immediately place the suspect sample into an airtight container for transport to the laboratory for an examination by an ACG.

(b) Musty and sour odors are the result of mold growth or fermentation.

(c) Commercially objectionable foreign odors are the result of absorption by rice of residual odors from previous cargo, oil, and other material. See Table 2.3 – Odor Classification Chart for a list of these and other odors that may be found in rice.

TABLE 2.3 – ODOR CLASSIFICATION CHART

Sour	Musty	Commercially Objectionable Foreign Odors
Boot (bottom of leg)	**Moldy**	**Previous Cargo: Fish Meal, Detergent, etc.**
Pig pen	**Earth**	**Decaying Vegetable and Animal Matter**
Fermenting Rice	**Ground**	**Fertilizer**
Insect Odor	**Insect Odor**	**Skunk**
Heating Rice	**Heating Rice**	**Oil Products**
		Smoke
		Weed Seed

Caution: Do not place your face or nose in rice that has recently been fumigated!

CHAPTER 3:
ROUGH RICE

CONTENTS

3.1 DEFINITION OF ROUGH RICE

Rough Rice. Rice (*Oryza sativa* L.) which consists of 50 percent or more of paddy kernels of rice.

Paddy Kernels. Whole or broken unhulled kernels of rice.

a. Paddy kernels are usually determined by cursory examination of the work sample as a whole.

b. When a detailed examination is necessary, determine paddy kernels on a representative portion of no less than 50 grams of rough rice before the removal of dockage.

(1) Record the percentage of paddy kernels on the work record to the nearest tenth percent.

(2) If the rice contains less than 50 percent of paddy kernels, consider the rice to be brown rice for processing and refer to Chapter 4, Brown Rice, for additional information.

Note: Rice that does not meet the United States Standards for Rough Rice, Brown Rice for Processing, or Milled Rice will be determined "Not Standardized Rice."

3.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of rough rice are shown in the United States Standards for Rice (Section 868.210 of regulations under the AMA).

TABLE 3.1 – GRADES AND GRADE REQUIREMENTS FOR ROUGH RICE

Grade	Maximum Number in 500 grams--			Maximum limit (percent)				
					Chalky Kernels[1, 2]			
	Seeds and Heat damaged Kernels Total (Singly or Combined)	Heat-damaged Kernels and Objectionable Seeds (Singly or Combined)	Heat damaged Kernels	Red Rice and Damaged Kernels (Singly or Combined)[4]	In Long Grain	In Medium or Short Grain	Other Types[3]	Color[1] Minimum Requirement
U.S. No. 1	4	3	1	0.5	1.0	2.0	1.0	White or Creamy
U.S. No. 2	7	5	2	1.5	2.0	4.0	2.0	Slightly Gray
U.S. No. 3	10	8	5	2.5	4.0	6.0	3.0	Light Gray
U.S. No. 4	27	22	15	4.0	6.0	8.0	5.0	Gray or Slightly Rosy
U.S. No. 5	37	32	25	6.0	10.0	10.0	10.0	Dark Gray or Rosy
U.S. No. 6	75	75	75	15.0	15.0	15.0	10.0	Dark Gray or Rosy

U.S. Sample grade is rough rice which:
- a does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 6, inclusive;
- b contains more than 14.0 percent of moisture;
- c is musty or sour, or heating;
- d has a commercially objectionable foreign odor; or
- e is otherwise of distinctly low quality.

[1] For the special grade Parboiled rough rice, see Section 868.212(b).

[2] For the special grade Glutinous rough rice, see Section 868.212(d).

[3] These limits do not apply to the class Mixed Rough Rice.

[4] Rice in grade U.S. No. 6 must contain no more than 6.0 percent of damaged kernels.

3.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

a. The special grades and special grade requirements for all classes of rough rice are shown in the United States Standards for Rice (Section 868.212 of regulations under the AMA).

b. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for rough rice are defined as follows:

(1) Infested Rough Rice. Rough rice that is infested with live weevils or other live insects injurious to stored rice.

(2) Parboiled Rough Rice. Rough rice in which the starch has been gelatinized by soaking, steaming, and drying. If the rice is:

(a) Not distinctly colored by the parboiling process, the rice must be considered “Parboiled Light.”

(b) Distinctly but not materially colored by the parboiling process, the rice must be considered “Parboiled.”

(c) Materially colored by the parboiling process, the rice must be considered “Parboiled Dark.”

(3) Smutty Rough Rice. Rough rice which contains more than 3.0 percent of smutty kernels.

(4) Glutinous Rough Rice. Special varieties of rice which contain more than 50 percent chalky kernels.

(5) Aromatic Rough Rice. Special varieties of rice that have a distinctive and characteristic aroma (e.g., basmati and jasmine rice).

3.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a sample ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel must use FGIS-911, "Rice Sample Ticket," to record inspection results. Cooperators must use a similar form.

3.5 REPRESENTATIVE PORTION

A specified quantity of rice divided-out from the representative sample by means of an FGIS approved divider.

3.6 WORK SAMPLE

A representative portion of rice (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of rice.

Note: A Submitted Sample of rough rice with a request for grade that does not contain 1,000 grams or more will be dismissed; or a factor only inspection may be performed upon request.

3.7 FILE SAMPLE

a. A representative portion of rice (approximate size - 1,500 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

b. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See *FGIS Directive 9170.13*, "Uniform File Sample Retention System" for additional information.

3.8 PERCENTAGES AND COUNTS

a. Basis of Determination. Percentages are determined upon the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure (e.g., report 6.36 as 6.4, 0.35 as 0.4, and as 2.5).

(2) When the figure to be rounded is followed by a figure less than 5, retain the figure (e.g., report 8.34 as 8.3, and 1.22 as 1.2).

b. Record percentages as follows:

(1) For milling yield, in tenths of a percent (unrounded) in “RESULTS” section of the work record and to the nearest whole percent (rounded from the nearest tenth) on the grade line of the certificate. (e.g., 66.56 is reported as 66.5 in the results section on the work record and in the results section and reported as 67 on the grade line of the certificate).

(2) For all other factors, to the nearest tenth percent.

c. Record counts, for all factors determined on the basis of count, to the nearest whole number.

3.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS-approved laboratory scales and record the results to the correct division size.

Use the table below to determine the scale class and division size required for weighing particular sized samples.

TABLE 3.2 – LABORATORY SCALES

Portion Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest
120 grams or less	**Precision**	**0.01 gram**	**0.01 gram**
Samples for moisture determinations	**Precision or Moisture**	**0.1 gram**	**0.1 gram**
More than 120 grams	**Precision, Moisture, or General**	**1 gram**	**1 gram**
Note: See Equipment Handbook, Chapter 2, for additional information.			

3.10 PRELIMINARY EXAMINATION

a. The sampler must: (1) observe the uniformity of the rice as to type/class, quality, and condition; (2) make the determination for “Heating”; (3) draw the representative sample; and (4) report relevant information to the inspector.

b. The inspector must review the sampler’s remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

3.11 BASIS OF DETERMINATION

Certain Quality Determinations. The determination of seeds, objectionable seeds, heat-damaged kernels, red rice and damaged kernels, chalky kernels, other types, color and the special grade Parboiled rough rice must be on the basis of the whole and large broken kernels of milled rice that are produced in the milling of rough rice to a well-milled degree.

Class. When determining class, the percentage of (A) whole kernels of rough rice must be determined on the basis of the original sample, and (B) types of rice must be determined on the basis of the whole and large broken kernels of milled rice that are produced in the milling of rough rice to a well-milled degree.

Smutty Kernels. Smutty kernels must be determined on the basis of the rough rice after it has been cleaned and shelled as prescribed in FGIS instructions or by any method that is approved by the Administrator as giving equivalent results.

All Other Determinations. All other determinations must be on the basis of the original sample. Mechanical sizing of kernels must be adjusted by handpicking as prescribed in FGIS instructions, or by any method that is approved by the Service as giving equivalent results.

Note: When rice that is offered for inspection as one lot is found to contain more than 10,000 containers (packaged/bags/balers) or 6,000,000 pounds (bulk) of rice, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers (packaged/bags/balers) or 6,000,000 pounds or less. Inspect each sublot separately. (For additional information, see Chapter 7, Roundlot Inspection Plan and Chapter 9, Warehouse-Lot Inspection Plan.)

Note: When rice that is offered for inspection as one lot is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion must be inspected separately.

a. Follow a systematic grading procedure. The order of procedure may vary depending on the class and the quality of the rice and the tests that are required to determine the grade. A general order of procedure is as follows:

   (1) Review the information on the work record.

   (2) Examine the representative sample for odor and distinctly low quality.

(3) Use an FGIS-approved divider to process the representative sample into three representative portions: (a) a work portion, (b) a file portion, and (c) a moisture portion.

Note: For specific information on the operation and maintenance of dividers, see the FGIS Equipment Handbook, Chapter 7, Manual Sampling Devices.

(4) Examine the work sample for the following:

(a) Class;

(b) Paddy kernels (if necessary);

(c) Type;

(d) Infestation; and

(e) Test weight (if requested).

(5) Remove the dockage from the work sample and, upon request, determine the percentage of dockage.

(6) Also, upon request, examine the dockage-free portion for gold and straw colored kernels.

(7) Shell the dockage free portion and examine the shelled rice portion for smutty kernels.

(8) Mill the shelled rice portion. After cooling to room temperature, determine total milled rice (milling yield).

(a) Examine the milled rice for odor.

(b) Upon request, determine the milling yield (whole kernels and total milled rice).

1 Divide out from the milled rice portion a 40-gram portion and determine whole kernels (milling yield).

2 Examine the whole and large broken kernels portion for color.

3 Divide the whole and large broken kernels portion to 500 grams and examine the portion for the following:

a Seeds;

b Heat-damaged kernels; and

c Ungelatinized kernels in parboiled rice.

(c) Divide the 500-gram portion to 25 grams and examine the portion for the following:

1 Chalky kernels;

2 Red rice and damaged kernels; and

3 Other types

b. When the grade of a lot or sample is determined by a narrow margin (+/- 0.1 percent or 1 count) on a single factor, *except for the factors seeds and heat-damaged kernels on non-cargo lots*, another determination must be made on another representative portion of equivalent size divided out from the work sample or file sample. The factor result must be based on the average of the two determinations.

Note: Narrow margin determinations do not apply to multiple lots where tolerance is applied.

3.12 MOISTURE

Water content in rough rice as determined by an approved device in accordance with according to procedures prescribed in FGIS instructions.

Note: Rough rice will not be milled when the moisture content exceeds 18.0 percent.

a. Basis of Determination. Determine moisture on a representative portion of sufficient size of rough rice before the removal of dockage as described in the Moisture Handbook.

b. Procedures. The procedures for performing a moisture determination using the FGIS approved moisture meters are described in the Moisture Handbook.

c. Record the percentage of moisture on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the moisture content exceeds 14.0 percent, grade the rice "U.S. Sample Grade."

3.13 TYPE

There are three types of rough rice: (1) Long grain, (2) Medium grain, and (3) Short grain.

Types must be based on the length-width ratio of kernels of rice that are unbroken and the width, thickness, and shape of kernels of rice that are broken, as prescribed in FGIS instructions.

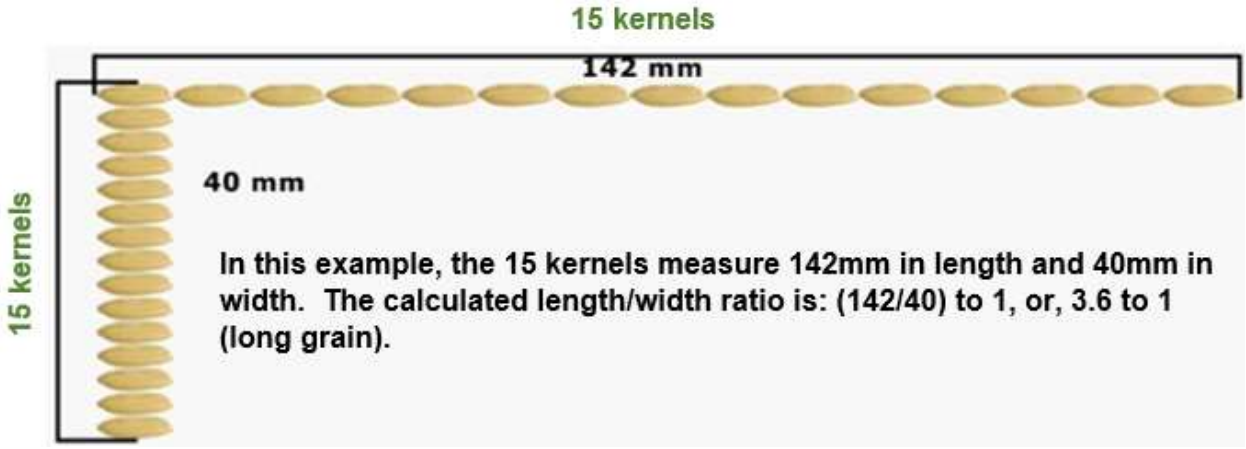


FIGURE 3.1 – EXAMPLE CALCULATION OF LENGTH/WIDTH RATIO

The length-width ratio limitations for rough rice are as follows in Table 3.3 – Length-width Ratio Limitations:

TABLE 3.3 – LENGTH-WIDTH RATIO LIMITATIONS

Long grain	Medium grain	Short grain
3.4 (or more) to 1	2.3 - 3.3 to 1	2.2 (or less) to 1

a. Type is usually determined by a cursory examination of the work sample as a whole.

b. When a detailed examination is necessary, measure the length and width of 15 unbroken kernels of rough rice taken at random from the work sample and determine their average length-width ratio.

(1) For awnless kernels, length is the straight-line distance from the outer glumes to the tip of the lemma. For kernels with an awn, length is the straight-line distance from the outer glumes to the base of the awn.

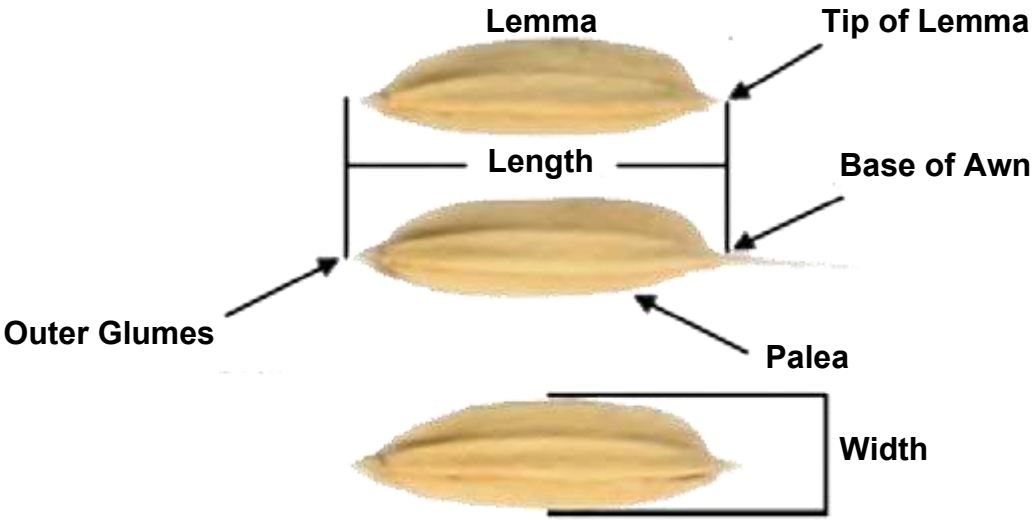


FIGURE 3.2 – LENGTH OF KERNEL

(2) Width is the distance across the lemma and the palea at the widest point.

3.14 CLASS

a. There are four classes of Rough rice: (1) Long Grain Rough Rice, (2) Medium Grain Rough Rice, (3) Short Grain Rough Rice, and (4) Mixed Rough Rice.

Classes must be based on the percentage of whole kernels, large broken kernels, and types of rice.

(1) Long Grain Rough Rice. Long Grain rough rice must consist of rough rice which contains more than 25 percent of whole kernels and which after milling to a well-milled degree, contains no more than 10 percent of whole or large broken kernels of medium or short grain rice.

(2) Medium Grain Rough Rice. Medium Grain rough rice must consist of rough rice which contains more than 25 percent of whole kernels and which after milling to a well-milled degree, contains no more than 10 percent of whole or large broken kernels of long grain rice or whole kernels of short grain rice.

(3) Short Grain Rough Rice. Short Grain rough rice must consist of rough rice which contains more than 25 percent of whole kernels and which, after milling to a well-milled degree, contains no more than 10 percent of whole or large broken kernels of long grain rice or whole kernels of medium grain rice.

(4) Mixed Rough Rice. Mixed rough rice must consist of rough rice which contains more than 25 percent of whole kernels and which, after milling to a well-milled degree, contains more than 10 percent of "other types" as defined in section 3.30, "Other Types," of this chapter.

b. Class is usually determined by a cursory examination of the work sample as a whole.

c. When a detailed examination is necessary to determine whole kernels for class, make this determination on a representative portion of no less than 40 grams of rough rice before the removal of dockage.

(1) Record the percentage of whole kernels on the work record to the nearest tenth percent.

(2) If the rice contains 25 percent or less of whole kernels, show the designation "Rough Rice" on the grade line of the certificate. Do not show either a class or grade designation on the certificate.

d. When a detailed examination is necessary to determine other types for class, make this determination on a representative portion of no less than 25 grams of whole and large broken kernels of well-milled rough rice.

(1) Record the percentage of each type on the work record to the nearest tenth percent.

(2) Grade the rice “Mixed Rough Rice,” if the rice contains more than 10 percent of the following:

(a) Whole or large broken kernels of medium or short grain rice in long grain rice;

(b) Whole and large broken kernels of long grain rice or whole kernels of short grain rice in medium grain rice; or

(c) Whole or large broken kernels of long grain rice or whole kernels of medium grain rice in short grain rice.

e. Determine the percentage of material removed by the No. 6 sieve or the No. 6 sizing plate, and when applicable, the percentage of seeds.

Record the percentage of whole kernels of each type present in the order of predominance; the percentage of large broken kernels of each type present in order of predominance; and when applicable, the percentage of material removed by the No. 6 sieve or the No. 6 plate and the percentage of seeds to the nearest tenth percent on the work record and in the “RESULTS” section of the certificate. (These percentages must total 100%.)

Note: Large broken kernels other than long grain in Mixed Rough Rice must be certified as “medium or short grain.”

3.15 ODOR

a. Determine odor on the basis of a representative portion of well-milled rough rice. Upon request, a non-grade odor determination may be made on the basis of the rough rice, as is.

Off-odors (i.e., musty, sour, and commercially objectionable foreign odor) can sometimes be detected when smelling the rough rice at the time of sampling.

Note: If there is any question as to the odor when the sample is being taken, note on the work record and put that portion of the sample into an airtight container to preserve its condition for further examination. The final odor determination is made in the laboratory.

b. The final odor determination must be made on the sample after milling to a well-milled degree.

(1) A musty odor is any odor that is earthy, moldy, or ground-like. Do not confuse a burlap bag odor with a musty odor.

(2) A sour odor is any odor that is rancid, sharp, or acrid.

(3) A commercially objectionable foreign odor is any odor that is not normal to rice and that, because of its presence, renders the rice unfit for normal commercial usage (e.g., fertilizer, hides, oil products, skunk, smoke, fire-burnt, decaying animal, and vegetable matter odors).

(4) Fumigants or insecticide odors are not considered as commercially objectionable foreign odors unless they are caused by a fumigant or insecticide that does not dissipate quickly. When a sample of rice contains a fumigant or insecticide odor that prohibits a true odor determination, the following guidelines must apply:

(a) The representative sample of rice must be allowed to air-out in an open metal container (e.g., a pan) for up to 4 hours, a fume hood may be used if available; and

(b) If the fumigant or insecticide odor still prohibits the determination of the rice's true odor after 4 hours, the rice must be considered as having a commercially objectionable foreign odor.

Caution: When sampling rice, check for placarded railcars. If a car is placarded (or if a car is not placarded but a fumigant odor is detected), do not enter the car or sample the rice, and notify your supervisor immediately.

Note: Aromatic (scented) rice that has an odor known to be common to such rice must be declared at the time of the inspection request or will be considered as having a commercially objectionable foreign odor.

c. When rice is determined to be musty, sour, or have a commercially objectionable foreign odor, record the type of odor on the work record and in the "RESULTS" section of the certificate, and grade the rice "U.S. Sample Grade."

Note: Rough rice found to have a commercially objectionable foreign odor is considered actionable according to *FGIS Directive 9060.2*, "Implementation of the FGIS-FDA Memorandum of Understanding."

3.16 HEATING

a. Determine heating on the basis of the lot as a whole.

(1) When high temperature develops in rice as the result of excessive respiration, such rice is heating.

(2) Heating rice usually gives off a sour or musty odor.

(3) Care should be taken never to confuse rice that is warm due to storage in bins, cars, or other containers during hot weather with rice that is heating from excessive respiration.

b. When applicable, show the term “Heating” on the work record and in the “RESULTS” section of the certificate, and grade the rice “U.S. Sample Grade.”

3.17 DISTINCTLY LOW QUALITY

a. Determine distinctly low quality on the basis of the lot as a whole or the representative sample as a whole or an auxiliary sample.

b. Rough rice that is obviously affected by unusual conditions which adversely affect the quality of the rice and which cannot be graded properly by use of the grading factors specified or defined in the standards, must be considered as being of distinctly low quality (see Chart 3.1 – Distinctly Low Quality). Rough rice that contains any material too large to enter a probe, Ellis cup, pelican, DT sampler or any official sampling device such as pieces of wreckage and debris including lumps of rice, grain, dirt and/or other commodities, unknown foreign substance or toxic material which are visible to the sampler is considered DLQ.

CHART 3.1 – DISTINCTLY LOW QUALITY

Factor	Amount	Basis
Bird droppings	2 or more	1,000 grams
Rodent pellets	2 or more	1,000 grams
Rodent pellets and/or fragments of rodent excreta pellets	9 mg or more	1,000 grams
Combination of rodent pellets and bird droppings	1 or more of each	1,000 grams
Castor beans	2 or more	1,000 grams
Crotalaria seeds	3 or more	1,000 grams
Treated seed	4 or more	1,000 grams
Aflatoxin	20 ppb	Sample
Objectionable odor	Presence	Sample
Metal fragments	1 or more	Sample or Lot as a whole
Glass fragments	1 or more	Sample or Lot as a whole

c. When applicable, show the statement, “Distinctly Low Quality on account of (cause or reason)” on the work record and in the “RESULTS” section of the certificate, and grade the rice “U.S. Sample Grade.”

Note: Rough rice considered DLQ and graded U.S. Sample Grade is considered actionable according to the to *FGIS Directive 9060.2*, “Implementation of the FGIS-FDA Memorandum of Understanding.”

3.18 INSECT INFESTATION

a. Infested Rough Rice. Tolerances for live insects for infested rough rice are defined according to sampling designation as follows:

(1) Representative Sample. The representative sample consists of the work portion, and the file sample if needed and when available. The rough rice (except when examined according to paragraph (a)(3) of this section) will be considered infested if the representative sample contains two or more live weevils, or one live weevil and one or more other live insects injurious to stored rice, or five or more other live insects injurious to stored rice.

(2) Lot as a Whole (Stationary). The lot as a whole is considered infested when two or more live weevils, or one live weevil and one or more other live insects injurious to stored rice, or five or more other live insects injurious to stored rice, or fifteen or more live Angoumois moths or other live moths injurious to stored rice are found in, on, or about the lot.

(3) Sample as a Whole During Continuous Loading/Unloading. The minimum sample size for rice being sampled during continuous loading/unloading is 500 grams per each 100,000 pounds of rice. The sample as a whole is considered infested when a component (as defined in FGIS instructions) contains two or more live weevils, or one live weevil and one or more other live insects injurious to stored rice, or five or more other live insects injurious to stored rice.

Note: "Weevils" must include coffee bean weevils, broad-nosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other live insects injurious to stored rice" must include beetles, moths, meal worms, and other insects injurious to stored rice.

Note: To aid in insect identification, refer to FGIS Visual Reference Images (VRI) and/or the FGIS Stored-Grain Insect Reference.

b. Determine infestation on the basis of a representative portion of approximately 1,000 grams, the lot as a whole, and/or a component sample taken during continuous loading/unloading.

(1) Examine a representative portion.

(a) If no live insect is found in the portion, make no further check for insects.

(b) If two or more live weevils are found, consider the rice to be "Infested."

(c) If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

(d) If only one live weevil or other insect injurious to stored rice is found, cut another representative portion of approximately 1,000 grams from the file sample. (Use the rest of the representative sample if the file sample is less than 1,000 grams.)

1 If one or more live weevils or other live insects injurious to stored rice are found in the second portion, consider the rice to be "Infested."

2 If no live insect is found in the second portion, do not consider the rice to be "Infested."

(e) If no live weevil is found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

(2) Examine the rice in the lot (i.e., the surface area of the lot and the area around the lot).

(a) If no live insect is found in, on, or about the lot, make no further check for insects.

(b) If two or more live weevils are found, consider the rice to be "Infested."

(c) If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

(d) If no live weevil is found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

(e) If fifteen or more live Angoumois moths or other live moths are present, consider the rice to be "Infested."

(3) Examine the component samples[4] taken during continuous loading/unloading.

(a) Divide out from the component sample a representative portion of approximately 1,000 grams.

(b) Examine the representative portion for live insects.

1 If no live insect is found in the representative portion, make no further check for insects.

2 If two or more live weevils are found, consider the rice to be "Infested."

3 If one live weevil and any other live insect injurious to stored rice is found, consider the rice to be "Infested."

4 If one live weevil and no other insect injurious to stored rice is found, cut another representative portion of approximately 1,000 grams from the component sample.

a If one or more live weevils or other live insects injurious to stored rice are found in the second portion, consider the rice to be "Infested."

b If no live insect is found in the second portion, do not consider the rice to be "Infested."

5 If no live weevil is found, but five or more other live insects injurious to stored rice are present, consider the rice to be "Infested."

c. When applicable, show the term "Infested" on the work record and on the grade line of the certificate.

Note: If a lot of Rough rice was determined to be "Infested", the lot may be fumigated to remove the special grade, "Infested" pending specific fumigation criteria is met. Refer to the Fumigation Handbook for specific criteria and certification procedures.

[4]As specified in Chapter 7, Roundlot Inspection. For shiplots and bargelots, a component sample may not represent more than 450,000 pounds of rice and each sublot/lot must contain two or more approximately, equal-sized components.

3.19 TEST WEIGHT PER BUSHEL

Note: This factor is not provided for under the United States Standards for Rough Rice, but may be determined upon request.

a. Determine test weight per bushel on a representative portion of approximately 1,000 grams of rough rice before the removal of dockage.

b. General Operating Procedures.

(1) Level and balance the test weight per bushel apparatus.

(2) Close the hopper valve.

(3) Pour the work sample into the hopper.

(4) Center the hopper over the kettle.

(5) Fill the kettle by opening the hopper valve quickly.

(6) Move the hopper all the way to the left before proceeding. Do not jar the apparatus. Jarring could cause inaccurate results.

(7) Using a standard stroker, stroke the kettle by holding the stroker in both hands with the flat sides in a vertical position. Level the rice in the kettle by making three full-length, zigzag motions with the stroker.

(8) Convert the weight of the sample by either the “standard” method or one of the “alternate” methods.

(a) Standard Method. Carefully hang the kettle on the beam and move the weights until the beam is balanced. Read the test weight per bushel scale.

(b) Alternate Method – Manual Conversion. Pour the sample from the kettle onto a general class scale, note the weight of the sample, find the gram weight on the test weight conversion chart (see Appendix 1 in the Grain Inspection Handbook, Book II, Grading), and read the corresponding test weight per bushel shown to the right of the gram weight.

(c) Alternate Method – Automatic Conversion. When using an electronic scale programmed to convert gram weight to pounds per bushel select the appropriate test weight mode. Place an empty sample pan or the test weight kettle on the scale and zero the scale. Pour the sample from the kettle into the sample pan or place the filled kettle onto the scale as appropriate. Read the result from the test weight mode selected.

c. Record the test weight per bushel on the work record to the nearest tenth of a pound and record in the "RESULTS" section of the certificate.

d. Upon request by the applicant the following statement may be recorded in the "REMARKS" section of the certificate:

> "Test weight per bushel of (amount) pounds is approximately equivalent to (amount) kilograms per hectoliter."

Kilograms per hectoliter are determined by multiplying the test weight per bushel by 1.287.

Note: Bulk density may be determined by dividing the test weight per bushel by 1.2445. Bulk density is the number of pounds in one cubic foot.

3.20 DOCKAGE

a. Determine dockage on a representative portion of 1,000 grams of rough rice. Dockage is all matter other than rice that can be readily removed from the rough rice by the use of appropriate sieves and cleaning devices. It may also include underdeveloped, shriveled, and small pieces of kernels of rough rice that are removed in properly separating the dockage and that cannot be recovered by properly rescreening or recleaning.

b. Set up the Carter dockage tester as follows:

TABLE 3.4 – DOCKAGE TESTER SETTINGS

Set up	Long Grain All	Medium Grain		Short Grain	
		Southern Production	Western Production	Southern Production	Western Production
Air Setting	Standard	Standard	Standard	Standard	Standard
Riddle	----------	----------	----------	----------	----------
Top Sieve	28	28	31*	31	31*
Middle Sieve	25	25	----------	26	----------
Bottom Sieve	22	4	27	4	21

***The No. 3 sieve may be used in the top sieve carriage to aid in the removal of paddy kernels with stems remaining on them.**

Note: For Mixed rough rice, use the sieves prescribed for the type of rice that predominates in the mixture.

c. Adjust the feed hopper of the dockage tester so that during the first run practically all of the rice will pass through the upper half of the top sieve before it passes the midpoint of the sieve. Vary the feed adjustment, if necessary, depending on the class of rice and the amount of dockage in the rice.

d. Dockage consists of the following:

(1) All material removed by air;

(2) All material (except rice) which goes over the top sieve;

(3) All material (except rice) which goes over the middle sieve; and

(4) All material that goes through the bottom sieve.

Note: All rice remaining in the sieves is to be added to the clean sample.

e. If dockage remains in the sample after running it through the dockage tester, recombine the sample--except for the dockage that has already been removed-- and rerun the sample. All rice remaining in the sieve is to be added to the clean sample.

f. Upon request, record the percentage of dockage on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent.

3.21 PADDY KERNELS WITH GOLD OR STRAW COLORED HULLS

Note: This factor is not provided for under the United States Standards for Rough Rice but may be determined upon request.

a. Determine paddy kernels with gold or straw colored hulls on a representative portion of no less than 50 grams of dockage-free rough rice.

b. Remove the gold and straw colored paddy kernels, and when applicable, the brown rice kernels, from the representative portion.

c. Record the percentage of paddy kernels with gold and straw colored hulls on the work record to the nearest tenth percent and show one of the following statements, as applicable, in the "REMARKS" section of the certificate:

(1) "A dockage free portion of this rice when separated consists of (percentage) of straw colored paddy kernels and (percentage) of gold colored paddy kernels."

(2) "A dockage free portion of this rice when separated consists of (percentage) of straw colored paddy kernels, (percentage) of gold colored paddy kernels, and (percentage) of brown rice kernels."

(3) "The hulls of the paddy kernels in this rice are (straw or gold, as applicable) colored."

3.22 MILLING YIELD

Definition. An estimate of the quantity of whole kernels and total milled rice (whole and broken kernels combined) that are produced in the milling of rough rice to a well- milled degree.

Note: Rough rice will not be milled when the moisture content exceeds 18.0 percent.

a. Determine milling yield on a representative portion of 1,000 grams of rough rice before the removal of dockage.

(1) Divide out a representative portion of between 950 and 1,050 grams.

(2) Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

b. Milling yield is determined by removing the dockage from the representative portion, shelling the dockage free portion, converting the shelled rice to milled rice, and then separating the whole kernels from the total milled rice portion.

(1) Remove the dockage from the rough rice using an FGIS-approved dockage machine. (See section 3.20, "Dockage," for further details.)

(2) Shell the dockage-free rough rice using an FGIS-approved sheller. (Shelling is the removal of the hulls from the paddy rice.)

(a) Adjust the hopper feed so that between 450 and 500 grams of rice passes through the sheller per minute.

(b) Adjust the dial setting so the sample contains 2 to 3 percent paddy kernels in long grain rice or 3 to 4 percent paddy kernels in medium or short grain rice after shelling. Use the appropriate dial settings for the approved sheller as per standardization requirements.

Note: For Mixed Rough Rice, use the setting prescribed for the type of rice that predominates in the mixture.

(c) Start the sheller and then pour the rice into the sheller.

(d) After all of the rice has cleared the sheller, turn the sheller off.

Note: Pass the rice through the sheller only once.

(3) Mill the shelled rice using an FGIS-approved miller. (Milling is the removal of practically all of the germ and the bran from the brown rice.)

(a) If the miller has not been used recently, warm up the miller as follows:

1 Place approximately 750 grams of milled or brown rice in the milling chamber with a 2-pound weight on the weight holder.

2 Make at least three consecutive 30-second runs.

3 Thoroughly clean the miller.

(b) Proceed with the milling of the shelled portion.

1 Set the miller's timer switch at exactly 30 seconds.

2 Tilt the chamber so that the rice will flow uniformly beneath the milling cylinder and pour the entire portion of shelled rice into the milling chamber.

3 Close the milling chamber and return it to the milling position.

4 Position the saddle and weight arm on the milling chamber.

5 Position the weight holder on the weight arm.

6 Position the prescribed weight on the weight holder for the type of rice to be milled.

TABLE 3.5 – PRESCRIBED WEIGHT

Type of Rice	Milling Cycle	Brushing Cycle
Long Grain	**2 pounds**	**0 pounds**
Medium Grain (Southern)	**7 pounds**	**0 pounds**
Medium Grain (Western)	**7 pounds**	**0 pounds**
Short Grain (Southern)	**12 pounds**	**0 pounds**
Short Grain (Western)	**10 pounds**	**2 pounds**

Note: For Mixed rough rice, use the weight prescribed for the type of rice that predominates in the mixture.

7 Start the miller for the 30-second milling cycle.

8 After milling, reduce the weight to the brushing cycle requirements.

9 Start the miller for the 30-second brushing cycle.

10 After brushing, remove the weights, weight holder, weight arm, and saddle.

11 Clean the miller and the hopper.

12 Place a container under the hopper opening and transfer the rice from the milling chamber into the container. Do not close or seal the container.

13 Allow the sample to cool to room temperature before removing it from the container.

(c) Examine the rice for milling degree.

In determining milling yield in rough rice, the degree of milling must be equal to, or better than, that of the Visual Aid: Well-Milled.

If it is determined that the rice is not equal to or better than the Visual Aid: Well-Milled, pour the rice back into the miller and repeat the brushing cycle.

(4) Determine the percentage of total milled rice. Total milled rice is the whole and broken kernels that are produced in the milling of rough rice to a well-milled degree.

Weigh the rice after milling and divide this weight by the weight of the rice before the removal of dockage, shelling, and milling.

For Example: The sample of rough rice weighs 1,000 grams before the removal of dockage, shelling, and milling. After the removal of dockage, shelling, and milling, the sample weighs 679 grams.

679 grams ÷ 1,000 grams = 67.9 percent

67.9 percent = 68 percent total milled rice

Record the percentage of total milled rice in tenths of a percent (unrounded) in "RESULTS" section of the work record and to the nearest whole percent (rounded from the nearest tenth) on the grade line of the certificate.

(5) Determine the percentage of whole kernels.

Whole Kernels. Unbroken kernels of rice and broken kernels of rice which are at least three-fourths of an unbroken kernel. Seeds or material other than rice are considered broken kernels.

(a) Divide out a representative portion of no less than 40 grams of well-milled rough rice.

(b) Remove the whole kernels from the well-milled rough rice portion using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

(c) Determine the percentage of whole kernels in the 40 gram portion and then multiply this percentage by the percentage (unrounded) of total milled rice.

For Example: The 40 gram portion weighed 40.61 grams of well-milled rough rice and contains 34.51 grams of whole kernels. (84.9 percent of whole kernels.)

The percentage of total milled rice is 67.9 percent before rounding.

34.51 grams ÷ 40.61 grams = 84.9%

84.9% x 67.9% = 57.6% = 58% whole kernels

Note: Carry out all figures used in the calculations to tenths of a percent. Do not carry out to hundredths.

(d) Record the percentage of whole kernels in tenths of a percent (unrounded) in "RESULTS" section of the work record and to the nearest whole percent (rounded from the nearest tenth) on the grade line of the certificate.

For Example: U.S. No. 2 Long Grain Rough Rice
Milling Yield 58-68

Results: Whole Kernels 57.6%
Total Rice 67.9%

3.23 BROKEN KERNELS

Definition. Kernels of rice which are less than three-fourths of whole kernels.

Note: This factor is not provided for under the United States Standards for Rough Rice but may be determined upon request.

a. Determine broken kernels on a representative portion of no less than 25 grams of well-milled rough rice.

b. Remove the broken kernels from the milled rough rice portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

c. Record the percentage of broken kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

3.24 LARGE BROKEN KERNELS

Note: This factor is not provided for under the United States Standards for Rough Rice, but may be determined upon request.

a. Determine large broken kernels on the well-milled rough rice portion as a whole. Large broken kernels are the broken kernels of rice (including seeds) removed from the total milled rice sample that will pass over a 6 plate or remain on top of a 6 sieve.

(1) Run the rice over a 6 plate (for Southern production) or a 6 sieve (for Western production). (See procedures in section 3.25, "Whole and Large Broken Kernels".)

(2) Remove all whole kernels from the material that passes over the plates or remains on top of the sieve. All other rice that passes over the plates or remains on top of the sieve will be considered as large broken kernels.

b. Record the percentage of large broken kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

Note: Upon request, one or more of the following may be determined: (1) the number of seeds, (2) heat-damaged kernels, (3) the percentage of red rice and damaged kernels, or (4) chalky kernels in the large broken portion may be determined. Determine these factors on a representative portion of no less than 25 grams of large broken kernels of well-milled rough rice. These additional results would be recorded in the "REMARKS" section of the certificate, along with the following statement:

"(Factor(s)) was/were based on a portion of no less than 25 grams of large broken kernels of well-milled rough rice."

3.25 WHOLE AND LARGE BROKEN KERNELS

Definition. Rice (including seeds) that (1) passes over a 6 plate (for southern production) or (2) remains on top of a 6 sieve (for western production).

Determine whole and large broken kernels on the well-milled rough rice portion as a whole.

a. For southern production rice:

(1) Place a 6 plate in the top carriage and a 6 plate in the bottom carriage of the rice sizing device.

(2) Pour the milled rough rice portion on the top plate. After the sample is poured, place the emptied triangular pan under the hopper to catch the rice that flows over the plates.

(3) Turn the machine on. Allow the machine to run until the rice stops flowing over the plates into the triangular pan.

(4) After the rice stops flowing and the machine is turned off, remove the plates and empty their contents into the rectangular container. Lightly tap the bottom of the plate(s) to remove material retained in the perforations of the plate.

(5) Usually one run of the milled rough rice over the plates is sufficient to remove the 6 plate material. Observe the plates as they are being emptied. If most of the perforations of the bottom plate are filled, run the sample over the plates again.

(6) Consider material that passes over the 6 plates after the final run as whole and large broken kernels.

Note: Do not hand adjust the material that lodges in or passes over the 6 plate.

b. For western production rice:

(1) Mechanical Sieving Method.

(a) Mount a 6 sieve with a bottom pan on a mechanical sieve shaker.

(b) Set the stroke counter for 20 strokes.

(c) Gently pour the representative portion of about 250 grams of grain rice in the center of the sieve.

(d) The procedure for operating the mechanical sieve shaker is as follows:

1 Make sure the shaker is level.

2 Turn the machine on.

3 After the required number of strokes has been completed, the machine will automatically stop.

4 Carefully remove the sieve and bottom pan. Jarring the sieve will cause the material remaining on top to pass through the perforations, leading to inaccurate results.

5 Combine the material lodged in the perforations with the material that remained on top of the sieve. To remove the lodged material from the perforations, rub the sieve bottom gently. Tapping will warp the sieve and lead to inaccurate results in future determinations.

For more specific information on the operation, maintenance, and performance sieves and sieve shakers, see Chapter 9, Sieves, of the Equipment Handbook.

(e) All material remaining on top of the 6 sieve (including the material remaining in the perforation of the sieve) is considered whole and large broken kernels.

Note: Do not hand adjust the material that remains of top of or passes through the 6 sieve.

(f) Pour the remaining sample portion onto the sieve and repeat the aforementioned procedures.

(2) Hand Sieving Method.

(a) Mount the 6 sieve on a bottom pan.

(b) Place a portion of about 250 grams in the center of the sieve.

(c) Hold the sieve level in both hands with elbows close to the body. In a steady motion, move the sieve from left to right approximately 10 inches and return from right to left.

(d) Repeat the sieving operation 20 times.

(e) All the material remaining on top of the 6 sieve (including the material remaining in the perforations of the sieve) is considered as whole and large broken kernels.

Note: Do not hand adjust the material that remains on top of or passes through the 6 sieve.

(f) Pour the remaining sample portion onto the sieve and repeat the aforementioned procedures.

c. Upon request, record the percentage of whole and large broken kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

d. When determining milling yield, is it not necessary to return the portion used in the determination of whole kernels back to the remainder of the sample before running the sample over the No. 6 sieves.

3.26 HEAT-DAMAGED KERNELS (VRI R-2.0)

Definition. Whole or large broken kernels of rice which are materially discolored and damaged as a result of heating, and whole or large broken kernels of parboiled rice in nonparboiled rice which are as dark as, or darker in color than, the Visual Aid: Heat Damage (VRI R-2.0).

Note: Cold mold kernels are kernels of rice that are discolored by a storage fungi which ranges from a light to dark amber/brown in color and can be distinguished from other types of damage or heat damage by its translucent appearance.. Cold mold would generally function as damage; however, if the color intensity meets or exceeds that depicted in Visual Aid: Heat Damage (VRI R-2.0), it would then function as heat damage.

a. Determine heat-damaged kernels on a representative portion of 500 grams of whole and large broken kernels of well-milled rough rice.

(1) Divide out a representative portion of between 475 and 525 grams.

(2) Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

b. When it is determined by general observation that the 500-gram portion contains 75 or more heat-damaged kernels, divide the 500-gram portion into two portions: a 100-gram portion and a 400-gram portion.

(1) Examine the 100-gram portion for heat-damaged kernels.

(2) If the 100-gram portion contains 25 or more heat-damaged kernels, multiply the number of kernels found by 5.

(3) If the 100-gram portion contains less than 25 heat-damaged kernels, examine the 400-gram portion and add the number of heat-damaged kernels found in both portions together.

c. If the whole and large broken kernels portion removed from the total milled rice weighs less than 500 grams, make the determination on the portion that is available and calculate the number of heat-damaged kernels that would be present in a 500-gram portion as follows:

(1) Multiply the number of heat-damaged kernels by 500;

(2) Divide the sum by the weight of the whole and large broken kernels portion; and

(3) Round to the nearest whole number.

For Example: The number of heat-damaged kernels in the whole and large broken kernels (WLBK) portion is 6. The weight of the WLBK portion is 450 grams.

$$\frac{\textbf{6 HT x 500 grams}}{\textbf{450 grams WLBK}} = \textbf{6.6 = 7HT in 500 grams}$$

d. Record the number of heat-damaged kernels on the work record and in the “RESULTS” section of the certificate to the nearest whole number.

(1) Add the number of heat-damaged kernels to the number of objectionable seeds and record the sum on the work record and in the “RESULTS” section of the certificate to the nearest whole number.

(2) Add the number of heat-damaged kernels to the number of total seeds and record the sum on the work record and in the “RESULTS” section of the certificate to the nearest whole number.

3.27 SEEDS (VRI R-1.0 AND R-1.2)

Seeds. Whole or broken seeds of any plant other than rice.

Objectionable Seeds. Seeds other than rice, except seeds of *Echinochloa crusgalli* (commonly known as barnyard grass, watergrass, and Japanese millet). Visual Aid: Objectionable Seeds (VRI R-1.0).

Non Objectionable Seeds. *Echinochloa crusgalli* (commonly known as barnyard grass, watergrass, and Japanese millet). Visual Aid: Non Objectionable Seeds (VRI R-1.2).

a. Determine objectionable seeds and non-objectionable seeds on a representative portion of 500 grams of whole and large broken kernels of well-milled rough rice.

   (1) Divide out a representative portion of between 475 and 525 grams.

   (2) Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

b. If the whole and large broken kernels portion removed from the total milled rice weighs less than 500 grams, make the determination on the portion that is available and interpolate the number of seeds that would be present in a 500-gram portion as follows:

   (1) Multiply the number of seeds by 500.

   (2) Divide the sum by the weight of the whole and large broken kernels portion, and round to the nearest whole number.

   For Example: The number of seeds in the whole and large broken kernels (WLBK) portion is 8. The weight of the WLBK portion is 430 grams.

   8 SD x 500 grams = 9.3 or 9 SD in 500 grams
   430 grams WLBK

c. Record the number of objectionable seeds and non-objectionable seeds on the work record.

d. Record the number of objectionable seeds in the “RESULTS” section of the certificate.

(1) Add the number of objectionable seeds to the number of heat-damaged kernels and record the sum on the work record and in the “RESULTS” section of the certificate to the nearest whole number.

(2) Add the number of total seeds (objectionable seeds and non-objectionable seeds) to the number of heat-damaged kernels and record the sum on the work record and in the “RESULTS” section of the certificate to the nearest whole number.

3.28 RED RICE AND DAMAGED KERNELS

a. Definitions.

(1) Red Rice. Whole or large broken kernels of rice on which there is an appreciable amount of red bran.

(2) Damaged Kernels. Whole or large broken kernels of rice which are distinctly discolored or damaged by water, insects, heat, or any other means, (including whole or large broken kernels of parboiled rice in non-parboiled rice). "Heat-damaged kernels" must not function as damaged kernels.

b. Basis of Determination. Determine red rice and damaged kernels on a representative portion of no less than 25 grams of whole and large broken kernels of well-milled rough rice.

(1) Red rice is rice that has a streak of red bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel.

(2) A kernel or a piece of kernel of rice that does not have sufficient red bran to be considered as red rice will be considered as long grain, medium grain, or short grain rice as appropriate.

Note: Black rice would function as red rice. Black rice is rice that has a streak of black bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or piece of a kernel that does not have sufficient black bran to be considered as red rice will be considered as long grain, medium grain, or short grain as appropriate and could function as other types.

c. Types. The major types of damaged kernels are as follows:

(1) Insect-Bored Kernels.

Whole or large broken kernels of rice that have been bored by insects. Kernels that are only slightly eaten by insects and are clean in appearance will be considered as sound kernels.

(2) Pecky Kernels Damage (VRI R-2.7) and Water, Stain, and Peck Damaged (Glutinous Rice) (VRI R-2.71).

Whole or large broken kernels of rice that have one or more black, brown, red, or other discolored spots or areas on them caused by fungus growth or insects. Mold is defined as a fungus-growth and therefore, will be treated as fungus-damaged. Visual Aid: Pecky Kernels Damage (VRI R-2.7). Visual Aid: Water, Stain, and Peck Damaged (Glutinous Rice) (VRI R-2.71).

(3) Damaged by Heat (Stain) (VRI R-2.1).

Whole or large broken kernels of rice that are distinctly discolored to the minimum color intensity illustrated. There is no minimum coverage requirement. Kernels Damaged by Heat (Stain) are lighter in color than the Visual Reference Image for heat-damaged kernels. Visual Aid: Damaged by Heat (Stain) (VRI R-2.1).

Lightly Stained (Not Damage) (VRI R-2.2). Whole or large broken kernels of rice that are not damaged but have a light discoloration (stain) equal to or greater than color shown on the VRI. There is no minimum coverage requirement. Visual Aid: Lightly Stained (Not Damage) (VRI R-2.2).

Note: Lightly Stained (Not Damage) is not provided for under the United States Standards for Rough Rice, but may be determined upon request.

(4) Parboiled Rice in Nonparboiled Rice.

Whole or large broken kernels of Parboiled rice in nonparboiled rice that are lighter in color than the Visual Aid: Heat Damage (VRI R-2.0).

(5) Other Damaged Kernels.

Whole or large broken kernels of rice that are distinctly discolored or damaged from causes other than those listed above will be considered as damaged kernels.

d. Record the percentage of red rice and damaged kernels on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent.

3.29 CHALKY KERNELS (VRI R-8.0)

Definition. Whole or large broken kernels of rice which are one-half or more chalky. Visual Aid: Chalky Kernels (VRI R-8.0).

a. Determine chalky kernels on a representative portion of no less than 25 grams of whole and large broken kernels of well-milled rough rice.

b. Cross-section suspect kernels to confirm if the area contains an opaque white or "chalk-like" area that encompasses one-half or more of the exposed portion.

c. Record the percentage of chalky kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

3.30 OTHER TYPES

a. Definition.

(1) Whole kernels of:

(a) Long grain rice in medium or short grain rice;

(b) Medium grain rice in long or short grain rice; and

(c) Short grain rice in long or medium grain rice.

(2) Large broken kernels of:

(a) Long grain rice in medium or short grain rice; and

(b) Medium or short grain rice in long grain rice.

Note: Large broken kernels of medium grain rice in short grain rice and large broken kernels of short grain rice in medium grain rice must not be considered other types.

b. Determine other types on a representative portion of no less than 25 grams of whole and large broken kernels of well-milled rough rice.

c. Record the percentage of other types on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the amount of other types exceeds 10.0 percent, grade the rice "Mixed Rough Rice."

3.31 COLOR

a. Color is usually determined by a cursory examination of whole and large broken kernels of well-milled rough rice.

b. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams of whole and large broken kernels of well-milled rough rice and the appropriate Visual Reference Image.

c. Describe the color of the rice using one of the following terms:

White	Slightly Gray	Slightly Rosy
Creamy	Light Gray	Rosy
	Gray	
	Dark Gray	

Note: When a sample has an overall yellowish cast or smut-affected rough rice has a slight tinge of green, do not show color in the "RESULTS" section of the work record. Show the following statement in the "REMARKS" section of the work record and the certificate: "This rice does not meet the color requirements for U.S. No. 1 or 2 Rough rice." The rice cannot be graded higher than U.S. No. 3.

Note: Black rice typically has a deep purple to "rosy" colored appearance once the bran has been removed. If the color of the black rice appears "rosy", it should receive a grade designation consistent with that color (i.e., U.S. No. 5). However, should the rough rice offered for inspection take on a different appearance that is not addressed in the standards, do not show color in the "RESULTS" section of the work record. Show the following statement in the "REMARKS" section of the work record and the certificate: "This rice does not meet the color requirements for U.S. No. 1 or 2 Rough rice." The rice cannot be graded higher than U.S. No. 3.

For the special grade Parboiled rough rice, color is not a grading factor. See section 3.33, "Parboiled Rough Rice/Ungelatinized Kernels," for special grade determinations based on color level.

d. Record the color on the work record and in the "RESULTS" section of the certificate except as specified in the Notes above

3.32 SMUTTY ROUGH RICE/SMUTTY KERNELS (VRI R-7.0)

a. Definitions.

(1) Smutty Rough Rice. Smutty rough rice must be rough rice which contains more than 3.0 percent of smutty kernels.

(2) Smutty Kernels. Whole or broken kernels of rice which are distinctly infected by smut. Visual Aid: Smut Damage (VRI R-7.0).

b. Basis of Determination. Determine smutty kernels on a representative portion of no less than 15 grams of rough rice after the removal of dockage and after shelling, but before milling.

Note: Hand shell any paddy kernels remaining after shelling.

c. Record the percentage of smutty kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the rice contains more than 3.0 percent smutty kernels, consider the rice to be "smutty" and show the special grade "Smutty" on the grade line of the certificate.

Note: Except as specified, all grades and grade requirements in the United States Standards for Rough Rice apply to "Smutty Rough Rice."

FIGURE 3.3 – EXAMPLE OF SMUTTY KERNELS

d. False Smut in Rice. False smut (also known as Green smut) is a common disease found in all rice growing regions. This smut is caused by a fungus, *Ustilaginoidea Virens*, which attacks the rice kernels. Eventually, the kernels are replaced by globose, velvety smut balls that can reach up to one centimeter in diameter.

(1) Determine False Smut kernels on a representative portion of no less than a 1,000-grams of rough rice. (Smut balls are typically removed over the top or middle sieve of the dockage machine. Smut balls are NOT returned to the dockage free portion.)

(2) The results of this determination will be based on kernel count.

(3) Record the kernel count in the “REMARKS” section of the certificate as follows:

"(Number) kernels of false smut in 1000 grams."

Note: This factor is not provided for under the United States Standards for Rough Rice but may be determined upon request.

FIGURE 3.4 – EXAMPLE OF FALSE SMUT

3.33 PARBOILED ROUGH RICE/UNGELATINIZED KERNELS

a. Definitions.

(1) Parboiled Rough Rice. Parboiled rough rice must be rough rice in which the starch has been gelatinized by soaking, steaming, and drying.

(2) Ungelatinized Kernels. Whole or large broken kernels of parboiled rice with distinct white or chalky areas due to incomplete gelatinization of the starch.

Note: Parboiled rough rice must be rough rice in which at least 90 percent of the kernels are colored by the parboiling process.

b. Grades.

(1) Grades U.S. No. 1 to U.S. No. 6 inclusive must contain no more than 10.0 percent of ungelatinized kernels.

(2) Grades U.S. No. 1 and U.S. No. 2 must contain no more than 0.1 percent of nonparboiled rice.

(3) Grades U.S. No. 3 and U.S. No. 4 must contain no more than 0.2 percent of nonparboiled rice.

(4) Grades U.S. No. 5 and U.S. No. 6 must contain no more than 0.5 percent of nonparboiled rice.

c. Degree of Parboiling. If the rice is:

(1) Not distinctly colored by the parboiling process, it must be considered “Parboiled Light.”

(2) Distinctly but not materially colored by the parboiling process, it must be considered “Parboiled.”

(3) Materially colored by the parboiling process, it must be considered “Parboiled Dark.”

Note: The maximum limits for “Chalky kernels,” “Heat-damaged kernels,” “Kernels damaged by heat,” and the “Color requirements,” shown in Section 868.210, are not applicable to the special grade “Parboiled Rough Rice.”

d. Basis of Determination. Parboiled rough rice is usually determined by a cursory examination of whole and large broken kernels of well-milled rough rice. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams of whole and large broken kernels of well-milled rough rice. Describe the rice as either:

(1) "Parboiled light" if it is not distinctly colored by the parboiling process;

(2) "Parboiled" if it is distinctly, but not materially colored, by the parboiling process; or

(3) "Parboiled dark" if it is materially colored by the parboiling process.

When a detailed examination is necessary to determine nonparboiled or ungelatinized kernels, make this determination on a representative portion of no less than 25 grams of whole and large broken kernels of well-milled rough rice.

e. Record the percentage of ungelatinized kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the rice contains at least 90.0 percent parboiled kernels, consider the rice to be "parboiled" and show the special grade "Parboiled Light," "Parboiled, "or "Parboiled Dark," as applicable, on the grade line of the work record and the certificate.

Note: Except as specified, all grades and grade requirements in the United States Standards for Rough Rice apply to "Parboiled Rough Rice."

3.34 GLUTINOUS ROUGH RICE

a. Definition. Glutinous rough rice must be special varieties of rice (Oryza sativa L. glutinosa) which contain more than 50 percent chalky kernels.

(1) Grade U.S. No. 1 must contain no more than 1.0 percent of nonchalky kernels;

(2) Grade U.S. No. 2 must contain no more than 2.0 percent of nonchalky kernels;

(3) Grade U.S. No. 3 must contain no more than 4.0 percent of nonchalky kernels;

(4) Grade U.S. No. 4 must contain no more than 6.0 percent of nonchalky kernels;

(5) Grade U.S. No. 5 must contain no more than 10.0 percent of nonchalky kernels; and

(6) Grade U.S. No. 6 must contain no more than 15.0 percent of nonchalky kernels.

Note: The maximum limits for "Chalky kernels" in Section 868.210 of the regulations under the AMA are not applicable to the special grade "Glutinous rough rice."

b. Basis of Determination. Determine nonchalky kernels on a representative portion of no less than 25 grams of whole and large broken kernels of well-milled glutinous rough rice.

c. Record the percentage of nonchalky kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the rice is a glutinous variety and contains less than 50.0 percent nonchalky kernels, consider the rice to be "glutinous" and show the special grade "Glutinous," on the grade line of the work record and the certificate.

Note: Except as specified, all grades and grade requirements in the U.S. Standards for Rough Rice apply to "Glutinous Rough Rice."

3.35 AROMATIC ROUGH RICE

Definition. Aromatic rough rice must be special varieties of rice (Oryza sativa L. scented) that have a distinctive and characteristic aroma (e.g., basmati and jasmine rice).

a. Determine aromatic on the basis of the odor of the lot as a whole, the representative sample as a whole, or a representative portion of well-milled rough rice.

b. If the rice is an aromatic variety and has an odor common to such rice, consider the rice to be "aromatic" and show the special grade "Aromatic" on the grade line of the work record and the certificate.

Note: Aromatic rice must be declared at the time of inspection requestor will be considered as having a commercially objectionable foreign odor and graded U.S. Sample Grade.

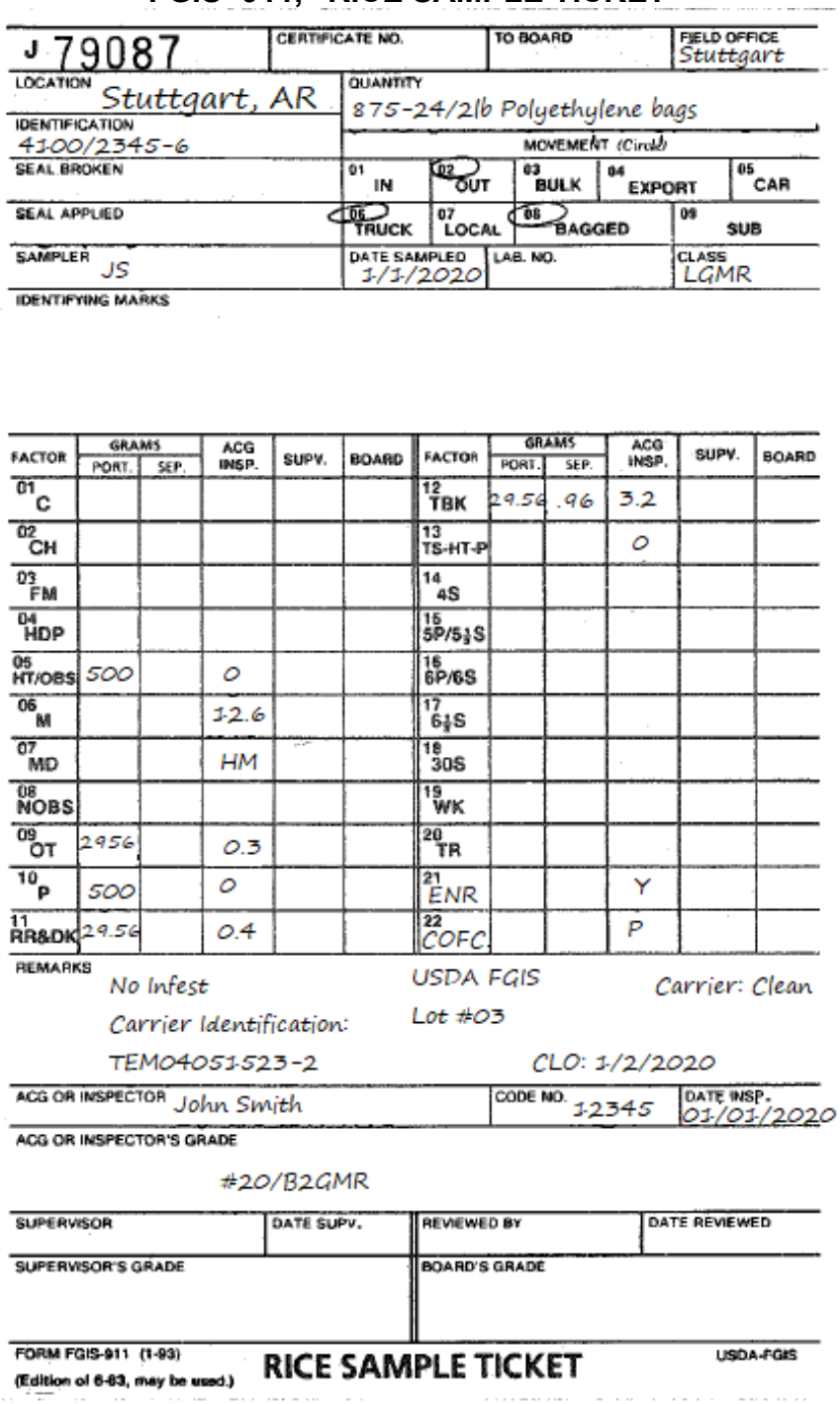
3.36 VISUAL REFERENCE IMAGES (VRI)

The visual grading aids system consists of a series of commodity specific VRI's and descriptive text which, with regular use, provides an effective tool for aligning inspectors and assisting them in making proper and consistent subjective grading decisions.

TABLE 3.6 – RICE VISUAL REFERENCE IMAGES

Interpretive Lines	General Appearance
CHALKY KERNELS	WHITE
DAMAGE BY HEAT	LIGHT GRAY
HEAT-DAMAGED KERNELS	DARK GRAY
LIGHTLY STAINED	CREAMY
NON-OBJECTIONABLE SEEDS	GRAY
OBJECTIONABLE SEEDS	ROSY
PECKY KERNELS DAMAGE	SLIGHTLY GRAY
SMUT DAMAGE	SLIGHTLY ROSY
WATER,STAIN & PECK DAMAGE	HARD MILLED
	WELL MILLED
	REASONABLY WELL MILLED

ATTACHMENT 1:
FGIS -911, "RICE SAMPLE TICKET"



J 79087

J 79087	CERTIFICATE NO.	TO BOARD	FIELD OFFICE: Stuttgart
LOCATION: Stuttgart, AR	QUANTITY: 875-24/2lb Polyethylene bags		
IDENTIFICATION: 4100/2345-6	MOVEMENT (Circle): 01 IN, 02 OUT, 03 BULK, 04 EXPORT, 05 CAR; 06 TRUCK, 07 LOCAL, 08 BAGGED, 09 SUB		
SEAL BROKEN			
SEAL APPLIED			
SAMPLER: JS	DATE SAMPLED: 1/1/2020	LAB. NO.	CLASS: LGMR
IDENTIFYING MARKS			

FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD	FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD
01 C						12 TBK	29.56	.96	3.2		
02 CH						13 TS-HT-P			0		
03 FM						14 4S					
04 HDP						15 5P/5½S					
05 HT/OBS	500		0			16 6P/6S					
06 M			12.6			17 6½S					
07 MD			HM			18 30S					
08 NOBS						19 WK					
09 OT	2956		0.3			20 TR					
10 P	500		0			21 ENR			Y		
11 RR&DK	29.56		0.4			22 COFC			P		

REMARKS: No Infest; USDA FGIS; Carrier: Clean
Carrier Identification: TEM04051523-2; Lot #03; CLO: 1/2/2020

ACG OR INSPECTOR: John Smith	CODE NO.: 12345	DATE INSP.: 01/01/2020
ACG OR INSPECTOR'S GRADE: #2/B2GMR		
SUPERVISOR	DATE SUPV.	REVIEWED BY / DATE REVIEWED
SUPERVISOR'S GRADE	BOARD'S GRADE	

FORM FGIS-911 (1-93) (Edition of 6-83, may be used.) **RICE SAMPLE TICKET** USDA-FGIS

J 79087

CHAPTER 4:
BROWN RICE FOR PROCESSING

CONTENTS

4.1 DEFINITION OF BROWN RICE FOR PROCESSING

Definition. Rice (*Oryza sativa* L.) which consists of more than 50.0 percent of kernels of brown rice, and which is intended for processing to milled rice.

Brown Rice. Whole or broken kernels of rice from which the hulls have been removed.

a. Brown rice is usually determined by a cursory examination of the work sample as a whole.

b. When a detailed examination is necessary to determine brown rice, make this determination on a representative portion of no less than 50 grams of unmilled brown rice for processing.

(1) Record the percentage of brown rice on the work record to the nearest tenth percent.

(2) If the rice contains 50 percent or less of brown rice, consider the rice to be either rough rice or milled rice and refer to the appropriate chapter for additional information.

Note: Rice that does not meet the United States Standards for Rough Rice, Brown Rice for Processing, or Milled Rice will be determined "Not Standardized Rice."

4.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of brown rice for processing are shown in the United States Standards for Rice (Section 868.261 of regulations under the AMA).

TABLE 4.1 – GRADES AND GRADE REQUIREMENTS FOR BROWN RICE FOR PROCESSING

Grading Factors	Grades U.S. Nos.				
	1	2	3	4	5
	Maximum number in 500 grams				
Paddy Kernels	20	--	--	--	--
Seeds and Heat-Damaged Kernels Total (Singly or Combined)	10	40	70	100	150
Heat-Damaged Kernels	1	2	4	8	15
Objectionable Seeds	2	10	20	35	50
	Maximum limit (percent)				
Paddy Kernels	--	2.0	2.0	2.0	2.0
Red Rice and Damaged Kernels (Singly or Combined)	1.0	2.0	4.0	8.0	15.0
Chalky Kernels[1 2]	2.0	4.0	6.0	8.0	15.0
Broken Kernels Removed by a 6 Plate or 6½ Sieve[3]	1.0	2.0	3.0	4.0	6.0
Other Types[4]	1.0	2.0	5.0	10.0	10.0
Well-Milled Kernels	1.0	3.0	10.0	10.0	10.0

U.S. Sample grade must be brown rice for processing which:

(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive;

(b) contains more than 14.5 percent of moisture;

(c) is musty or sour, or heating;

(d) has a commercially objectionable foreign odor;

(e) contains more than 0.2 percent of related material or more than 0.1 percent of unrelated material;

(f) contains 2 or more live weevils or other live insects; or

(g) is otherwise of distinctly low quality.

[1] For the special grade Parboiled brown rice, see Section 868.263(a).

[2] For the special grade Glutinous brown rice, see Section 868.263(c).

[3] Plates should be used for southern production rice and sieves should be used for western production rice, but any device or method which gives equivalent results may be used.

[4] These limits do not apply to Mixed Brown Rice for Processing.

4.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

a. The special grades and special grade requirements for all classes of brown rice for processing are shown in the United States Standards for Rice (Section 868.263 of regulations under the AMA).

b. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for brown rice for processing are defined as follows:

(1) Parboiled Brown Rice for Processing. Brown rice for processing in which the starch has been gelatinized by soaking, steaming, and drying.

(2) Smutty Brown Rice for Processing. Brown rice for processing which contains more than 3.0 percent of smutty kernels.

(3) Glutinous Brown Rice for Processing. Special varieties of rice which contain more than 50 percent of chalky kernels.

(4) Aromatic Brown Rice for Processing. Special varieties of rice that have a distinctive and characteristic aroma (e.g., basmati and jasmine).

4.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a sample ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel must use FGIS-911, "Rice Sample Ticket," to record inspection results. Cooperators must use a similar form.

4.5 REPRESENTATIVE PORTION

A specified quantity of rice divided out from the representative sample by means of an FGIS-approved divider.

4.6 WORK SAMPLE

A representative portion of rice (approximate size – 1,250 grams) that is used to make all such determinations required for a particular class of rice.

Note: A Submitted Sample of brown rice for processing with a request for grade that does not contain 500 grams or more will be dismissed; or a factor only inspection may be performed upon request.

4.7 FILE SAMPLE

a. A representative portion of rice (approximate size - 1,250 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

b. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See *FGIS Directive 9170.13*, "Uniform File Sample Retention System," for additional information.

4.8 PERCENTAGES AND COUNTS

a. Basis of Determination. Percentages are determined upon the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure (e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5).

(2) When the figure to be rounded is followed by a figure less than 5, retain the figure (e.g., report 8.34 as 8.3, and 1.22 as 1.2).

b. Record percentages as follows:

(1) For milling yield, in tenths of a percent (unrounded) in "RESULTS" section of the work record and to the nearest whole percent (rounded from the nearest tenth) on the grade line of the certificate. (e.g., 66.56 is reported as 66.5 in the results section on the work record and in the results section and reported as 67 on the grade line of the certificate.)

(2) For all other factors, to the nearest tenth percent.

c. Record counts, for all factors determined on the basis of count, to the nearest whole number.

4.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS-approved laboratory scales and record the results to the correct division size.

Use the table below to determine the scale class and division size required for weighing particular sized samples.

TABLE 4.2 – LABORATORY SCALES

Portion Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest…
120 grams or less	**Precision**	**0.01 gram**	**0.01 gram**
Samples for moisture determinations	**Precision or Moisture**	**0.1 gram**	**0.1 gram**
More than 120 grams	**Precision, Moisture, or General**	**1 gram**	**1 gram**
Note: See Equipment Handbook, Chapter 2, for additional information.			

4.10 PRELIMINARY EXAMINATION

a. The sampler must: (1) observe the uniformity of the rice as to type/class, quality, and condition; (2) make the determination for "Heating;" (3) draw the representative sample; and (4) report relevant information to the inspector.

b. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

4.11 BASIS OF DETERMINATION

Certain Quality Determinations. The determination of kernels damaged by heat, heat-damaged kernels, parboiled kernels in nonparboiled rice, and the special grade Parboiled brown rice for processing must be on the basis of the brown rice for processing after it has been milled to a well- milled degree.

Broken Kernels. Broken kernels must be determined by the use of equipment and procedures prescribed in FGIS instructions or by any method which gives equivalent results.

All Other Determinations. All other determinations must be on the basis of the original sample. Mechanical sizing of kernels must be adjusted by handpicking as prescribed in FGIS instructions, or by any method that is approved by the Service as giving equivalent results.

Note: When rice that is offered for inspection as one lot is found to contain more than 10,000 containers (packaged/bags/balers) or 6,000,000 pounds (bulk) of rice, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers (packaged/bags/balers) or 6,000,000 pounds or less. Inspect each sublot separately. (For additional information, see Chapter 7, Roundlot Inspection Plan, and Chapter 9, Warehouse-Lot Inspection Plan.)

Note: When rice that is offered for inspection as one lot is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion must be inspected separately.

a. Follow a systematic grading procedure. The order of procedure may vary the class and quality of the rice and the tests that are required to determine the grade. A general order of procedure is as follows:

(1) Review the information on the work record.

(2) Examine the representative sample for odor and distinctly low quality.

(3) Use an FGIS-approved divider to process the representative sample into three representative portions: (1) a work sample, (2) a file sample, and (3) moisture portion.

Note: For specific information on the operation and maintenance of dividers, see the FGIS Equipment Handbook, Chapter 7, Manual Sampling Devices.

(4) Examine the work sample for:

(a) Class;

(b) Test weight (if requested); and

(c) Type.

(5) Divide the work sample into two representative portions: 750 grams and 500 grams.

(6) Examine the 500-gram portion for infestation, paddy kernels, and seeds.

(7) Divide the 500-gram portion to 100 grams and examine the portion for related and unrelated material.

(8) Divide the 100-gram portion to 50 grams and examine the portion for paddy kernels and broken kernels removed by a 6 plate or 6 ½ sieve.

(9) Divide out from the 50-gram portion, a 25-gram portion and a 15-gram portion.

(10) Examine the 25-gram portion for the following:

(a) Chalky kernels;

(b) Well milled kernels;

(c) Red rice and damaged kernels; and

(d) Other types.

(11) Examine the 15-gram portion for smutty kernels.

(12) Mill the 750-gram portion and allow to cool to room temperature.

(a) Examine the milled rice for odor.

(b) Upon request, determine the milling yield (whole kernels and total milled rice).

(c) Divide the milled rice portion to 500 grams and examine the portion for heat-damaged kernels and ungelatinized kernels.

(d) Divide the 500-gram portion of milled rice to 25 grams and examine the portion for parboiled kernels in nonparboiled rice and kernels damaged by heat.

b. When the grade (or contract requirements) of a lot or sample is determined by a narrow margin (+/-0.1 percent or 1 count) on a single factor, except for the factors heat-damaged kernels and ungelatinized kernels on non-cargo lots, another determination must be made on another representative portion of equivalent size divided out from the work sample or file sample. The factor result must be based on the average of the two determinations.

Note: Narrow margin determinations do not apply to multiple lots where tolerance is applied.

4.12 MOISTURE

Water content in brown rice as determined by an approved device in accordance with procedures prescribed in FGIS instructions.

Note: Brown rice for processing will not be milled Milling yield will not be determined when the moisture content exceeds 18.0 percent.

a. Basis of Determination. Determine moisture on a representative portion of sufficient size of unmilled brown rice for processing as described in the Moisture Handbook.

b. Procedures. The procedures for performing a moisture determination using the FGIS-approved moisture meters are described in the Moisture Handbook.

c. Record the percentage of moisture on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the moisture content exceeds 14.5 percent, grade the rice U.S. Sample Grade.

4.13 TYPE

There are three types of brown rice for processing: (1) Long grain, (2) Medium grain, and (3) Short grain.

Types must be based on the length/width ratio of kernels of rice that are unbroken and the width, thickness, and shape of kernels of rice that are broken, as prescribed in FGIS instructions.

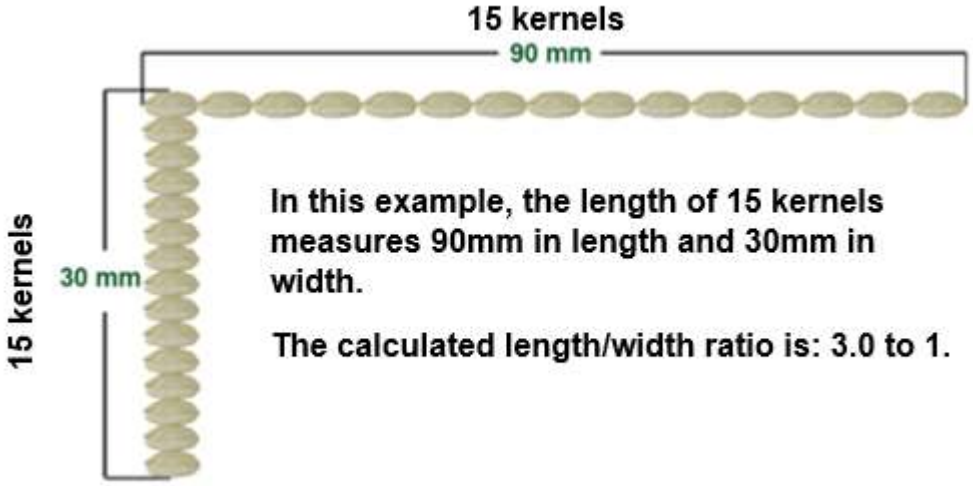


FIGURE 4.1 – DETERMINING RICE TYPE

a. The length-width ratio limitations for brown rice for processing are:

TABLE 4.3 – LENGTH-WIDTH RATIO LIMITATIONS

Long grain	Medium grain	Short grain
3.1 (or more) to 1	2.1 - 3.0 to 1	2.0 (or less) to 1

b. Type is usually determined by a cursory examination of the work sample as a whole.

c. When a detailed examination is necessary, measure the length and width of 15 unbroken kernels of unmilled brown rice for processing taken at random from the work sample and determine their average length-width ratio.

(1) Length is the distance between the most distant tips of the kernel, including the embryo.

(2) Width is the distance across the kernel at the widest point.

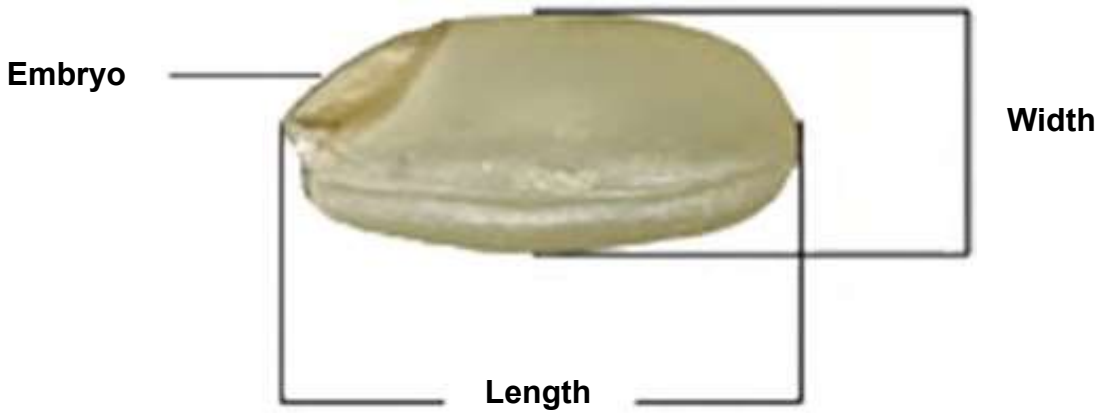


FIGURE 4.2 – MEASURING BROWN RICE FOR PROCESSING KERNELS

4.14 CLASS

a. There are four classes of brown rice for processing: (1) Long Grain Brown Rice for Processing, (2) Medium Grain Brown Rice for Processing, (3) Short Grain Brown Rice for Processing, and (4) Mixed Brown Rice for Processing.

Classes must be based on the percentage of whole kernels, broken kernels, and types of rice.

(1) Long Grain Brown Rice for Processing. Long grain brown rice for processing must consist of brown rice for processing which contains more than 25.0 percent of whole kernels of brown rice and no more than 10.0 percent of whole or broken kernels of medium or short grain rice.

(2) Medium Grain Brown Rice for Processing. Medium grain brown rice for processing must consist of brown rice for processing which contains more than 25.0 percent of whole kernels of brown rice and no more than 10.0 percent of whole or broken kernels of long grain rice or whole kernels of short grain rice.

(3) Short Grain Brown Rice for Processing. Short grain brown rice for processing must consist of brown rice for processing which contains more than 25.0 percent of whole kernels of brown rice and no more than 10.0 percent of whole or broken kernels of long grain rice or whole kernels of medium grain rice.

(4) Mixed Brown Rice for Processing. Mixed brown rice for processing must be brown rice for processing which contains more than 25.0 percent of whole kernels of brown rice and more than 10.0 percent of "other types'' as defined in section 4.29, "Other Types," of this chapter.

b. Class is usually determined by a cursory examination of the work sample as a whole.

c. When a detailed examination is necessary to determine whole kernels for class, make this determination on a representative portion of no less than 25 grams of unmilled brown rice for processing.

(1) Record the percentage of whole kernels on the work record to the nearest tenth percent.

(2) If the rice contains 25 percent or less of whole kernels, show the designation “Brown Rice for Processing” on the grade line of the certificate. Do not show either a class or grade designation on the certificate.

d. When a detailed examination is necessary to determine other types for class, make this determination on a representative portion of no less than 25 grams of unmilled brown rice for processing.

Record the percentage of each type on the work record to the nearest tenth percent.

e. Grade the rice “Mixed Brown Rice for Processing,” if the rice contains more than 10 percent of:

(1) Whole or broken kernels of medium or short grain rice in long grain rice;

(2) Whole and broken kernels of long grain rice or whole kernels of short grain rice in medium grain rice; or

(3) Whole or broken kernels of long grain rice or whole kernels of medium grain rice in short grain rice.

f. Determine the percentage of seeds, related material, and unrelated material, when applicable.

Record the percentage of whole kernels of each type present in the order of predominance; the percentage of broken kernels of each type present in order of predominance; and when applicable, the percentage of seeds, related material, and unrelated material to the nearest tenth percent on the work record and in the “RESULTS” section of the certificate . (These percentages must total 100%)

Note: Broken kernels other than long grain in Mixed brown rice for processing must be certified as “medium or short grain.”

4.15 ODOR

a. Determine odor on the basis of a representative portion of well-milled brown rice for processing. Upon request, a non-grade odor determination may be made on the basis of the brown rice, as is.

Off-odors (i.e., musty, sour, and commercially objectionable foreign odor) can sometimes be detected when smelling the brown rice at the time of sampling.

Note: If there is any question as to the odor when the sample is being taken, note on the work record and put that portion of the sample into an airtight container to preserve its condition for further examination. The final odor determination is made in the laboratory.

b. The final odor determination must be made on the sample after milling to a well-milled degree.

(1) A musty odor is any odor that is earthy, moldy, or ground-like. Do not confuse a burlap bag odor with a musty odor.

(2) A sour odor is any odor that is rancid, sharp, or acrid.

(3) A commercially objectionable foreign odor is any odor that is not normal to rice and that, because of its presence, renders the rice unfit for normal commercial usage (e.g., fertilizer, hides, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors).

(4) Fumigant or insecticide odors are not considered as commercially objectionable foreign odors unless they are caused by a fumigant or insecticide that does not dissipate quickly. When the sample of rice contains a fumigant or insecticide odor that prohibits a true odor determination, the following guidelines apply:

(a) The representative sample of rice must be allowed to air out in an open metal container (e.g., a pan) for up to 4 hours, a fume hood may be used if available; and

(b) If the fumigant or insecticide odor still prohibits the determination of the rice's true odor after 4 hours, the rice must be considered as having a commercially-objectionable foreign odor.

Caution: When sampling rice, check for placarded railcars. If a car is placarded (or if a car is not placarded but a fumigant odor is detected), do not enter the car or sample the rice, and notify your supervisor immediately.

Note: Aromatic (scented) rice that has an odor known to be common to such rice must be declared at the time of the inspection request or will be considered as having a commercially objectionable foreign odor.

c. When rice is determined to be musty, sour, or have a commercially-objectionable foreign odor, record the type of odor on the work record and in the "RESULTS" section of the certificate, and grade the rice U.S. Sample Grade.

Note: Brown rice for processing found to have a commercially objectionable foreign odor is considered actionable according to *FGIS Directive 9060.2*, "Implementation of the FGIS-FDA Memorandum of Understanding."

4.16 HEATING

a. Determine heating on the basis of the lot as a whole.

(1) When high temperature develops in rice as the result of excessive respiration, such rice is heating.

(2) Heating rice usually gives off a sour or musty odor.

(3) Care should be taken never to confuse rice that is warm due to storage in bins, carriers, or other containers during hot weather with rice that is heating from excessive respiration.

b. When applicable, show the term "Heating" on the work record and in the "RESULTS" section of the certificate, and grade the rice U.S. Sample Grade.

4.17 DISTINCTLY LOW QUALITY

a. Determine Distinctly Low Quality on the basis of the lot as a whole or the representative sample as a whole or an auxiliary sample.

b. Brown rice for processing that is obviously affected by unusual conditions which adversely affect the quality of the rice and which cannot be graded properly by use of the grading factors specified or defined in the standards, must be considered as being of distinctly low quality. Brown rice for processing that contains any material too large to enter a probe, Ellis cup, pelican, DT sampler or any official sampling device such as pieces of wreckage and debris including lumps of rice, grain, dirt and/or other commodities, unknown foreign substance or toxic material which are visible to the sampler is considered DLQ.

CHART 4.1 – DISTINCTLY LOW QUALITY

Factor	Amount	Basis
Bird droppings	2 or more	1,000 grams
Rodent pellets	2 or more	1,000 grams
Rodent pellets and/or fragments of rodent excreta pellets	9 mg or more	1,000 grams
Combination of rodent pellets and bird droppings	1 or more of each	1,000 grams
Castor beans	2 or more	1,000 grams
Crotalaria seeds	3 or more	1,000 grams
Treated seed	4 or more	1,000 grams
Aflatoxin	20 ppb	Sample
Objectionable odor	Presence	Sample
Metal fragments	1 or more	Sample or Lot as a whole
Glass fragments	1 or more	Sample or Lot as a whole
Stones	0.1 percent by weight	500g

c. When applicable, show the statement “Distinctly Low Quality on account of (cause or reason).” on the work record and in the “RESULTS” section of the certificate; grade the rice “U.S. Sample Grade.”

d. Brown rice samples containing small stones may be considered distinctly low quality, depending on the quantity found on a percentage by weight basis, and whether the condition adversely affects the overall quality.

Note: Brown rice for processing considered DLQ and graded U.S. Sample Grade is considered actionable according to *FGIS Directive 9060.2*, “Implementation of the FGIS-FDA Memorandum of Understanding.”

4.18 INSECT INFESTATION

a. Infested Brown Rice for Processing. Tolerances for live insects for infested brown rice are defined according to sampling designation as follows:

(1) Representative Sample. The representative sample consists of the work portion, and the file sample if needed and when available. The brown rice (except when examined according to paragraph (a)(3) of this section) will be considered infested if the representative sample contains two or more live weevils, or one live weevil and one or more other live insects injurious to stored rice, or five or more other live insects injurious to stored rice.

(2) Lot as a Whole (Stationary). The lot as a whole is considered infested when two or more live weevils, or one live weevil and one or more other live insects injurious to stored rice, or five or more other live insects injurious to stored rice, or fifteen or more live Angoumois moths or other live moths injurious to stored rice are found in, on, or about the lot.

(3) Sample as a Whole During Continuous Loading/Unloading. The minimum sample size for rice being sampled during continuous loading/unloading is 500 grams per each 100,000 pounds of rice. The sample as a whole is considered infested when a component (as defined in FGIS instructions) contains two or more live weevils, or one live weevil and one or more other live insects injurious to stored rice, or five or more other live insects injurious to stored rice.

Note: "Weevils" must include coffee bean weevils, broad-nosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other live insects injurious to stored rice" must include beetles, moths, meal worms, and other insects injurious to stored rice.

Note: To aid in insect identification, refer to FGIS Visual Reference Images (VRI) and/or the FGIS Stored-Grain Insect Reference.

b. Determine infestation on the basis of a representative portion of approximately 500 grams of unmilled brown rice for processing, the lot as a whole, and/or a component sample taken during continuous loading/unloading.

(1) Examine a representative portion.

(a) If no live insects are found in the portion, make no further check of the sample for insects.

(b) If two or more live insects are found, consider the rice to be "U.S. Sample Grade."

(c) If one live insect is found, cut another representative portion of approximately 500 grams from the file sample. (Use the rest of the representative sample if the file sample is less than 500 grams.)

1 If one or more live insects are found in the second portion, consider the rice to be "U.S. Sample Grade."

2 If no live insects are found in the second portion, do not consider the rice to be "U.S. Sample Grade."

(2) Examine the rice in the lot (i.e., the surface area of the lot and the area around the lot).

(a) If no live insects are found in, on, or around the lot, make no further check of the lot for insects.

(b) If two or more live insects are found, consider the rice to be "U.S. Sample Grade."

(3) Examine the component samples[5] taken during continuous loading/unloading.

(a) Divide out from each component sample a representative portion of approximately 500 grams.

(b) Examine the representative portion for live insects.

1 If no live insects are found in the representative portion, make no further check of the component for insects.

2 If two or more live insects are found, consider the rice to be "U.S. Sample Grade."

[5] As specified in Chapter 7, Roundlot Inspection. For shiplots and bargelots, a component sample may not represent more than 450,000 pounds of rice and each sublot/lot must contain two or more approximately, equal-sized components.

3 If one live insect is found, cut another representative portion of approximately 500 grams from the component sample.

a If one or more live insects are found in the second portion, consider the rice to be "U.S. Sample Grade."

b If no live insects are found in the second portion, do not consider the rice to be "U.S. Sample Grade."

c. When applicable, show count on the work record and in the "RESULTS" section of the certificate, and grade the rice "U.S. Sample Grade."

Note: Brown rice for processing found to contain live insects and graded U.S. Sample Grade is considered actionable according to *FGIS Directive 9060.2*, "Implementation of the FGIS-FDA Memorandum of Understanding."

Note: If a lot of Brown rice for processing was determined to be infested and downgraded to U.S. Sample Grade, the lot may be fumigated to remove the "U.S. Sample Grade" designation pending specific fumigation criteria is met. Refer to the Fumigation Handbook for specific criteria and certification procedures.

4.19 TEST WEIGHT PER BUSHEL

Note: This factor is not provided for under the "U.S. Standards for Brown Rice for Processing," but may be determined upon request.

a. Determine test weight per bushel on a representative portion of approximately 1,000 grams of unmilled brown rice for processing.

b. General Operating Procedures.

(1) Level and balance the test weight per bushel apparatus.

(2) Close the hopper valve.

(3) Pour the work sample into the hopper.

(4) Center the hopper over the kettle.

(5) Fill the kettle by opening the hopper valve quickly.

(6) Move the hopper all the way to the left before proceeding. Do not jar the apparatus. Jarring could cause inaccurate results.

(7) Using a standard stroker, stroke the kettle by holding the stroker in both hands with the flat sides in a vertical position. Level the rice in the kettle by making three full-length, zigzag motions with the stroker.

(8) Convert the weight of the sample by either the "standard" method or one of the "alternate" methods.

(a) Standard Method. Carefully hang the kettle on the beam and move the weights until the beam is balanced. Read the test weight per bushel scale.

(b) Alternate Method – Manual Conversion. Pour the sample from the kettle onto a general class scale, note the weight of the sample, find the gram weight on the test weight conversion chart (see Appendix 3, "Uniformity Tolerance Tables"), and read the corresponding test weight per bushel shown to the right of the gram weight.

(c) Alternate Method – Automatic Conversion. When using an electronic scale programmed to convert gram weight to pounds per bushel select the appropriate test weight mode. Place an empty sample pan or the test weight kettle on the scale and zero the scale. Pour the sample from the kettle into the sample pan or place the filled kettle onto the scale as appropriate. Read the result from the test weight mode selected.

c. Record the test weight per bushel on the work record to the nearest tenth of a pound and record in the "RESULTS" section of the certificate.

d. Upon request by the applicant the following statement may be recorded in the "REMARKS" section of the certificate:

> "Test weight per bushel of (amount) pounds is approximately equivalent to (amount) kilograms per hectoliter."

Kilograms per hectoliter are determined by multiplying the test weight per bushel by 1.287.

Note: Bulk density may be determined by dividing the test weight per bushel by 1.2445. Bulk density is the number of pounds in one cubic foot.

4.20 MILLING YIELD

Definition. An estimate of the quantity of whole kernels and total milled rice (whole and broken kernels combined) that is produced in the milling of brown rice for processing to a well-milled degree.

Note: Brown rice for processing will not be milled when the moisture content exceeds 18.0 percent.

a. Determine milling yield on a representative portion of 750 grams of unmilled brown rice for processing using an FGIS-approved miller.

(1) Divide out a representative portion of between 725 and 775 grams.

(2) Add or remove kernels (by finger pinching, not pouring) until exactly 750 grams is obtained.

b. Milling yield is determined by converting the brown rice for processing to milled rice and then separating the whole kernels from the total milled rice portion.

c. Mill the brown rice for processing.

(1) If the miller has not been used recently, warm up the miller, as follows:

(a) Place approximately 750 grams of milled rice or brown rice in the milling chamber with a 2-pound weight on the weight holder.

(b) Make at least three consecutive 30-second runs.

(c) Thoroughly clean the miller.

(2) Proceed with the milling of the 750-gram portion.

(a) Set the miller's timer switch at exactly 30 seconds.

(b) Tilt the chamber so that the rice will flow uniformly beneath the milling cylinder and pour the entire portion of brown rice into milling chamber.

(c) Close the milling chamber and return it to the milling position.

(d) Position the saddle and weight arm on the milling chamber.

(e) Position the weight holder on the weight arm.

(f) Position the prescribed weight on the weight holder for the type of rice to be milled.

TABLE 4.4 – PRESCRIBED WEIGHT

Type of Rice	Milling Cycle	Brushing Cycle
Long Grain	**2 pounds**	**0 pounds**
Medium Grain (Southern)	**7 pounds**	**0 pounds**
Medium Grain (Western)	**7 pounds**	**0 pounds**
Short Grain (Southern)	**12 pounds**	**0 pounds**
Short Grain (Western)	**10 pounds**	**2 pounds**
Note: For Mixed brown rice for processing, use the weight prescribed for the type of rice that predominates in the mixture.		

(g) Start the miller for the 30-second milling cycle.

(h) After milling, reduce the weight to the brushing cycle requirements.

(i) Start the miller for the 30-second brushing cycle.

(j) After brushing, remove the weights, weight holder, weight arm, and saddle.

(k) Clean the miller and the hopper.

(l) Place a container under the hopper opening and transfer the rice from the milling chamber into the container. Do not close or seal the container.

(m) Allow the sample to cool to room temperature before removing it from the container.

(3) Examine the rice for milling degree.

In determining milling yield in brown rice, the degree of milling must be equal to, or better than, that of the Visual Aid: Well-Milled.

If it is determined that the rice is not equal to or better than the Visual Aid: Well-Milled, pour the rice back into the miller and repeat the brushing cycle.

d. Determine the percentage of total milled rice. Total milled rice is the whole and broken kernels that are produced in the milling of brown rice to a well-milled degree.

(1) Weigh the rice after milling and divide this weight by the weight of the rice before milling.

For Example: The sample of brown rice for processing weighs 750 grams before milling. After milling, the sample weighs 650 grams.

650 grams ÷ 750 grams = 86.6% = 87% total milled rice

Record the percentage of total milled rice in tenths of a percent (unrounded) in "RESULTS" section of the work record and to the nearest whole percent (rounded from the nearest tenth) on the grade line of the certificate.

e. Determine the percentage of whole kernels.

Whole Kernels. Unbroken kernels of rice and broken kernels of rice which are at least three- fourths of an unbroken kernel. Seeds or other material other than rice are considered a broken kernel.

(1) Divide out a representative portion of no less than 40 grams of well-milled brown rice for processing.

(2) Remove the whole kernels from the well-milled brown rice portion using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

(3) Determine the percentage of whole kernels in the 40-gram portion and then multiply this percentage by the percentage (unrounded) of total milled rice.

For Example: The 40-gram portion weighed 40.61 grams of well-milled brown rice and contains 34.51 grams of whole kernels (84.9 percent of whole kernels). The percentage of total milled rice is 86.6 percent before rounding.

34.51g ÷ 40.61g = 84.9%

84.9% x 86.6% = 73.5% = 74% whole kernels

Note: Carry out all figures used in the calculations to tenths of a percent. Do not carry out to hundredths.

(4) Record the percentage of whole kernels in tenths of a percent (unrounded) in "RESULTS" section of the work record and to the nearest whole percent (rounded from the nearest tenth) on the grade line of the certificate.

For Example: U.S. No. 2 Long Grain Brown Rice for Processing Milling Yield 74-87

Results: Whole Kernels 73.5%
Total Rice 86.6%

4.21 MILLING ANALYSIS

a. Milling analysis provides an estimate of the quantity (percentage) of whole kernels, second head-sized kernels, screenings-sized kernels, and brewers-sized kernels that are produced in the milling of a lot of brown rice for processing.

Note: This factor is not provided for under the U.S. Standards for Brown Rice for Processing, but may be determined upon request.

b. The following definitions are applicable only to this determination:

(1) Whole Kernels. Unbroken kernels of rice and broken kernels of rice that are at least three-fourths of an unbroken kernel.

(2) Second Head Kernels. Broken kernels of rice and other material that remain on top of a 6 sieve.

(3) Screenings Kernels. Broken kernels of rice and other material that pass through a 6 sieve but remain on top of a 5 1/2 sieve.

(4) Brewers Kernels. Broken kernels of rice and other material that pass through a 5 1/2 sieve.

c. Determine the percentage of whole kernels on a representative portion of no less than 25 grams of well-milled brown rice for processing.

(1) Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

(2) Determine the percentage of whole kernels by subtracting the percentage of broken kernels from 100.0 percent.

Example: 100.0% - 19.6% TBK = 80.4%WK

(3) Calculate the adjusted base by dividing the percentage of whole kernels by 100.

Example: 80.4% WK ÷ 100 = .80 adjusted base

d. Determine the percentage of screenings kernels and brewers kernels on a representative portion of no less than 125 grams.

(1) Nest a 6 sieve on top of a 5 1/2 sieve in a bottom pan.

(2) Place the sieves in a mechanical grain sizer and set the timer to 20.

(3) Put the rice in the center of the top sieve and turn on the sizer.

Note: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.

(4) Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(5) Consider all material that passed through the 6 sieve, but remains on top of the 5 1/2 sieve, as screenings kernels. Do not hand adjust the separation.

(6) Consider all material that passes through the 5 1/2 sieve as brewers kernels. Do not hand adjust the separation.

e. Adjust the percentage of screenings and brewers by multiplying the "actual" percentage of screenings and brewers by the adjusted base.

Example: 2.1% SMR X .80 = 1.7% SMR

1.3% BMR X .80 = 1.0% BMR

f. Determine the percentage of second head kernels by adding the percentage of screenings and brewers kernels together and then subtracting that total from the percentage of broken kernels.

Example: 19.6% TBK - (1.7% SMR + 1.0% BMR)
= 16.9% SHMR

g. Record the percentage of whole kernels, second head kernels, screenings kernels, and brewers kernels on the work record and in the "RESULTS" section of the certificate to the nearest whole percent.

4.22 PADDY KERNELS

Definition. Whole or broken unhulled kernels and whole or broken kernels of rice having a portion or portions of the hull remaining which cover one-half (1/2) or more of the whole or broken kernels.

a. Determine the number of paddy kernels on a representative portion of 500 grams of unmilled brown rice for processing.

   (1) Divide out a representative portion of between 475 and 525 grams.

   (2) Add or remove kernels (by finger pinching, not pouring) until exactly 500 grams is obtained.

b. Determine the percentage of paddy kernels on a representative portion of no less than 50 grams of unmilled brown rice for processing.

c. Record the number or percentage of paddy kernels on the work record and in the “RESULTS” section of the certificate. Record the percentage to the nearest tenth percent.

d. If the rice contains 50 percent or more of paddy kernels, consider the rice to be rough rice and refer to Chapter 3, Rough Rice, for additional information.

4.23 SEEDS (VRI R-1.0 AND R-1.2)

Seeds. Whole or broken seeds of any plant other than rice.

Objectionable Seeds. Whole or broken seeds other than rice, except seeds of *Echinochloa crusgalli* (commonly known as barnyard grass, watergrass, and Japanese millet). Visual Aid: Objectionable Seeds (VRI R-1.0).

Non Objectionable Seeds. *Echinochloa crusgalli* (commonly known as barnyard grass, watergrass, and Japanese millet). Visual Aid: Non Objectionable Seeds (VRI R-1.2).

a. Determine objectionable seeds and non-objectionable seeds on a representative portion of 500 grams of unmilled brown rice for processing.

   (1) Divide out a representative portion of between 475 and 525 grams.

   (2) Add or remove kernels (by finger pinching, not pouring) until exactly 500 grams is obtained.

b. Record the number of objectionable seeds and non-objectionable seeds on the work record.

c. Record the number of objectionable seeds in the “RESULTS” section of the certificate.

   (1) Add the number of total seeds (objectionable seeds and non-objectionable seeds) to the number of heat-damaged kernels and record the sum on the work record and in the “RESULTS” section of the certificate.

4.24 HEAT-DAMAGED KERNELS (VRI R-2.0)

Definition. Whole or broken kernels of rice which are materially discolored and damaged as a result of heating and parboiled kernels in nonparboiled rice which are as dark as, or darker in color than, the interpretive line for heat-damaged kernels. Visual Reference Image: Heat Damage (VRI R-2.0).

Note: Cold mold kernels are kernels of rice that are discolored by a storage fungi which ranges from a light to dark amber/brown in color and can be distinguished from other types of damage or heat damage by its translucent appearance. Cold mold would generally function as damage; however, if the color intensity meets or exceeds that depicted in Visual Aid: Heat Damage (VRI R-2.0), it would then function as heat damage.

a. Determine the number of heat-damaged kernels on a representative portion of 500 grams of well-milled brown rice for processing.

(1) Divide out a representative portion of between 475 and 525 grams.

(2) Add or remove kernels (by finger pinching, not pouring) until exactly 500 grams is obtained.

b. Remove and weigh the heat-damaged kernels. Consider each 0.02 grams of heat- damaged kernels as "one heat-damaged kernel in 500 grams." Round the results to the lowest number.

For Example:
0.01 grams of HT = 0 HT
0.02 grams of HT = 1 HT kernel
0.03 grams of HT = 1 HT kernel
0.04 grams of HT = 2 HT kernels

c. When it is determined by general observation that the 500-gram portion contains 75 or more heat-damaged kernels, divide the 500-gram portion into two portions: a 100-gram portion and a 400-gram portion.

(1) Examine the 100-gram portion for heat-damaged kernels.

(2) If the 100-gram portion contains 25 or more heat-damaged kernels, multiply the number of kernels found by 5.

(3) If the 100-gram portion contains less than 25 heat-damaged kernels, examine the 400-gram portion and add the number of heat-damaged kernels found in both portions together.

d. Record the number of heat-damaged kernels on the work record and in the "RESULTS" section of the certificate.

e. Add the number of heat-damaged kernels to the number of total seeds and record the sum on the work record and in the “RESULTS” section of the certificate.

4.25 RED RICE AND DAMAGED KERNELS

a. Definitions.

(1) Red Rice. Whole or broken kernels of rice on which the bran is distinctly red in color.

(2) Damaged Kernels. Whole or broken kernels of rice which are distinctly discolored or damaged by water, insects, heat, or any other means (including parboiled kernels in nonparboiled rice and smutty kernels). "Heat-damaged kernels" must not function as damaged kernels.

b. Basis of Determination. Determine red rice and damaged kernels (other than damaged by heat and parboiled kernels in nonparboiled rice) on a representative portion of no less than 25 grams of unmilled brown rice for processing.

(1) Determine kernels damaged by heat and parboiled kernels in nonparboiled rice on a representative portion of no less than 25 grams of well-milled brown rice for processing.

(2) Red rice is rice that has a streak of red bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or a piece of kernel of rice that does not have sufficient red bran to be considered as red rice must be considered as long grain, medium grain, or short grain rice as appropriate.

Note: Black rice would function as red rice. Black rice is rice that has a streak of black bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or piece of a kernel that does not have sufficient black bran to be considered as red rice will be considered as long grain, medium grain, or short grain as appropriate and could function as other types.

c. Types. The major types of damaged kernels are as follows:

(1) Insect-Bored Kernels.

Whole or broken kernels of rice that have been bored by insects. Kernels that are only slightly eaten by insects and are clean in appearance will be considered as sound kernels.

(2) Pecky Kernels Damage (VRI R-2.7) and Water, Stain, and Peck Damaged (Glutinous Rice) (VRI R-2.71).

Whole or broken kernels of rice that have one or more black, brown, red, or other discolored spots or areas on them caused by fungus growth or insects. Mold is defined as a fungus growth and therefore, will be treated as fungus-damaged. Visual Aid: Pecky Kernels Damage (VRI R-2.7). Visual Aid: Water, Stain, and Peck Damaged (Glutinous Rice) (VRI R-2.71).

(3) Damaged by Heat (Stain) (VRI R-2.1).

Whole or broken kernels of rice that are distinctly discolored to the minimum color intensity illustrated. There is no minimum coverage requirement but are lighter in color than the Visual Reference Image for heat-damaged kernels. Visual Aid: Damaged by Heat (Stain) (VRI R-2.1).

Lightly Stained (Not Damage) (VRI R-2.2).

Whole or broken kernels of rice that are not damaged but have a light discoloration (stain) equal to or greater than color shown on the VRI. There is no minimum coverage requirement. Visual Aid: Lightly Stained (Not Damage) (VRI R-2.2).

Note: This factor is not provided for under the United States Standards for Brown Rice for Processing, but may be determined upon request.

(4) Parboiled Rice in Nonparboiled Rice.

Whole or broken kernels of parboiled rice in nonparboiled rice that are lighter in color than the Visual Aid: Heat Damage (VRI R-2.0).

(5) Other Damaged Kernels.

Whole or broken kernels of rice that are distinctly discolored or damaged from causes other than those listed above will be considered as damaged kernels. However, those whole and broken kernels that show sheller marks, but are otherwise not distinctly discolored or damaged, will not function as damaged kernels.

d. Record the percentage of red rice and damaged kernels on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent.

Note: Damaged kernels are the sum of the percentage of kernels damaged by heat and/or parboiled kernels in non-parboiled rice plus the percentage of all other damaged kernels.

4.26 CHALKY KERNELS (VRI-R-8.0)

Definition. Whole or broken kernels of rice which are one-half or more chalky. Visual Aid: Chalky Kernels (VRI R-8.0).

a. Determine chalky kernels on a representative portion of no less than 25 grams of unmilled brown rice for processing.

b. Cross-section suspect kernels to confirm if the area contains an opaque white or "chalk-like" area that encompasses one-half or more of the exposed portion.

c. Record the percentage of chalky kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

4.27 BROKEN KERNELS REMOVED BY A 6 PLATE OR A 6½ SIEVE

a. Definitions.

(1) 6 Plate. A laminated metal plate 0.142-inch thick, with a top lamina 0.051-inch thick, perforated with rows of round holes 0.0938 (6/64) inch in diameter, 5/32 inch from center to center, with each row staggered in relation to the adjacent rows, and a bottom lamina 0.091-inch thick, without perforations.

(2) 6 ½ Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.1016 (6 ½ /64) inch in diameter, 5/32 inch from center to center, with each row staggered in relation to the adjacent rows.

b. Basis of Determination. Determine broken kernels removed by a 6 plate or a 6 1/2 sieve on a representative portion of no less than 50 grams of unmilled brown rice for processing.

c. For southern production rice:

(1) Place a 6 plate in the bottom carriage of the rice sizing device.

(2) Pour the 50-gram portion on the plate. After the sample is poured, place the emptied triangular pan under the hopper to catch the rice that flows over the plate.

(3) Turn the machine on. Allow the machine to run until the rice stops flowing over the plate into the triangular pan.

(4) After the rice stops flowing and the machine is turned off, remove the plate and empty the contents into the rectangular container. Lightly tap the bottom of the plate to remove material retained in the perforations of the plate.

(5) Hand adjust the material that lodges in the 6 plate to remove any whole kernels, any broken kernels that obviously do not belong with the 6 plate brokens, any seeds, and any related or unrelated material.

d. For western production rice:

(1) Mechanical Sieving Method.

(a) Mount a 6 ½ sieve with a bottom pan on a mechanical sieve shaker.

(b) Make sure the shaker and sieve are level.

(c) Set the stroke counter for 20 strokes

(d) Gently pour the representative portion of grain rice in the center of the sieve.

(e) Turn the machine on.

(f) After the required number of strokes has been completed, the machine will automatically stop.

(g) Carefully remove the sieve and bottom pan. Jarring the sieve will cause the material remaining on top to pass through the perforations, leading to inaccurate results.

(h) Combine the material lodged in the perforations with the material that remained on top of the sieve. To remove the lodged material from the perforations, rub the sieve bottom gently. Tapping will warp the sieve and lead to inaccurate results in future determinations.

For more specific information on the operation, maintenance, and performance sieves and sieve shakers, see the sieves chapter in the Equipment Handbook.

(i) Hand adjust the material that passes through the 61/2 sieve to remove any whole kernels, any broken kernels that obviously do not belong with the 6 sieve brokens, any seeds, and any related or unrelated material.

(2) Hand Sieving Method.

(a) Mount a 6 1/2 sieve on a bottom pan.

(b) Pour the representative portion in the center of the sieve.

(c) Hold the sieve level in both hands with elbows close to the body. In a steady motion, move the sieve from left to right approximately 10 inches, and return from right to left.

(d) Repeat the sieving operation 20 times.

(e) Combine the material lodged in the perforations with the material that remained on top of the sieve. To remove the lodged material from the perforations, rub the sieve bottom gently. Tapping will warp the sieve and lead to inaccurate results in future determinations.

(f) Hand adjust the material that passes through the 6 1/2 sieve to remove any whole kernels, any broken kernels that obviously do not belong with the 6 1/2 sieve brokens, any seeds, and any related or unrelated material.

e. Record the percentage of broken kernels removed by a 6 plate or 6 1/2 sieve on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent.

4.28 BROKEN KERNELS

Definition. Kernels of rice which are less than three-fourths of whole kernels.

Note: This factor is not provided for under the U.S. Standards for Brown Rice for Processing, but may be determined upon request.

a. Determine broken kernels on a representative portion of no less than 25 grams of unmilled brown rice for processing.

b. Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

c. Record the percentage of broken kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

4.29 OTHER TYPES

a. Definition.

(1) Whole kernels of:

(a) Long grain rice in medium or short grain rice;

(b) Medium grain rice in long or short grain rice; and

(c) Short grain rice in long or medium grain rice.

(2) Broken kernels of:

(a) Long grain rice in medium or short grain rice; and

(b) Medium or short grain rice in long grain rice.

Note: Broken kernels of medium grain rice in short grain rice and broken kernels of short grain rice in medium grain rice must not be considered other types.

b. Determine other types on a representative portion of no less than 25 grams of unmilled brown rice for processing.

c. Record the percentage of other types on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the amount of other types exceeds 10.0 percent, grade the rice "Mixed Brown Rice for Processing."

4.30 WELL MILLED KERNELS

Definition. Whole or broken kernels of rice from which the hulls and practically all of the embryos and the bran layers have been removed.

a. Determine well-milled kernels on a representative portion of no less than 25 grams of unmilled brown rice for processing.

b. Record the percentage of well-milled kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

4.31 WHOLE KERNELS

Definition. Unbroken kernels of rice and broken kernels of rice which are at least three-fourths of an unbroken kernel.

a. Determine whole kernels on a representative portion of no less than 25 grams of unmilled brown rice for processing when determining the whole kernels in class and on no less than 40 grams when determining the milling yield or milling analysis.

b. Remove the whole kernels from the representative portion using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

c. For class, record the percentage of whole kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. For milling yield or milling analysis, record the percentage of whole kernels in tenths of a percent (unrounded) on the work record and in the "RESULTS" section of the certificate and to the nearest whole percent (rounded) on the grade line of the certificate.

4.32 RELATED AND UNRELATED MATERIAL

a. Definitions.

(1) Related Material. All by-products of a paddy kernel, such as the outer glumes, lemma, palea, awn, embryo, and bran layers.

(2) Unrelated Material. All matter other than rice, related material, and seeds.

Note: Live and dead insects found in the representative portion must be included with the unrelated material.

b. Basis of Determination. Determine related and unrelated material on a representative portion of no less than 100 grams of unmilled brown rice for processing.

c. Record the percentage of related and unrelated material on the work record. If the amount of related material exceeds 0.2 percent or the amount of unrelated material exceeds 0.1 percent, record the percentage of related or unrelated material in the "RESULTS" section of the certificate and grade the rice "U.S. Sample Grade."

4.33 SMUTTY BROWN RICE FOR PROCESSING/SMUTTY KERNELS

a. Definitions.

(1) Smutty Brown Rice for Processing. Smutty brown rice for processing must be rice which contains more than 3.0 percent of smutty kernels.

(2) Smutty Kernels. Whole or broken kernels of rice which are distinctly infected by smut. Visual Aid: Smut Damage (VRI R-7.0).

b. Basis of Determination. Determine smutty kernels on a representative portion of no less than 15 grams of unmilled brown rice for processing.

Note: Hand shell any paddy kernels that have the hull intact.

c. Record the percentage of smutty kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the rice contains more than 3.0 percent smutty kernels, consider the rice to be "smutty" and show the special grade "Smutty" on the grade line of the certificate.

Note: Except as specified, all grades and grade requirements in the U.S. Standards for Brown Rice for Processing apply to "Smutty Brown Rice for Processing."

4.34 PARBOILED BROWN RICE FOR PROCESSING/UNGELATANIZED KERNELS

a. Definitions.

(1) Parboiled Brown Rice for Processing. Parboiled brown rice for processing must be rice in which the starch has been gelatinized by soaking, steaming, and drying.

(2) Ungelantinized Kernels. Whole or broken kernels of parboiled rice with distinct white or chalky areas due to incomplete gelatinization of the starch.

b. Grades.

(1) Grades U.S. No. 1 to U.S. No. 5, inclusive, must contain no more than 10.0 percent of ungelatinized kernels.

(2) Grades U.S. No. 1 and U.S. No. 2 must contain no more than 0.1 percent of nonparboiled rice.

(3) Grades U.S. No. 3 and U.S. No. 4 must contain no more than 0.2 percent of nonparboiled rice.

(4) Grade U.S. No. 5 must contain no more than 0.5 percent of nonparboiled rice.

Note: The maximum limits for "Chalky kernels," "Heat-damaged kernels," and "Kernels damaged by heat" shown in Section 868.261 of the regulations under the AMA are not applicable to the special grade "Parboiled brown rice for processing."

c. Basis of Determination. Parboiled brown rice is usually determined by a cursory examination of whole and broken kernels of well-milled brown rice.

When a detailed examination is necessary to determine nonparboiled or ungelatinized kernels, make this determination on a representative portion of no less than 25 grams of well-milled brown rice for processing.

d. Record the percentage of ungelatinized kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the rice contains at least 90.0 percent parboiled kernels, consider the rice to be "parboiled" and show the special grade "Parboiled" on the grade line of the work record and the certificate.

Note: Except as specified, all grades and grade requirements in the "U.S. Standards for Brown Rice for Processing" apply to "Parboiled Brown Rice for Processing."

4.35 GLUTINOUS BROWN RICE FOR PROCESSING

a. Definition. Glutinous brown rice for processing must be special varieties of rice (Oryza sativa L. glutinosa) which contain more than 50 percent chalky kernels.

(1) Grade U.S. No. 1 must contain no more than 1.0 percent of nonchalky kernels.

(2) Grade U.S. No. 2 must contain no more than 2.0 percent of nonchalky kernels.

(3) Grade U.S. No. 3 must contain no more than 4.0 percent of nonchalky kernels.

(4) Grade U.S. No. 4 must contain no more than 6.0 percent of nonchalky kernels.

(5) Grade U.S. No. 5 must contain no more than 10.0 percent of nonchalky kernels.

Note: The maximum limits for "Chalky kernels" in Section 868.261 are not applicable to the special grade "Glutinous brown rice for processing."

b. Determine nonchalky kernels on a representative portion of no less than 25 grams of unmilled brown rice for processing.

c. Record the percentage of nonchalky kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the rice is a glutinous variety and contains less than 50.0 percent nonchalky kernels, consider the rice to be "glutinous" and show the special grade "Glutinous" on the grade line of the work record and the certificate.

Note: Except as specified, all grades and grade requirements in the U.S. Standards for Brown Rice for Processing apply to "Glutinous Brown Rice for Processing."

4.36 AROMATIC BROWN RICE FOR PROCESSING

Aromatic Brown Rice for Processing. Aromatic brown rice for processing must be special varieties of rice (Oryza sativa L. scented) that have a distinctive and characteristic aroma (e.g., basmati and jasmine rice).

a. Determine aromatic on the basis of the odor of the lot as a whole, the representative sample as a whole, or a representative portion of well-milled brown rice for processing.

b. If the rice is an aromatic variety and has an odor common to such rice, consider the rice to be “aromatic” and show the special grade “Aromatic” on the grade line of the certificate.

Note: Aromatic rice must be declared at the time of inspection request or will be considered as having a commercially objectionable foreign odor and graded “U.S. Sample Grade.”

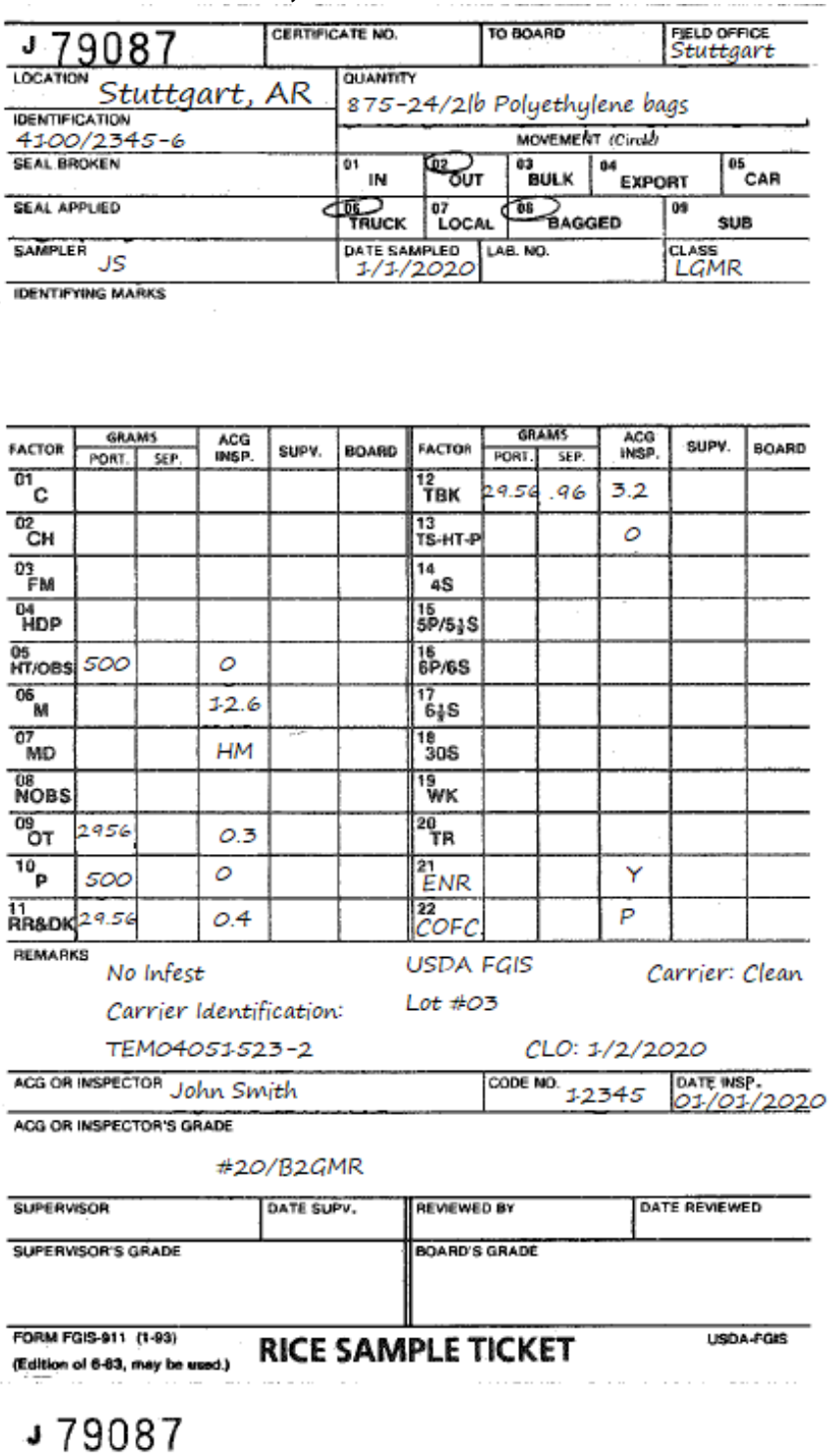
4.37 VISUAL REFERENCE IMAGES (VRI)

The visual grading aids system consists of a series of commodity specific VRI's and descriptive text which, with regular use, provides an effective tool for aligning inspectors and assisting them in making proper and consistent subjective grading decisions.

TABLE 4.5 – RICE VISUAL REFERENCE IMAGES

Interpretive Lines	General Appearance
CHALKY KERNELS	WHITE
DAMAGE BY HEAT	LIGHT GRAY
HEAT-DAMAGED KERNELS	DARK GRAY
LIGHTLY STAINED	CREAMY
NON-OBJECTIONABLE SEEDS	GRAY
OBJECTIONABLE SEEDS	ROSY
PECKY KERNELS DAMAGE	SLIGHTLY GRAY
SMUT DAMAGE	SLIGHTLY ROSY
WATER,STAIN & PECK DAMAGE	HARD MILLED
	WELL MILLED
	REASONABLY WELL MILLED

ATTACHMENT 1:
FGIS -911, "RICE SAMPLE TICKET"



J 79087

CERTIFICATE NO.	TO BOARD	FIELD OFFICE
		Stuttgart

LOCATION: Stuttgart, AR

QUANTITY: 875-24/2lb Polyethylene bags

IDENTIFICATION: 4100/2345-6

MOVEMENT (Circle): 01 IN | 02 OUT | 03 BULK | 04 EXPORT | 05 CAR | 06 TRUCK | 07 LOCAL | 08 BAGGED | 09 SUB

SEAL BROKEN

SEAL APPLIED

SAMPLER: JS

DATE SAMPLED: 1/1/2020

LAB. NO.

CLASS: LGMR

IDENTIFYING MARKS

FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD	FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD
01 C						12 TBK	29.56	.96	3.2		
02 CH						13 TS-HT-P			0		
03 FM						14 4S					
04 HDP						15 5P/5½S					
05 HT/OBS	500		0			16 6P/6S					
06 M			12.6			17 6½S					
07 MD			HM			18 30S					
08 NOBS						19 WK					
09 OT	2956		0.3			20 TR					
10 P	500		0			21 ENR			Y		
11 RR&DK	29.56		0.4			22 COFC			P		

REMARKS: No Infest; USDA FGIS; Carrier: Clean
Carrier Identification: TEM04051523-2; Lot #03
CLO: 1/2/2020

ACG OR INSPECTOR: John Smith | CODE NO. 12345 | DATE INSP. 01/01/2020

ACG OR INSPECTOR'S GRADE: #20/B2GMR

SUPERVISOR | DATE SUPV. | REVIEWED BY | DATE REVIEWED

SUPERVISOR'S GRADE | BOARD'S GRADE

FORM FGIS-911 (1-93) (Edition of 6-83, may be used.) **RICE SAMPLE TICKET** USDA-FGIS

J 79087

CHAPTER 5:
MILLED RICE

CONTENTS

5.1 DEFINITION OF MILLED RICE

Definition. Whole or broken kernels of rice (*Oryza sativa* L.) from which the hulls and at least the outer bran layers have been removed and which contain no more than 10.0 percent of seeds, paddy kernels, or foreign material, either singularly or combined.

Note: Rice that does not meet the United States Standards for Rough Rice, Brown Rice for Processing, or Milled Rice will be determined "Not Standardized Rice."

5.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of milled rice are shown in the United States Standards for Rice (Section 868.314).

TABLE 5.1 – GRADES AND GRADE REQUIREMENTS FOR MILLED RICE: LONG GRAIN, MEDIUM GRAIN, SHORT GRAIN, AND MIXED MILLED RICE

Grading Factors	Grades U.S. Nos.					
	1	2	3	4	5	6
Maximum number in 500 grams						
Seeds, Heat-Damaged, and Paddy Kernels Total (Singly or Combined)	2	4	7	20	30	75
Heat-Damaged Kernels and Objectionable Seeds (Singly or Combined)	1	2	5	15	25	75
Maximum limit (percent)						
Red Rice and Damaged Kernels (Singly or Combined)[5/6]	0.5	1.5	2.5	4.0	6.0	15.0
Chalky Kernels[1/2]	1.0	2.0	4.0	6.0	10.0	15.0
- in Long Grain	2.0	4.0	6.0	8.0	10.0	15.0
- in Medium/Short Grain						
Broken Kernels – Total	4.0	7.0	15.0	25.0	35.0	50.0
- Removed by a 5 Plate[3]	0.04	0.06	0.1	0.4	0.7	1.0
- Removed by a 6 Plate[3]	0.1	0.2	0.8	2.0	3.0	4.0
- Removed by 6 Sieve[3]	0.1	0.2	0.5	0.7	1.0	2.0
Other Types[4]	-	-	-	-	10.0	10.0
- Whole Kernels	1.0	2.0	3.0	5.0	-	-
- Whole and Broken Kernels						
Minimum level						

Color[1]	Milling Requirement[5]
U.S. No. 1 Must be white or creamy	Well-Milled
U.S. No. 2 May be slightly gray.	Well-Milled
U.S. No. 3 May be light gray.	Reasonably Well-Milled
U.S. No. 4 May be gray or slightly rosy.	Reasonably Well-Milled
U.S. No. 5 May be dark gray or rosy.	Reasonably Well-Milled
U.S. No. 6 May be dark gray or rosy.	Reasonably Well-Milled

U.S. Sample grade must be milled rice which:

(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 6, inclusive;
(b) contains more than 15.0 percent of moisture;
(c) is musty or sour, or heating;
(d) has a commercially-objectionable foreign odor;
(e) contains more than 0.1 percent of foreign material;
(f) contains two or more live or dead weevils or other insects, insect webbing, or insect refuse; or
(g) is otherwise of distinctly low quality.

[1] For the special grade Parboiled milled rice, see Section 868.315(c).

[2] For the special grade Glutinous milled rice, see Section 868.315(e).

[3] Plates should be used for southern production rice and sieves should be used for western production rice, but any device or method which gives equivalent results may be used.

[4] These limits do not apply to the class Mixed Milled Rice.

[5] For the special grade Undermilled milled rice, see Section 868.315(d).

[6] Grade U.S. No. 6 must contain no more than 6.0 percent damaged kernels.

TABLE 5.2 – GRADES AND GRADE REQUIREMENTS FOR MILLED RICE: SECOND HEAD MILLED RICE

Grading Factors	Grades U.S. Nos.				
	1	2	3	4	5
Maximum number in 500 grams					
Seeds, Heat-Damaged, and Paddy Kernels Total (Singly or Combined)	15	20	35	50	75
Heat-Damaged Kernels and Objectionable Seeds (Singly or Combined)	5	10	15	25	40
Maximum limit (percent)					
Red Rice and Damaged Kernels (Singly or Combined)	1.0	2.0	3.0	5.0	10.0
Chalky Kernels[1/3]	4.0	6.0	10.0	15.0	20.0
Minimum level					

Color[1]	Milling Requirement[5]
U.S. No. 1 Must be white or creamy	Well-Milled
U.S. No. 2 May be slightly gray.	Well-Milled
U.S. No. 3 May be light gray.	Reasonably Well-Milled
U.S. No. 4 May be dark gray or slightly rosy.	Reasonably Well-Milled
U.S. No. 5 May be dark gray or rosy.	Reasonably Well-Milled

U.S. Sample grade must be milled rice which:

(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive;
(b) contains more than 15.0 percent of moisture;
(c) is musty or sour, or heating;
(d) has a commercially-objectionable foreign odor;
(e) contains more than 0.1 percent of foreign material;
(f) contains two or more live or dead weevils or other insects, insect webbing, or insect refuse; or
(g) is otherwise of distinctly low quality.

[1] For the special grade Parboiled milled rice, see Section 868.315(c).
[2] For the special grade Undermilled milled rice, see Section 868.315(d)
[3] For the special grade Glutinous milled rice, see Section 868.315(e).

TABLE 5.3 – GRADES AND GRADE REQUIREMENTS FOR MILLED RICE: SCREENINGS MILLED RICE

Grading Factors	Grades U.S. Nos.[4/5]				
	1	2	3	4	5
Maximum number in 500 grams					
Paddy Kernels and Seeds Total (Singly or Combined)	30	75	125	175	250
Objectionable Seeds	20	50	90	140	200
Maximum limit (percent)					
Chalky Kernels[1/3]	5.0	8.0	12.0	20.0	30.0
Minimum level					

Color[1]	Milling Requirement[2]
U.S. No. 1 Must be white or creamy	Well-Milled
U.S. No. 2 May be slightly gray.	Well-Milled
U.S. No. 3 May be light gray or slightly rosy.	Reasonably Well-Milled
U.S. No. 4 May be gray or rosy.	Reasonably Well-Milled
U.S. No. 5 May be dark gray or very rosy.	Reasonably Well-Milled

U.S. Sample grade must be milled rice which:

- **(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive;**
- **(b) contains more than 15.0 percent of moisture;**
- **(c) is musty or sour, or heating;**
- **(d) has a commercially-objectionable foreign odor;**
- **(e) has a badly damaged or extremely red appearance;**
- **(f) contains more than 0.1 percent of foreign material;**
- **(g) contains two or more live or dead weevils or other insects, insect webbing, or insect refuse; or**
- **(h) is otherwise of distinctly low quality.**

[1] For the special grade Parboiled milled rice, see Section 868.315(c).

[2] For the special grade Undermilled milled rice, see Section 868.315(d).

[3] For the special grade Glutinous milled rice, see Section 868.315(e).

[4] Grades U.S. No. 1 to U.S. No. 4, inclusive, must contain no more than 3.0 percent of heat-damaged kernels, kernels damaged by heat, and parboiled kernels in nonparboiled rice.

[5] Grades U.S. No. 1 to U.S. No. 4, inclusive, must contain no more than 1.0 percent of material passing through a 30 sieve.

TABLE 5.4 – GRADES AND GRADE REQUIREMENTS FOR MILLED RICE: BREWERS MILLED RICE

Grading Factors	Grades U.S. Nos.[3/4]				
	1	2	3	4	5
Maximum limit (percent)					
Paddy Kernels and Seeds Total (Singly or Combined)	0.5	1.0	1.5	3.0	5.0
Objectionable Seeds	0.05	0.1	0.2	0.4	1.5
Minimum level					

Color[1]	Milling Requirement[2]
U.S. No. 1 Must be white or creamy	Well-Milled
U.S. No. 2 May be slightly gray.	Well-Milled
U.S. No. 3 May be light gray or slightly rosy.	Reasonably Well-Milled
U.S. No. 4 May be gray or rosy.	Reasonably Well-Milled
U.S. No. 5 May be dark gray or very rosy.	Reasonably Well-Milled

U.S. Sample grade must be milled rice which:

(a) does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive;
(b) contains more than 15.0 percent of moisture;
(c) is musty or sour, or heating;
(d) has a commercially-objectionable foreign odor;
(e) has a badly damaged or extremely red appearance;
(f) contains more than 0.1 percent of foreign material;
(g) contains more than 15.0 percent of broken kernels that will pass through a 2½ sieve;
(h) contains two or more live or dead weevils or other insects, insect webbing, or insect refuse; or
(i) is otherwise of distinctly low quality.

[1] For the special grade Parboiled milled rice, see Section 868.315(c).

[2] For the special grade Undermilled milled rice, see Section 868.315(d).

[3] Grades U.S. No. 1 to U.S. No. 4, inclusive, must contain no more than 3.0 percent of heat-damaged kernels, kernels damaged by heat, and parboiled kernels in nonparboiled rice.

[4] Grades U.S. No. 1 to U.S. No. 4, inclusive, must contain no more than 1.0 percent of material passing through a 30 sieve. This limit does not apply to the special grade Granulated brewers milled rice.

5.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

a. The special grades and special grade requirements for all classes of milled rice are shown in the United States Standards for Rice (Section 868.315 of regulations under the AMA).

b. A special grade, when applicable, is supplemental to the grade assigned. Such special grades for milled rice are defined as follows:

(1) Coated Milled Rice. Coated milled rice must be rice which is coated, in whole or in part, with substances that are safe and suitable as defined in the regulations issued pursuant to the Federal Food, Drug, and Cosmetic Act (FDA) as 21 CFR 130.3(d).

(2) Granulated Brewers Milled Rice. Granulated brewers milled rice must be milled rice which has been crushed or granulated so that 95.0 percent or more will pass through a 5 sieve, 70.0 percent or more will pass through a 4 sieve, and no more than 15.0 percent will pass through a 2½ sieve.

(3) Parboiled Milled Rice. Parboiled milled rice must be milled rice in which the starch has been gelatinized by soaking, steaming, and drying.

If the rice is:

(a) Not distinctly colored by the parboiling process, the rice must be considered “Parboiled Light.”

(b) Distinctly but not materially colored by the parboiling process, the rice must be considered “Parboiled.”

(c) Materially colored by the parboiling process, the rice must be considered “Parboiled Dark.”

(4) Undermilled Milled Rice. Undermilled milled rice must be milled rice which is not equal to the milling requirements for “hard milled,” “well-milled,” and “reasonably well-milled” rice.

(5) Glutinous Milled Rice. Special varieties of rice (Oryza sativa L. glutinosa) which contain more than 50 percent of chalky kernels.

(6) Aromatic Milled Rice. Special varieties of rice (Oryza sativa L. scented) that have a distinctive and characteristic aroma (e.g., basmati and jasmine rice).

5.4 WORK RECORD

Record the results of all tests and findings clearly and accurately on a sample ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel must use FGIS-911, "Rice Sample Ticket," to record inspection results. Cooperators must use a similar form.

5.5 REPRESENTATIVE PORTION

A specified quantity of rice divided out from the representative sample by means of an FGIS-approved divider.

5.6 WORK SAMPLE

A representative portion of rice (approximate size - 1,000 grams) that is used to make all such determinations required for a particular class of rice.

Note: A Submitted Sample of milled rice with a request for grade that does not contain 500 grams or more will be dismissed; or a factor only inspection may be performed upon request.

5.7 FILE SAMPLE

a. A representative portion of rice (approximate size - 1,250 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, retest, and appeal inspection purposes.

b. Retain file samples in appropriate containers for the required retention period. After maintaining for the required period, dispose of the file samples in accordance with established procedures. See *FGIS Directive 9170.13*, "Uniform File Sample Retention System" for additional information.

5.8 PERCENTAGES AND COUNTS

a. Basis of Determination. Percentages are determined upon the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure (e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5).

(2) When the figure to be rounded is followed by a figure less than 5, retain the figure (e.g., report 8.34 as 8.3, and 1.22 as 1.2).

b. Record percentages as follows:

(1) For broken kernels removed by a 5 plate in U.S. No. 1 and 2 Milled rice and for objectionable seeds in U.S. No. 1 Brewers milled rice, to the nearest hundredth percent.

(2) For all other factors, to the nearest tenth of percent.

c. Record counts, for all factors determined on the basis of count, to the nearest whole number.

5.9 LABORATORY SCALES

Weigh samples and portions of samples using the proper class of FGIS-approved laboratory scales, and record the results to the correct division size.

Use the table below to determine the scale class and division size required for weighing particular sized samples.

TABLE 5.5 – LABORATORY SCALES

Portion Size	Scale Class	Maximum Division Size	Record Results to at Least the Nearest…
120 grams or less	**Precision**	**0.01 gram**	**0.01 gram**
Samples for moisture determinations	**Precision or Moisture**	**0.1 gram**	**0.1 gram**
More than 120 grams	**Precision, Moisture, or General**	**1 gram**	**1 gram**
Note: See Equipment Handbook, Chapter 2, for additional information.			

5.10 PRELIMINARY EXAMINATION

a. The sampler must: (1) observe the uniformity of the rice as to type/class, quality, and condition; (2) make the determination for "Heating;" (3) draw the representative sample; and (4) report relevant information to the inspector.

b. The inspector must review the sampler's remarks/information. If the inspector has questions or doubts the representativeness of the sample, he or she must contact the sampler and obtain the needed information or make arrangements to obtain another sample.

5.11 BASIS OF DETERMINATION

Certain Quality Determinations. All determinations must be on the basis of the original sample. Mechanical sizing of kernels must be adjusted by handpicking, as prescribed in FGIS instructions, or by any method which gives equivalent results.

Broken Kernels. Broken kernels must be determined by the use of equipment and procedures prescribed in FGIS instructions or by any method which gives equivalent results.

Note: When rice that is offered for inspection as one lot is found to contain more than 10,000 containers (packaged/bags/balers) or 6,000,000 pounds (bulk) of rice, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers (packaged/bags/balers) or 6,000,000 pounds or less. Inspect each sublot separately. (For additional information, see Chapter 7, Roundlot Inspection Plan, and Chapter 9, Warehouse-Lot Inspection Plan.)

Note: When rice that is offered for inspection as one lot is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion must be inspected separately.

a. Follow a systematic grading procedure. The order of procedure may vary depending on the class and quality of the rice and the tests that are required to determine the grade. A general order of procedure is as follows:

(1) Review information on the work record.

(2) Examine the representative sample for odor and distinctly low quality.

(3) Use an FGIS-approved divider to process the representative sample into three representative portions: (1) a work sample, (2) a file sample, and (3) a moisture portion.

Note: For specific information on the operation and maintenance of dividers, see the FGIS Equipment Handbook, Chapter 7, Manual Sampling Devices.

(4) Examine the work sample for test weight (if requested) and type.

(5) Divide the 1,000-gram work sample to 500 grams and examine the portion for:

(a) Infestation;

(b) Paddy kernels (all classes except BMR);

(c) Seeds (all classes except BMR); and

(d) Heat-damaged kernels (all classes except SMR and BMR).

(6) Divide the 500-gram portion to approximately 250 grams and examine the portion for:

(a) Milling (degree) requirements; and

(b) Color.

(7) Divide out from the 250-gram portion a 100-gram portion and a 50-gram portion.

(8) Examine the 100-gram portion for foreign material (all classes except BMR).

(9) Examine the 50-gram portion for:

(a) Broken kernels removed by a 5 plate and a 6 plate, or that pass through a 6 sieve;

(b) Class (for SHMR, SMR, and BMR); and

(c) 30 sieve material.

(10) Divide the 50-gram portion to no less than 25 grams and examine the portion for:

(a) Broken kernels total;

(b) Chalky kernels;

(c) Class (whole kernels for LGMR, MGMR, and SHGMR);

(d) Foreign material (for BMR);

(e) Heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice (for SMR and BMR);

(f) Other types (whole kernels, and whole and broken kernels);

(g) Red rice and damaged kernels;

(h) Seeds and paddy kernels (for BMR);

(i) Ungelatinized kernels; and

(j) Well milled kernels.

b. When the grade (or contract requirements) of a lot or sample is determined by a narrow margin (+/- 0.1 percent or 1 count) on a single factor, another determination must be made on another representative portion of equivalent size divided out from the work sample or file sample. The factor result must be based on the average of the two determinations.

Note: Narrow margin determinations do not apply to multiple lots where tolerance is applied.

5.12 MOISTURE

Water content in milled rice as determined by an FGIS approved device in accordance with according to procedures prescribed in FGIS instructions.

a. Bass of Determination. Determine moisture on a representative portion of sufficient size of milled rice as described in the Moisture Handbook.

b. Procedures. The procedures for performing a moisture determination using the FGIS-approved moisture meters are described in the Moisture Handbook.

c. Record the percentage of moisture on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the moisture content exceeds 15.0 percent, grade the rice "U.S. Sample Grade."

5.13 TYPE

There are three types of milled rice: (1) Long grain, (2) Medium grain, and (3) Short grain.

Types must be based on the length/width ratio of kernels of rice that are unbroken and the width, thickness, and shape of kernels that are broken, prescribed in FGIS instructions.

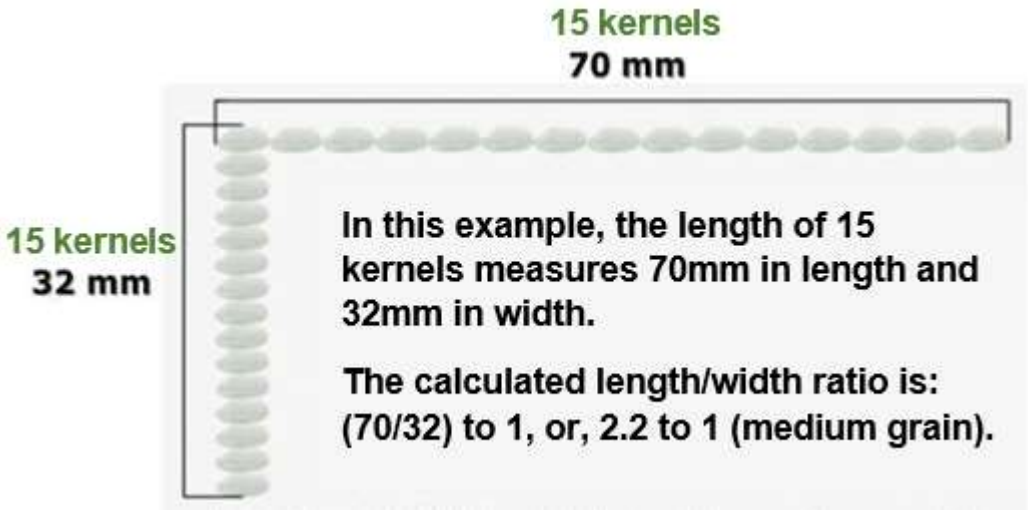


FIGURE 5.1 – MILLED RICE LENGTH/WIDTH RATIO

a. The length-width ratio limitations for milled rice are:

TABLE 5.6 – LENGTH-WIDTH RATIO LIMITATIONS

Long grain	Medium grain	Short grain
3.0 (or more) to 1	**2.0 - 2.9 to 1**	**1.9 (or less) to 1**

b. Type is usually determined by a cursory examination of the work sample as a whole.

c. When a detailed examination is necessary, measure the length and width of 15 unbroken kernels of milled rice taken at random from the work sample and determine their average length-width ratio.

(1) Length is the distance between the most distant tips of the kernel.

(2) Width is the distance across the kernel at the widest point.

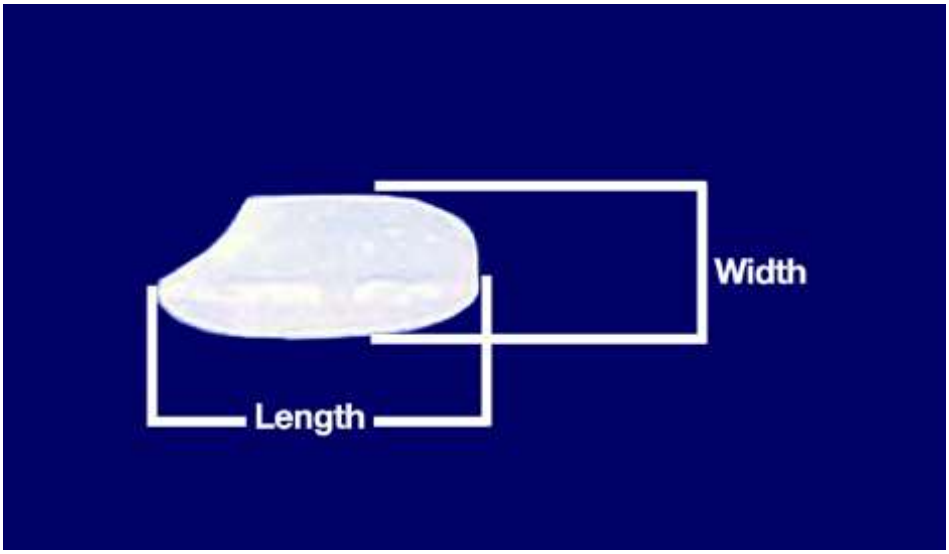


FIGURE 5.2 – MEASURING MILLED RICE KERNELS

5.14 CLASS

Classes. There are seven classes of milled rice.

a. The following four classes must be based on the percentage of whole kernels, and types of rice: (1) Long Grain Milled Rice, (2) Medium Grain Milled Rice, (3) Short Grain Milled Rice, and (4) Mixed Milled Rice.

(1) Long Grain Milled Rice. Long grain milled rice must consist of milled rice which contains more than 25.0 percent of whole kernels of milled rice and in U.S. No. 1 through 4, no more than 10.0 percent of whole or broken kernels of medium or short grain rice. U.S. No. 5 and U.S. No. 6 long grain milled rice must contain no more than 10.0 percent of whole kernels of medium or short grain milled rice (broken kernels do not apply).

(2) Medium Grain Milled Rice. Medium grain milled rice must consist of milled rice which contains more than 25.0 percent of whole kernels of milled rice and in U.S. Nos. 1 through 4 no more than 10.0 percent of whole or broken kernels of long grain rice or whole kernels of short grain rice. U.S. No. 5 and U.S. No 6 medium grain milled rice must contain no more than 10.0 percent of whole kernels of long or short grain milled rice (broken kernels do not apply).

(3) Short Grain Milled Rice. Short grain milled rice must consist of milled rice which contains more than 25.0 percent of whole kernels of milled rice and in U.S. Nos. 1 through 4 no more than 10.0 percent of whole or broken kernels of long grain rice or whole kernels of medium grain rice. U.S. No. 5 and U.S. No. 6 short grain milled rice must contain no more than 10.0 percent of whole kernels of long or medium grain milled rice (broken kernels do not apply).

(4) Mixed Milled Rice. Mixed milled rice must consist of milled rice which contains more than 25.0 percent of whole kernels of milled rice and more than 10.0 percent of "other types" as defined in section 5.32, "Other Types," of this chapter. U.S. No. 5 and U.S. No. 6 mixed milled rice must contain more than 10.0 percent of whole kernels of "other types" (broken kernels do not apply).

b. The following three classes must be based on the percentage of whole kernels and of broken kernels of different size: (1) Second Head Milled Rice, (2) Screenings Milled Rice, and (3) Brewers Milled Rice.

(1) Second Head Milled Rice. Second head milled rice must consist of milled rice which, when determined in accordance with Section 868.303 of regulations under the AMA, contains the following:

(a) Southern Production. Not more than:

1 25.0 percent of whole kernels;

2 7.0 percent of broken kernels removed by a 6 plate;

3 0.4 percent of broken kernels removed by a 5 plate; and

4 0.05 percent of broken kernels passing through a 4 sieve.

(b) Western Production. Not more than:

1 25.0 percent of whole kernels;

2 50.0 percent of broken kernels passing through a 6 1/2 sieve; and

3 10.0 percent of broken kernels passing through a 6 sieve.

(2) Screenings Milled Rice. Screenings milled rice must consist of milled rice which, when determined in accordance with Section 868.303, of regulations under the AMA, contains the following:

(a) Southern Production. Not more than:

1 25.0 percent of whole kernels;

2 10.0 percent of broken kernels removed by a 5 plate; and

3 0.2 percent of broken kernels passing through a 4 sieve.

(b) Western Production. Not more than:

1 25.0 percent of whole kernels;

2 15.0 percent of broken kernels passing through a 5 1/2 sieve;

3 50.0 percent or more of broken kernels passing through a 6 1/2 sieve; and

4 10.0 percent of broken kernels passing through a 6 sieve.

(3) Brewers Milled Rice. Brewers milled rice must consist of milled rice which, when determined in accordance with Section 868.303, of regulations under the AMA, contains no more than 25.0 percent of whole kernels and which does not meet the kernel-size requirements for the class second head milled rice or screenings milled rice.

c. Class is usually determined by a cursory examination of the work sample as a whole.

d. When a detailed examination is necessary to determine class (whole kernels) of long grain, medium grain, or short grain milled rice, make this determination on a representative portion of no less than 25 grams of milled rice.

(1) Record the percentage of whole kernels on the work record to the nearest tenth percent.

(2) If the rice contains 25 percent or less of whole kernels, consider the rice to be second head, screenings, or brewers milled rice.

e. When a detailed examination is necessary to determine other types for the class of long grain, medium grain, or short grain milled rice, make this determination on a representative portion of no less than 25 grams.

(1) Record the percentage of each type on the work record to the nearest tenth percent.

(2) If the rice contains more than 10 percent of “other types,” grade the rice “Mixed Milled Rice.”

Determine the percentage of seeds and foreign material, when applicable.

Record the percentage of whole kernels of each type present in the order of predominance; the percentage of broken kernels of each type present in order of predominance; and when applicable, the percentage of seeds and foreign material to the nearest tenth percent on the work record and in the “RESULTS” section of the certificate. (These percentages must total 100%).

Note: Broken kernels other than long grain, in Mixed milled rice, must be certified as “medium or short grain.”

f. When a detailed examination is necessary to determine class of second head, screening, or brewers milled rice, make this determination on a representative portion of no less than 50 grams.

(1) Southern Production.

(a) Mount a 4 sieve in a bottom pan.

(b) Place the sieve in a mechanical grain sizer and set the timer to 20. Put the rice in the center of the top sieve and start the sizer. (If a mechanical sizer is not available, hold the sieves and bottom pan level and using a steady motion, move the sieve from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.)

(c) Return the broken kernels that lodged in the perforations of the sieve to the portion that remains on the top of the sieve.

(d) Place a 5 plate in the top carriage and a 6 plate in the bottom carriage of the sizing device.

(e) Run the portion of rice that remained on top of the 4 sieve over the plates.

(f) Hand adjust the broken kernels that passed through the 4 sieve, and the broken kernels that are removed by the 5 plate and 6 plate by removing any whole kernels, broken kernels that obviously do not belong in a particular separation*, seeds, and foreign material.

*Material passing through a 4 sieve and lodged in the 5 and 6 plate perforations must pass through and/or lodge without touching the side of the opening when turned to the widest girth.

Note: It is permissible to use a No. 20 wire mesh sieve as an aid in hand-adjusting 4 sieve material.

(g) Determine the percentage of broken kernels that passed through the 4 sieve and the percent removed by the 5 plate and by the 6 plate.

(2) Western Production.

(a) Mount a 6½ sieve and a 6 sieve in a bottom pan; or a 6½ sieve, 6 sieve, and a 5½ sieve in a bottom pan, as deemed necessary.

(b) Place the sieves in a mechanical grain sizer and set the timer to 20. Put the rice in the center of the top sieve and start the sizer. (If a mechanical sizer is not available, hold the sieves and bottom pan level and using a steady motion, move the sieve from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.)

(c) Return the broken kernels that lodged in the perforations of each sieve to the portion that remains on the top of each sieve.

(d) Hand adjust the broken kernels that passed through the sieves by removing any whole kernels, broken kernels that obviously do not belong in a particular separation, seeds, and foreign material.

Note: It is permissible to use a No. 12 or 14 wire mesh sieve as an aid in hand-adjusting 6 sieve material.

(e) Determine the percentage of broken kernels that passed through the 5½, 6, and 6½ sieves.

g. Record the percent of each plate or sieve separation on the work record and on the certificate to the nearest tenth percent.

h. If the rice contains more than 25 percent of whole kernels, consider the rice to be long grain, medium grain, short grain or mixed milled rice.

5.15 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

Off-odors (i.e., musty, sour, and commercially objectionable foreign odor) are can sometimes be detected when smelling the milled rice at the time of sampling.

Note: If there is any question as to the odor when the sample is being taken, a part of the sample must be put into an airtight container to preserve its condition for further examination.

b. The final odor determination is made in the laboratory. All portions must be returned to the sample before other tests are made.

(1) A musty odor is any odor that is earthy, moldy, or ground-like. Do not confuse a burlap bag odor with a musty odor.

(2) A sour odor is any odor that is rancid, sharp, or acrid.

(3) A commercially objectionable foreign odor is any odor that is not normal to rice and that, because of its presence, renders the rice unfit for normal commercial usage (e.g., fertilizer, hides, oil products, skunk, smoke, fire-burnt, and decaying animal and vegetable matter odors).

(4) Fumigant or insecticide odors are not considered as commercially objectionable foreign odors, unless they are caused by a fumigant or insecticide that does not dissipate quickly. When a sample of rice contains a fumigant or insecticide odor that prohibits a true odor determination, the following guidelines must apply:

(a) The representative sample of rice must be allowed to air out in an open metal container (e.g., a pan) for up to 4 hours, a fume hood may be used if available; and

(b) If the fumigant or insecticide odor still prohibits the determination of the rice's true odor after 4 hours, the rice must be considered as having a commercially objectionable foreign odor. If the rice is from an unplacarded railcar, notify your supervisor. Supervisors should report such instances to FGIS headquarters.

Caution: When sampling rice, check for placarded railcars. If a car is placarded (or if a car is not placarded but a fumigant odor is detected), do not enter the car or sample the rice, and notify your supervisor immediately.

Note: Aromatic (scented) rice that has an odor known to be common to such rice must be declared at the time of the inspection request or will be considered as having a commercially objectionable foreign odor.

c. When rice is determined to be musty, sour, or have a commercially objectionable foreign odor, record the type of odor on the work record and in the "RESULTS" section of the certificate, and grade the rice "U.S. Sample Grade."

Note: Milled Rice found to have a commercially objectionable foreign odor is considered actionable according to *FGIS Directive 9060.2*, "Implementation of the FGIS-FDA Memorandum of Understanding."

5.16 HEATING

a. Determine heating on the basis of the lot as a whole.

(1) When high temperature develops in rice as the result of excessive respiration, such rice is heating.

(2) Heating rice usually gives off a sour or musty odor.

(3) Care should be taken never to confuse rice that is warm due to storage in bins, cars, or other containers during hot weather with rice that is heating from excessive respiration.

b. When applicable, show the term, "Heating" on the work record and in the "RESULTS" section of the certificate, and grade the rice "U.S. Sample Grade."

5.17 DISTINCTLY LOW QUALITY

a. Determine distinctly low quality on the basis of the lot as a whole or the representative sample as a whole or an auxiliary sample.

b. Milled rice that is obviously affected by other unusual conditions which adversely affect the quality of the rice and which cannot be graded properly by use of the grading factors specified or defined in the standards must be considered as being of distinctly low quality (see Chart 5.1 – Distinctly Low Quality). Milled rice that contains any material too large to enter a probe, Ellis cup, pelican, DT sampler or any official sampling device such as pieces of wreckage and debris including lumps of rice, grain, dirt and/or other commodities, unknown foreign substance or toxic material which are visible to the sampler is considered DLQ.

CHART 5.1 – DISTINCTLY LOW QUALITY

Factor	Amount	Basis
Bird droppings	2 or more	1,000 grams
Rodent pellets	2 or more	1,000 grams
Rodent pellets and/or fragments of rodent excreta pellets	9 mg or more	1,000 grams
Combination of rodent pellets and bird droppings	1 or more of each	1,000 grams
Castor beans	2 or more	1,000 grams
Crotalaria seeds	3 or more	1,000 grams
Treated seed	4 or more	1,000 grams
Aflatoxin	20 ppb	Sample
Objectionable odor	Presence	Sample
Metal fragments	1 or more	Sample or Lot as a whole
Glass fragments	1 or more	Sample or Lot as a whole
Stones	0.1 percent by weight	500g

c. When applicable, show the statement “Distinctly Low Quality on account of (cause or reason).” on the work record and in the “RESULTS” section of the certificate, and grade the rice “U.S. Sample Grade.”

Note: Milled rice samples containing small stones may be considered DLQ, depending on the quantity found on a percentage-by-weight basis, and whether the condition adversely affects the overall quality.

According to *FGIS Directive 9060.2*, “Implementation of the FGIS-FDA Memorandum of Understanding,” milled rice is considered actionable if stones constitute more than 0.1 percent-by-weight.

5.18 INSECT INFESTATION

a. Infested Milled Rice. Tolerances for live insects for infested milled rice are defined according to sampling designation as follows:

Note: "Weevils" must include coffee bean weevils, broad-nosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. "Other live insects injurious to stored rice" must include beetles, moths, meal worms, and other insects injurious to stored rice.

Note: To aid in insect identification, refer to FGIS Visual Reference Images (VRI) and/or the FGIS Stored-Grain Insect Reference.

b. Determine infestation on the basis of a representative portion of approximately 500 grams, the lot as a whole (at the time of sampling, while stationary or during checkloading/observation of loading), and/or the component sample taken during continuous loading/unloading.

(1) Examine a representative portion.

(a) If no live or dead insects are found in the portion, make no further check of the sample for insects.

(b) If two or more live or dead insects are found, consider the rice to be "U.S. Sample Grade."

(c) If one live or dead insect is found, divide out another representative portion of approximately 500 grams from the file sample. (Use the rest of the representative sample if the file sample is less than 500 grams.)

1 If one or more live or dead insects are found in the second portion, consider the rice to be "U.S. Sample Grade."

2 If no live or dead insects are found in the second portion, do not consider the rice to be "U.S. Sample Grade."

(2) Examine the rice in the lot (i.e., the surface area of the lot and the area around the lot).

(a) If no live or dead insects are found in, on, or about the lot, make no further check of the lot for insects.

(b) If two or more live or dead insects are found, consider the rice to be "U.S. Sample Grade."

(3) Examine the component samples[6] taken during continuous loading/unloading.

(a) Divide out from each component sample a representative portion of approximately 500 grams.

(b) Examine the representative portion for live or dead insects.

1 If no live or dead insects are found in the representative portion, make no further check of the component for insects.

2 If two or more live or dead insects are found, consider the rice to be "U.S. Sample Grade."

3 If one live or dead insect is found, cut another representative portion of approximately 500 grams from the component sample.

a If, in the second portion, one or more live or dead insects are found, consider the rice to be "U.S. Sample Grade."

b If, in the second portion, no live or dead insects are found, do not consider the rice to be "U.S. Sample Grade," and make no further check of the component for insects.

c (Bulk rice only). If in the second portion no live or dead insects are found, but one or more insects had been found in a previously inspected component in this or another sublot, consider the rice that is represented by the component sample to be "U.S. Sample Grade."

[6] As specified in Chapter 7, Roundlot Inspection. For shiplots and bargelots, a component sample may not represent more than450,000 pounds of rice and each sublot must contain two or more approximately equal-sized components.

c. When applicable, show “U.S. Sample Grade on account of (live or dead) insects” on the work record and in the “REMARKS” section of the certificate and grade the rice “U.S. Sample Grade.”

Note: Milled rice found to contain live and/or dead insects and graded US Sample Grade is considered actionable according to *FGIS Directive 9060.2*, “Implementation of the FGIS-FDA Memorandum of Understanding.”

5.19 TEST WEIGHT PER BUSHEL

Note: This factor is not provided for under the United States Standards for Milled Rice, but may be determined upon request.

a. Determine test weight per bushel on a representative portion of approximately 1,000 grams.

b. General Operating Procedures.

(1) Level and balance the test weight per bushel apparatus.

(2) Close the hopper valve.

(3) Pour the work sample into the hopper.

(4) Center the hopper over the kettle.

(5) Fill the kettle by opening the hopper valve quickly.

(6) Move the hopper all the way to the left before proceeding. Do not jar the apparatus. Jarring could cause inaccurate results.

(7) Using a standard stroker, stroke the kettle by holding the stroker in both hands with the flat sides in a vertical position. Level the rice in the kettle by making three full-length, zigzag motions with the stroker.

(8) Convert the weight of the sample by either the "standard" method or one of the "alternate" methods.

(a) Standard Method. Carefully hang the kettle on the beam and move the weights until the beam is balanced. Read the test weight per bushel scale.

(b) Alternate Method – Manual Conversion. Pour the sample from the kettle onto a general class scale, note the weight of the sample, find the gram weight on the test weight conversion chart (see Appendix 3, "Uniformity Tolerance Tables"), and read the corresponding test weight per bushel shown to the right of the gram weight.

(c) Alternate Method – Automatic Conversion. When using an electronic scale programmed to convert gram weight to pounds per bushel select the appropriate test weight mode. Place an empty sample pan or the test weight kettle on the scale and zero the scale. Pour the sample from the kettle into the sample pan or place the filled kettle onto the scale as appropriate. Read the result from the test weight mode selected.

c. Record the test weight per bushel on the work record to the nearest tenth of a pound and record in the "RESULTS" section of the certificate.

d. Upon request by the applicant the following statement may be recorded in the "REMARKS" section of the certificate:

> "Test weight per bushel of (amount) pounds is approximately equivalent to (amount) kilograms per hectoliter."

Kilograms per hectoliter are determined by multiplying the test weight per bushel by 1.287.

Note: Bulk density may be determined by dividing the test weight per bushel by 1.2445. Bulk density is the number of pounds in one cubic foot.

5.20 QUANTITATIVE ANALYSIS

a. Quantitative analysis provides an estimate of the quantity (percentage) of whole kernels, second head-sized kernels, screenings-sized kernels, and brewers-sized kernels in a lot or sample of milled rice.

Note: This factor is not provided for under the United States Standards for Milled Rice, but may be determined upon request.

b. Definitions. The following definitions are applicable only to this determination:

(1) Whole Kernels. Unbroken kernels of rice and broken kernels of rice that are at least three-fourths of an unbroken kernel.

(2) Second Head Kernels. Broken kernels of rice and other material that remain on top of a 6 sieve.

(3) Screenings Kernels. Broken kernels of rice and other material that pass through a 6 sieve but remain on top of a 5½ sieve.

(4) Brewers Kernels. Broken kernels of rice and other material that pass through a 5½ sieve.

c. Perform a milling analysis on long grain, medium grain, short grain, and mixed milled rice as follows:

(1) Determine the percentage of "broken kernels (total)" on a representative portion of no less than 25 grams. Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

(2) Determine the percentage of whole kernels by subtracting the percentage of broken kernels from 100.0 percent.

Example: 100.0% - 19.6% TBK = 80.4% WK

(3) Calculate the adjusted base by dividing the percentage of whole kernels in the sample by 100.

Example: 80.4% WK ÷ 100 = .80 adjusted base

(4) Determine the percentage of screenings kernels and brewers kernels on a representative portion of approximately 125 grams.

(a) Nest a 6 sieve on top of a 5½ sieve in a bottom pan.

(b) Place the sieves in a mechanical grain sizer and set the timer to 20.

(c) Put the rice in the center of the top sieve and start the sizer.

Note: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.

(d) Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(e) Consider all material that passed through the 6 sieve, but remains on top of the 5½ sieve, as screenings kernels. Do not hand adjust the separation.

(f) Consider all material that passes through the 5½ sieve as brewers kernels. Do not hand adjust the separation.

(5) Adjust the percentage of screenings and brewers by multiplying the "actual" percentage of screenings and brewers by the adjusted base.

Example: 2.1% SMR X .80 = 1.7% SMR

1.3% BMR X .80 = 1.0% BMR

(6) Determine the percentage of second head kernels by adding the percentage of screenings and brewers kernels together and then subtracting that total from the percentage of "broken kernels (total)."

Example: 19.6% TBK - (1.7% SMR + 1.0% BMR)
= 16.9% SHMR

(7) Record the percentage of whole kernels, second head kernels, screenings kernels, and brewers kernels on the work record and in the "RESULTS" section of the certificate to the nearest whole percent.

d. Perform a milling analysis on second head, screenings, and brewers milled rice as follows:

(1) Determine the percentage of whole kernels on a representative portion of no less than 25 grams. Remove the whole kernels from the 25-gram portion by using any device or method that will facilitate the separation of the whole kernels from the broken kernels.

(2) Calculate the adjusted base by subtracting the percentage of whole kernels from 100 percent.

Example: (100% - 13.1% WK) = 86.9

(3) Then divide the result by 100.

Example: 86.9 ÷ 100 = .87 adjusted base

(4) Determine the percentage of screenings kernels and brewers kernels on a representative portion of approximately 125 grams.

(a) Nest a 6 sieve on top of a 5½ sieve in a bottom pan.

(b) Place the sieves in a mechanical grain sizer and set the timer to 20.

(c) Put the rice in the center of the top sieve and start the sizer.

Note: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation 20 times.

(d) Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(e) Consider all material that passed through the 6 sieve, but remains on top of the 5½ sieve, as screenings kernels. Do not hand adjust the separation.

(f) Consider all material that passes through the 5½ sieve as brewers kernels. Do not hand-adjust the separation.

(5) Adjust the percentage of screenings and brewers by multiplying the "actual" percentage of screenings and brewers by the adjusted base.

Example: 17.6% SMR X .87 = 15.3% SMR

71.6% BMR X .87 = 62.3% BMR

(6) Determine the percentage of second head kernels by adding the percentage of whole kernels, screenings, and brewers kernels together and then subtracting the total from 100.0 percent.

Example: 100.0% - (13.1% WK + 15.3% SMR + 62.3% BMR) = 9.3% SHMR

e. Record the percentage of whole kernels, second head kernels, screenings kernels, and brewers kernels on the work record and in the "RESULTS" section of the certificate to the nearest whole percent.

5.21 MILLING REQUIREMENTS

a. The degree of milling for milled rice; (i.e., “hard milled,” “well-milled,” and “reasonably well-milled”) must be equal to, or better than, that of the Visual Reference Image for such rice.

b. Undermilled Milled Rice. Undermilled milled rice must be milled rice which is not equal to the milling requirements for “hard milled,” “well-milled,” and “reasonably well-milled” rice (see Section 868.306).

c. Grades.

(1) Grades U.S. No. 1 and U.S. No. 2 must contain no more than 2.0 percent of well-milled kernels.

(2) Grades U.S. No. 3 and U.S. No. 4 must contain no more than 5.0 percent of well-milled kernels.

(3) Grade U.S. No. 5 must contain no more than 10.0 percent of well-milled kernels, no more than 10/0 percent of red rice and damaged kernels (singularly or combined), and in no case more than 6.0 percent of damaged kernels.

(4) Grade U.S. No. 6 must contain no more than 15.0 percent of well-milled kernels.

Note: The “Color and milling requirements” are not applicable to the special grade “Undermilled milled rice.”

d. Basis of Determination. Determine milling degree on a representative portion of approximately 250 grams.

e. Record the milling degree on the work record and in the “RESULTS” section of the certificate.

(1) When rice is considered to be “Undermilled,” determine the percentage of well-milled kernels on a representative portion of no less than 25 grams (see section 5.33, “Well-Milled Kernels”) and record the percentage of well-milled kernels on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent.

(2) Except as provided above, all grades and grade requirements in the “United States Standards for Milled Rice” must apply to “Undermilled milled rice.”

(3) When applicable, show the special grade “Undermilled” on the work record and on the grade line of the certificate.

5.22 COLOR

a. Basis of Determination. Color is usually determined by a cursory examination.

When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams of milled rice.

b. Describe the color of the rice using one of the following terms:

White	Slightly Gray	Slightly Rosy
Creamy	Light Gray	Rosy
	Gray	Very Rosy
	Dark Gray	

Note: When a sample has an overall yellowish cast or smut-affected rough rice has a slight tinge of green, do not show color in the "RESULTS" section of the work record. Show the following statement in the "REMARKS" section of the work record and the certificate: "This rice does not meet the color requirements for U.S. No. 1 or 2 Milled rice." The rice cannot be graded higher than U.S. No. 3.

Note: Black rice typically has a deep purple to "rosy" colored appearance once the bran has been removed. If the color of the black rice appears "rosy," it should receive a grade designation consistent with that color (i.e., U.S. No. 5). However, should the milled rice offered for inspection take on a different appearance that is not addressed in the standards, do not show the color in results section or the work record. Show the following statement in the "REMARKS" section of the work record and the certificate: "This rice does not meet the color requirements for U.S. No. 1 or 2 Milled rice,"

The rice cannot be graded higher than U.S. No. 3. For the special grade Parboiled rough rice, color is not a grading factor. See section 5.37, "Parboiled Milled Rice/Ungelatinized Kernels," for special grade determinations based on color level.

c. Record color on the work record and in the "RESULTS" section of the certificate except as specified in the two notes above.

5.23 PADDY KERNELS

Definition. Whole or broken unhulled kernels of rice; whole or broken kernels of brown rice, and whole or broken kernels of milled rice having a portion or portions of the hull remaining which cover one-eighth (1/8) or more of the whole or broken kernel.

a. Determine the number of paddy kernels on a representative portion of exactly 500 grams for all classes, except brewers milled rice.

   (1) Divide out a representative portion of between 475 and 525 grams.

   (2) Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

   (3) Record the number of paddy kernels on the work record and in the "RESULTS" section of the certificate.

b. For brewers milled rice, determine the percentage of paddy kernels on a representative portion of no less than 25 grams. Then, record the percent of paddy kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

c. If the rice contains 10 percent or more of paddy kernels, seeds, or foreign material, singularly or combined, do not consider the rice to be milled rice and certify as "Not Standardized Rice".

   Note: Brown rice functions as paddy when found in milled rice.

5.24 SEEDS (VRI R-1.0 AND R-1.2)

Seeds. Whole or broken seeds of any plant other than rice.

Objectionable Seeds. Whole or broken seeds other than rice, except seeds of *Echinochloa crusgalli* (commonly known as barnyard grass, watergrass, and Japanese millet). Visual Aid: Objectionable Seeds (VRI R-1.0).

Non-Objectionable Seeds. *Echinochloa crusgalli* (commonly known as barnyard grass, watergrass, and Japanese millet). Visual Aid: Non Objectionable Seeds (VRI R-1.2).

a. Determine objectionable seeds and non-objectionable seeds on a representative portion of 500 grams or all classes, except brewers milled rice.

   (1) Divide out a representative portion of between 475 and 525 grams.

   (2) Add or remove kernels (by finger pinching, not pouring) until the required portion is obtained.

   (3) Record the number of objectionable seeds and non-objectionable seeds on the work record and in the “RESULTS” section of the certificate.

b. For brewers milled rice, determine seeds on a representative portion of no less than 25 grams. Then, record the percentage of objectionable seeds and non- objectionable seeds on the work record and in the “RESULTS” section of the certificate according to paragraph (e.) of this section.

c. For all classes, except screenings and brewers milled rice:

   (1) Add the number of objectionable seeds to the number of heat-damaged kernels and record the sum on the work record and in the “RESULTS” section of the certificate.

   (2) Add the number of total seeds (objectionable seeds and non-objectionable seeds) to the number of heat-damaged kernels and paddy kernels and record the sum on the work record and in the “RESULTS” section of the certificate.

d. For screenings milled rice:

   (1) Record the number of objectionable seeds on the work record and in the “RESULTS” section of on the certificate.

(2) Add the number of total seeds to the number of paddy kernels, and record the sum on the work record and in the “RESULTS” section of the certificate.

e. For brewers milled rice:

(1) Record the percentage of objectionable seeds on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent, except the percentage of objectionable seeds in U.S. No. 1 Brewers milled rice should be expressed to the nearest hundredth percent.

(2) Add the percentage of total seeds to the percentage of paddy kernels and record the sum on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent.

f. If the rice contains 10 percent or more of paddy kernels, seeds, or foreign material, singularly or combined, do not consider the rice to be milled rice and certify as “Not Standardized Rice.”

5.25 HEAT-DAMAGED KERNELS (VRI-R-2.0)

Definition. Whole or broken kernels of rice which are materially discolored and damaged as a result of heating and parboiled kernels in nonparboiled rice which are as dark as, or darker in color than, the interpretive line for heat-damaged kernels. Visual Aid: Heat Damage (VRI R-2.0).

Note: Cold mold kernels are kernels of rice that are discolored by a storage fungi which ranges from a light to dark amber/brown in color and can be distinguished from other types of damage or heat damage by its translucent appearance. Cold mold would generally function as damage; however, if the color intensity meets or exceeds that depicted in Visual Aid: Heat Damage (VRI R-2.0), it would then function as heat damage.

a. Determine the number of heat-damaged kernels on a representative portion of 500 grams for all classes, except screenings and brewers milled rice. (The United States Standards for Milled Rice does not provide for determining this factor on screenings and brewers milled rice.)

(1) Divide out a representative portion of between 475 and 525 grams.

(2) Add or remove kernels (by finger pinching, not pouring) until exactly 500 grams is obtained.

b. Record the number of heat-damaged kernels on the work record and in the "RESULTS" section of the certificate.

Note: If it is determined by general observation that the 500-gram portion contains 75 or more heat-damaged kernels, divide the 500-gram portion into two portions: (1) a 100-gram portion and (2) a 400-gram portion. Examine the 100-gram portion for heat-damaged kernels. If the 100-gram portion contains 25 or more heat-damaged kernels, multiply the number of kernels found by 5 and record that number of heat-damaged kernels on the work record. But if the 100-gram portion contains less than 25 heat-damaged kernels, examine the 400-gram portion and add the number of heat-damaged kernels found in both portions together. Record the number of heat-damaged kernels on the work record and in the "RESULTS" section of the certificate

c. Add the number of heat-damaged kernels to the number of objectionable seeds and record the sum on the work record and in the "RESULTS" section of the certificate.

d. Add the number of heat-damaged kernels to the number of total seeds and paddy kernels and record the sum on the work record and in the "RESULTS" section of the certificate.

5.26 HEAT-DAMAGED KERNELS, KERNELS DAMAGED BY HEAT, AND/OR PARBOILED KERNELS IN NONPARBOILED RICE

For the classes Screenings and Brewers Milled Rice, Grades U.S. No. 1 to U.S. No. 4, inclusive, must contain no more than 3.0 percent of heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice.

a. For screenings and brewers milled rice, determine the percentage of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on a representative portion of no less than 25 grams.

Note: This factor is not provided for under the United States Standards for Milled Rice on classes other than screenings and brewers milled rice.

b. Record the percentage of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

5.27 RED RICE AND DAMAGED KERNELS

a. Definitions.

(1) Red Rice. Whole or broken kernels of rice on which there is an appreciable amount of red bran.

(2) Damaged Kernels. Whole or broken kernels of rice which are distinctly discolored or damaged by water, insects, heat, or any other means, and parboiled kernels in nonparboiled rice. "Heat-damaged kernels" must not function as damaged kernels.

b. Basis of Determination. Determine red rice and damaged kernels on a representative portion of no less than 25 grams for all classes, except screenings and brewers milled rice.

(1) For screenings and brewers milled rice, determine the percentage of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on a representative portion of no less than 25 grams and determine "badly damaged or extremely red in appearance" on a representative portion of approximately 1,000 grams.

(2) Red rice is rice that has a streak of red bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or a piece of kernel of rice that does not have sufficient red bran to be considered as red rice must be considered as long grain, medium grain, or short grain rice, as appropriate.

Note: Black rice would function as red rice. Black rice is rice that has a streak of black bran one-half or more the length of the kernel, or two or more streaks that total one-half or more the length of the kernel. A kernel or piece of a kernel that does not have sufficient black bran to be considered as red rice will be considered as long grain, medium grain, or short grain as appropriate and could function as other types.

c. Types. The major types of damaged kernels are as follows:

(1) Insect-Bored Kernels.

Whole or broken kernels of rice that have been bored by insects. Kernels that are only slightly eaten by insects and are clean in appearance must be considered as sound kernels.

(2) Pecky Kernels Damage (VRI R-2.7) and Water, Stain, and Peck Damaged (Glutinous Rice) (VRI R-2.71).

Whole or broken kernels of rice that have one or more black, brown, red, or other discolored spots or areas on them caused by fungus growth or insects. Mold is defined as a fungus growth and therefore, will be treated as fungus-damaged. Visual Aid: Pecky Kernels Damage (VRI R-2.7). Visual Aid: Water, Stain, and Peck Damaged (Glutinous Rice) (VRI R-2.71).

(3) Damaged by Heat (Stain) (VRI R-2.1).

Whole or broken kernels of rice that are distinctly discolored to the minimum color intensity illustrated. There is no minimum coverage requirement but are lighter in color than the Visual Reference Image for heat-damaged kernels. Visual Aid: Damaged by Heat (Stain) (VRI R-2.1).

Lightly Stained (Not Damage) (VRI R-2.2).

Whole or large broken kernels of rice that are not damaged, but have a light discoloration (stain) equal to or greater than color shown on the VRI. There is no minimum coverage requirement. Visual Aid: Lightly Stained (Not Damage) (VRI R-2.2).

Note: This factor is not provided for under the United States Standards for Brown Rice for Processing, but may be determined upon request.

(4) Parboiled Rice in Nonparboiled Rice.

Whole or broken kernels of parboiled rice in nonparboiled rice that are lighter in color than the Visual Aid: Heat Damage (VRI R-2.0).

(5) Other Damaged Kernels.

Whole or broken kernels of rice that are distinctly discolored or damaged from causes other than those listed above will be considered as damaged kernels. However, those whole and broken kernels that show sheller marks, but are otherwise not distinctly discolored or damaged, will not function as damaged kernels.

d. For all classes, except screenings and brewers milled rice, record the percentage of red rice and damaged kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

e. For screenings and brewers milled rice, record the percentage of "heat-damaged kernels, kernels damaged by heat, and/or parboiled kernels in nonparboiled rice," on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

Note: If screenings or brewers milled rice is determined to have a badly damaged or extremely red appearance, record the appearance of the rice on the work record and in the "REMARKS" section of the certificate, and grade the rice "U.S. Sample Grade."

5.28 CHALKY KERNELS (VRI-R-8.0)

Definition. Whole or broken kernels of rice which are one-half or more chalky. Visual Aid: Chalky Kernels (VRI R-8.0).

a. Determine chalky kernels on a representative portion of no less than 25 grams for all classes, except brewers milled rice.

Note: The United States Standards for Milled Rice does not provide for determining this factor on brewers rice.

b. Cross-section suspect kernels to confirm if the area contains an opaque white or "chalk-like" area that encompasses one-half or more of the exposed portion.

c. Record the percentage of chalky kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

5.29 BROKEN KERNELS

Definition. Kernels of rice which are less than three-fourths of whole kernels.

a. Determine broken kernels on a representative portion of no less than 25 grams for all classes, except second head, screenings, and brewers milled rice.

Note: The United States Standards for Milled Rice does not provide for determining this factor on second head, screenings, and brewers rice.

b. Remove the broken kernels from the 25-gram portion using any device or method that will facilitate the separation of the broken kernels from the whole kernels.

c. Record the percentage of broken kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

5.30 BROKEN KERNELS REMOVED BY A 5 & 6 PLATE OR THROUGH A 6 SIEVE

a. Definitions.

(1) 5 Plate. A laminated metal plate 0.142-inch thick, with a top lamina, 0.051-inch thick, perforated with rows of round holes 0.0781 (5⁄64) inch in diameter, 5⁄32-inch from center to center, with each row staggered in relation to the adjacent rows, and a bottom lamina 0.091-inch thick, without perforations.

(2) 6 Plate. A laminated metal plate 0.142-inch thick, with a top lamina 0.051-inch thick, perforated with rows of round holes 0.0938 (6/64) inch in diameter, 5/32 inch from center to center, with each row staggered in relation to the adjacent rows, and a bottom lamina 0.091-inch thick, without perforations.

(3) 6 Sieve. A metal sieve 0.032-inch thick, perforated with rows of round holes 0.0938 (6/64) inch in diameter, 5/32 inch from center to center, with each row staggered in relation to the adjacent rows.

b. Basis of Determination. Determine broken kernels removed by a 5 and 6 plate or a 6 sieve on a representative portion of no less than 50 grams for all classes, except second head, screenings and brewers milled rice.

Note: The United States Standards for Milled Rice does not provide for determining this factor on second head, screenings, and brewers rice.

Note: For U.S. No. 1 and 2 Milled Rice, determine broken kernels removed be a 5 plate on a representative portion of no less than 100 grams.

c. For southern production rice:

(1) Place a 5 plate in the top carriage and a 6 plate in the bottom carriage of the rice sizing device.

(2) Pour the 50-gram portion on the top plate. After the sample is poured, place the emptied triangular pan under the hopper to catch the rice that flows over the plates.

(3) Turn the machine on. Allow the machine to run until the rice stops flowing over the plates into the triangular pan.

(4) After the rice stops flowing and the machine is turned off, remove the plates and empty their contents into the rectangular container.

Lightly tap the bottom of the plates to remove material retained in the perforations of each plate. Keep the material removed by each plate separate.

(5) Hand adjust the material that lodges in the plates to remove any whole kernels, any broken kernels that obviously do not belong with the 5 or 6 plate brokens, any seeds, and any foreign material.

d. For western production rice:

(1) Mechanical Sieving Method.

(a) Mount a 6 sieve with a bottom pan on a mechanical sieve shaker.

(b) Make sure the shaker and sieve are level.

(c) Set the stroke counter for 20 strokes

(d) Gently pour the representative portion of rice in the center of the sieve.

(e) Turn the machine on.

(f) After the required number of strokes has been completed, the machine will automatically stop.

(g) Carefully remove the sieve and bottom pan. Jarring the sieve will cause the material remaining on top to pass through the perforations, leading to inaccurate results.

(h) Combine the material lodged in the perforations with the material that remained on top of the sieve. To remove the lodged material from the perforations, rub the sieve bottom gently. Tapping will warp the sieve and lead to inaccurate results in future determinations.

For more specific information on the operation, maintenance, and performance sieves and sieve shakers, see the sieves chapter in the Equipment Handbook.

(i) Hand adjust the material that passes through the 6 sieve to remove any whole kernels, any broken kernels that obviously do not belong with the 6 sieve brokens, any seeds, and any foreign material.

(2) Hand Sieving Method.

(a) Mount a 6 sieve on a bottom pan.

(b) Pour the representative portion in the center of the sieve.

(c) Hold the sieve level in both hands with elbows close to the body.

(d) In a steady motion, move the sieve from left to right approximately 10 inches, and return from right to left.

(3) Repeat the sieving operation 20 times.

(4) Return the broken kernels that remain in the perforations of the sieve to the portion that remains on the top of the sieve.

(5) Hand adjust the material that passes through the 6 sieve to remove any whole kernels, any broken kernels that obviously do not belong with the 6 sieve brokens, any seeds, and any foreign material.

e. Record the percentage of broken kernels removed by the 5 plate and 6 plate (for southern production), and the percentage of broken kernels that pass through the 6 sieve (for western production) on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent, except that the percentage of broken kernels removed by the 5 plate in U.S. Nos. 1 and 2 Milled rice must be recorded to the nearest hundredth percent.

5.31 30 SIEVE MATERIAL

30 Sieve. A woven wire cloth sieve having 0.0234-inch openings, with a wire diameter of 0.0153 inch, and meeting the specifications of American Society for Testing and Materials Designation E-11-61, prescribed in FGIS instructions.

a. Determine 30 sieve material on a representative portion of no less than 50 grams for screenings or brewers milled rice.

Note: The United States Standards for Milled Rice does not provide for determining this factor on factors other than screenings and brewers rice.

b. Sieve the rice as follows:

(1) Nest the 30 sieve on top of the bottom pan. Then, place the bottom pan and sieve combination on the orbital sieve shaker. Secure the sieve spring retainer.

(2) Set the timer switch at exactly 60 seconds and pour the 50-gram sample on the sieve.

(3) Place the sieve cover on top of the sieve and start the shaker.

(4) After the shaker has stopped, remove the sieve cover and the sieve. Brush the material adhering to the underside of the sieve into the bottom pan.

(5) Consider the brushed material and the material in the bottom pan as 30 sieve material.

Note: If an orbital sieve shaker is not available, a mechanical sieve shaker, which is set to 50, may be used.

c. Record the percentage of 30 sieve material on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

d. For the classes Screenings and Brewers Milled Rice, Grades U.S. No. 1 to U.S. No. 4, inclusive, must contain no more than 1.0 percent of material passing through a 30 sieve.

5.32 OTHER TYPES

a. Definition.

(1) Whole kernels of:

(a) Long grain rice in medium or short grain rice;

(b) Medium grain rice in long or short grain rice; and

(c) Short grain rice in long or medium grain rice.

(2) Broken kernels of:

(a) Long grain rice in medium or short grain rice; and

(b) Medium or short grain rice in long grain rice.

Note: Broken kernels of medium grain rice in short grain rice and broken kernels of short grain rice in medium grain rice must not be considered other types.

b. Determine other types on a representative portion of no less than 25 grams for all classes, except second head, screenings, and brewers milled rice.

Note: The United States Standards for Milled Rice does not provide for determining this factor on second head, screenings, and brewers rice.)

c. Record the percentage of other types on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the amount of other types exceeds 10.0 percent, grade the rice, "Mixed Milled Rice."

Note: If "other types" is the only grading factor and the amount of "whole kernels - other types" is less than 5.1 percent and the amount of "whole and broken kernels - other types" is more than 5.0 percent, show the following statement in the "REMARKS" section of the certificate:

"This rice contains (percent) broken kernels of (type) milled rice."

5.33 WELL-MILLED KERNELS

Definition. Whole or broken kernels of rice from which the hulls and practically all of the germs and the bran layers have been removed.

Note: This factor is determined on an individual kernel basis and applies to the special grade Undermilled milled rice only.

a. Determine well-milled kernels on a representative portion of no less than 25 grams.

b. Record the percentage of well-milled kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent.

5.34 FOREIGN MATERIAL

Definition. All matter other than rice and seeds. Hulls, germs, and bran which have separated from the kernels of rice must be considered foreign material.

Note: Extruded rice will function as foreign material when not declared as fortified rice.

a. Determine foreign material on a representative portion of no less than 100 grams for all classes, except brewers milled rice.

b. For brewers milled rice, determine foreign material on a representative portion of no less than 25 grams.

c. Record the percentage of foreign material on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the amount of foreign material exceeds 0.1 percent grade the rice "U.S. Sample Grade."

5.35 COATED MILLED RICE

Definition. Coated milled rice must be rice which is coated, in whole or in part, with substances that are safe and suitable as defined in the regulation issued pursuant to the Federal Food, Drug, and Cosmetic Act at 21 CFR 130.3(d) (e.g., Coated Rice – rice coated with talc and glucose).

Note: Fortified rice and enriched rice are not considered to be coated.

a. Determine coated milled rice on a representative portion of no less than 25 grams.

b. If the rice is considered to be covered with a commercially accepted substance, consider the rice to be “Coated.”

c. When applicable, show the special grade “Coated” on the work record and on the grade line of the certificate.

5.36 GRANULATED BREWERS MILLED RICE

Definition. Granulated brewers milled rice must be milled rice which has been crushed or granulated so that 95.0 percent or more will pass through a 5 sieve, 70.0 percent or more will pass through a 4 sieve, and no more than 15.0 percent will pass through a 2 1/2 sieve.

a. Determine granulated brewers milled rice on a representative portion of no less than 50 grams of brewers milled rice.

b. Sieve the rice as follows:

(1) Mount a 5 sieve, a 4 sieve, and a 2½ sieve on top of a bottom pan mounted on a mechanical sieve shaker.

(2) Set the stroke counter for 20 strokes.

(3) Make sure the shaker and sieve are level.

(4) Gently pour the representative portion of rice in the center of the sieve.

(5) Turn the machine on.

(6) After the required number of strokes has been completed, the machine will automatically stop.

(7) Carefully remove the sieve and bottom pan. Jarring the sieve will cause the material remaining on top to pass through the perforations, leading to inaccurate results.

(8) Combine the material lodged in the perforations with the material that remained on top of the sieve. To remove the lodged material from the perforations, rub the sieve bottom gently. Tapping will warp the sieve and lead to inaccurate results in future determinations.

For more specific information on the operation, maintenance, and performance sieves and sieve shakers, see Chapter 9, Sieves, of the Equipment Handbook.

c. Do not hand adjust the material.

d. Record the percentage of 5 sieve, 4 sieve, and 2½ sieve material on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. When applicable, show the term "Granulated" on the work record and on the grade line of the certificate. If brewers milled rice contains more than 15 percent of broken kernels that will pass through a 2½ sieve, grade the rice "U.S. Sample Grade."

5.37 PARBOILED MILLED RICE/UNGELATINIZED KERNELS

a. Definitions.

(1) Parboiled Milled Rice. Parboiled milled rice must be milled rice in which the starch has been gelatinized by soaking, steaming, and drying.

(2) Ungelatinized Kernels. Whole or broken kernels of parboiled rice with distinct white or chalky areas due to incomplete gelatinization of the starch.

Note: Parboiled milled rice must be milled rice in which at least 90 percent of the kernels are colored by the parboiling process.

b. Grades.

(1) Grades U.S. No. 1 to U.S. No. 6, inclusive, must contain no more than 10.0 percent of ungelatinized kernels.

(2) Grades U.S. No. 1 and U.S. No. 2 must contain no more than 0.1 percent of nonparboiled rice.

(3) Grades U.S. No. 3 and U.S. No. 4 must contain no more than 0.2 percent of parboiled rice.

(4) Grades U.S. No. 5 and U.S. No. 6 no more than 0.5 percent of nonparboiled rice.

c. Basis of Determination. Parboiled milled rice is usually determined by a cursory examination of whole and broken kernels of well-milled milled rice. When a detailed examination is necessary to determine color, make this determination on a representative portion of approximately 250 grams. Describe the rice as either:

(1) “Parboiled light” if it is not distinctly colored by the parboiling process;

(2) “Parboiled” if it is distinctly, but not materially colored, by the parboiling process; or

(3) “Parboiled dark” if it is materially colored by the parboiling process.

Note: The maximum limits for "Chalky kernels," "Heat-damaged kernels," "Kernels damaged by heat," and the "Color requirements" shown in Section 868.210 of the regulations under the AMA are not applicable to the special grade "Parboiled Rough Rice."

When a detailed examination is necessary to determine nonparboiled or ungelantinized kernels, make this determination on a representative portion of no less than 25 grams.

d. Record the percentage of ungelatinized kernels on the work record and in the "RESULTS" section of the certificate to the nearest tenth percent. If the rice contains at least 90.0 percent parboiled kernels, consider the rice to be "parboiled" and show the special grade "Parboiled Light," "Parboiled," or "Parboiled Dark," as applicable, on the grade line of the work record and the certificate.

Note: Except as specified, all grades and grade requirements in the United States Standards for Milled Rice apply to "Parboiled Milled Rice."

5.38 GLUTINOUS MILLED RICE

a. Definition. Glutinous milled rice must be special varieties of rice (Oryza sativa L. glutinosa) which contain more than 50 percent chalky kernels.

b. Grades.

(1) For long grain, medium grain, and short grain milled rice:

(a) Grade U.S. No. 1 must contain no more than 1.0 percent of nonchalky kernels.

(b) Grade U.S. No. 2 must contain no more than 2.0 percent of nonchalky kernels.

(c) Grade U.S. No. 3 must contain no more than 4.0 percent of nonchalky kernels.

(d) Grade U.S. No. 4 must contain no more than 6.0 percent of nonchalky kernels.

(e) Grade U.S. No. 5 must contain no more than 10.0 percent of nonchalky kernels.

(f) Grade U.S. No. 6 must contain no more than 15.0 percent of nonchalky kernels.

(2) For second head milled rice:

(a) Grade U.S. No. 1 must contain no more than 4.0 percent of nonchalky kernels.

(b) Grade U.S. No. 2 must contain no more than 6.0 percent of nonchalky kernels.

(c) Grade U.S. No. 3 must contain no more than 10.0 percent of nonchalky kernels.

(d) Grade U.S. No. 4 must contain no more than 15.0 percent of nonchalky kernels.

(e) Grade U.S. No. 5, no more than 20.0 percent of nonchalky kernels.

(3) For screenings milled rice, there are no grade limits for percent of nonchalky kernels.

(4) For brewers milled rice, the special grade “Glutinous milled rice” is not applicable.

Note: The maximum limits for “Chalky kernels,” shown in 868.310, 868.311, and 868.312 are not applicable to the special grade “Glutinous Milled Rice.”

c. Basis of Determination. Determine nonchalky kernels on a representative portion of no less than 25 grams.

d. Record the percentage of nonchalky kernels on the work record and in the “RESULTS” section of the certificate to the nearest tenth percent. If the rice is a glutinous variety and contains less than 50.0 percent nonchalky kernels, consider the rice to be “glutinous” and show the special grade “Glutinous,”, on the grade line of the work record and on the certificate.

Note: Except as specified, all grades and grade requirements in the United States Standards for Milled Rice apply to “Glutinous Milled Rice.”

5.39 AROMATIC MILLED RICE

Definition. Aromatic milled rice must be special varieties of rice (Oryza sativa L. scented) that have a distinctive and characteristic aroma (e.g., basmati and jasmine rice).

a. Determine aromatic on the basis of the odor of the lot as a whole or the representative sample as a whole.

b. If the rice is an aromatic variety and has an odor common to such rice, consider the rice to be "aromatic" and show the special grade "Aromatic" on the grade line of the work record and the certificate.

Note: Aromatic rice must be declared at the time of inspection request. or will be considered as having a commercially objectionable foreign odor and graded U.S. Sample Grade.

5.40 ENRICHED MILLED RICE

Note: This factor is not provided for under the United States Standards for Milled Rice but may be determined upon request.

For reference, see section 5.44, "Equipment and Chemicals for Enrichment Analyses," at the end of this chapter.

a. Basis of Determination. Enrichment in Milled Rice is determined using the Prussian Blue Method for Iron Enrichment, as outlined in the below procedure.

b. Procedure.

Note: A fume hood is not required for conducting this test; however, ensure that you are in a well-ventilated area.

(1) Use the sample scoop (1/4 teaspoon) to transfer about 1 gram of the un-enriched rice reference sample to the first spot plate well (left).

(2) Use the sample scoop to transfer about 1 gram of the test sample to the middle spot plate well.

(3) Use the sample scoop to transfer about 1 gram of the enriched rice reference sample to the third spot plate well (right).

(4) Wearing gloves, add three drops of the Hydrochloric Acid to each of the wells containing sample. Wait ten minutes and then add three drops of Potassium Ferrocyanide to each of the wells that were treated with Hydrochloric Acid solution.

(5) Wait ten minutes for the color to develop.

(6) Compare the color of the test sample to the color of the un-enriched and enriched rice reference samples.

(7) Test samples containing enrichment should produce a blue color similar to that of the enriched rice reference samples and are considered positive.

(8) Test samples that do not contain enrichment should produce color similar to that of the un-enriched reference sample and are considered negative.

(9) Four test samples can be tested on a spot plate (with two reference samples per test sample).

(10) After testing, discard rice in the spot plate wells and clean the spot plate.

Figure 5.3 – Spot Plate for Prussian Blue Method for Iron Enrichment in Rice displays an example of a spot plate that is used for testing. The first well (1) in the spot plate should contain the un-enriched rice reference sample, the middle well (2) should contain the test sample, and the third well (3) should contain the enriched rice reference sample.

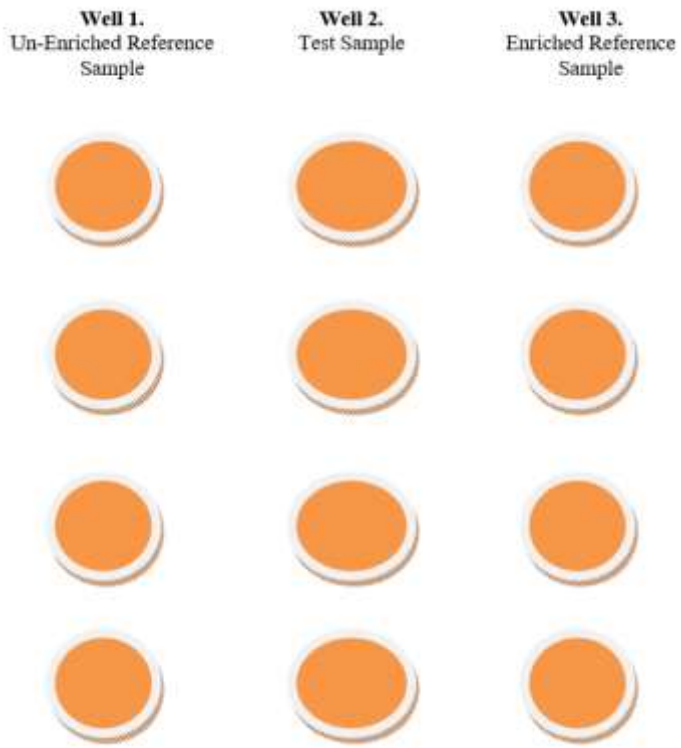


FIGURE 5.3 – SPOT PLATE FOR PRUSSIAN BLUE METHOD FOR IRON ENRICHMENT IN RICE

Show the results on the work record and in the "RESULTS" section of the certificate.

c. Certification.

(1) To certify rice that is enriched, type "Yes" in the "Factor Result" section of the certificate next to the factor "Enriched." In the "Factor Remarks" section, type the following statement, "This Milled rice is Enriched." Located in the "Include in Certificate" section, select "Remarks."

(2) To certify rice tested and found not enriched, type "No" in the "Factor Result" section of the certificate, next to the factor "Enriched." In the "Factor Remarks" section, type the following statement, "This rice is Not Enriched." Located in the "Include in Certificate" section, select "Remarks."

5.41 FORTIFIED MILLED RICE

Note: This factor is not provided for under the United States Standards for Milled Rice but may be determined upon request.

The rice fortification technique consists of spraying several layers of a mineral and vitamin premix onto the surface of rice kernels to form fortified kernels. This rice is then blended with non-fortified rice at a predefined dilution to produce fortified rice.

The extruded rice fortification is a mixture of rice flour, mineral and vitamins extruded to produce a kernel which mimics the physical characteristics of rice. The fortified kernels are then blended with non-fortified rice, typically at a 1:100 ratio. Since the micronutrients are inside the extruded kernels, they cannot be rinsed out of the rice. Broken extruded kernels do not count toward broken kernels of rice since they are not rice kernels.

Upon the applicant's request, official personnel can count the number of fortified kernels in a representative sample of 200 kernels. A letterhead statement can be issued with the following statement: "FGIS personnel identified fortified kernels in a representative sample of 200 kernels of milled rice." This statement cannot be added to an official inspection certificate.

Note: If an applicant requests an inspection for non-fortified milled rice and coated or extruded kernels are present, they will function as foreign material. If the amount of foreign material exceeds 0.1%, the sample will grade as "U.S. Sample Grade."

A sample of just the extruded rice will be considered a processed commodity.

a. Basis of Determination. Fortification in Milled Rice is determined using the Prussian Blue Method for Iron Enrichment, as outlined in the below procedure.

b. Procedure. If an applicant requests testing for fortification (coated or extruded), analyze 500 grams and certify the results according to the procedure listed below:

Note: A fume hood is not required for conducting this test; however, ensure that you are in a well-ventilated area.

(1) From the 500-gram (heat/seed) portion remove at least 15 coated or extruded kernels (approximately 1 gram.)

(2) Use the sample scoop (1/4 teaspoon) to transfer about 1 gram of the un-enriched rice reference sample to the first spot plate well (left).

(3) Place the 15 selected kernels in the middle porcelain spot plate well.

(4) Use the sample scoop to transfer about 1 gram of the enriched rice reference sample to the third spot plate well (right).

(5) Wearing gloves, add three drops of the Hydrochloric Acid to each of the wells containing sample. Wait ten minutes and then add three drops of Potassium Ferrocyanide to each of the wells that were treated with Hydrochloric Acid solution.

(6) Wait ten minutes for the color to develop.

(7) Compare the color of the test sample to the color of the un-enriched and enriched rice reference samples.

(8) Test samples containing fortification should produce a blue color similar to that of the enriched rice reference samples and are considered positive.

(9) Test samples that do not contain fortification should produce color similar to that of the un-enriched reference sample and are considered negative.

(10) Four test samples can be tested on a spot plate (with two reference samples per test sample).

(11) After testing, discard rice in the spot plate wells and clean the spot plate.

Figure 5.4 – Spot Plate for Prussian Blue Method for Iron Enrichment in Rice displays an example of a spot plate that is used for testing. The first well (1) in the spot plate should contain the un-enriched rice reference sample, the middle well (2) should contain the test sample, and the third well (3) should contain the enriched rice reference sample.

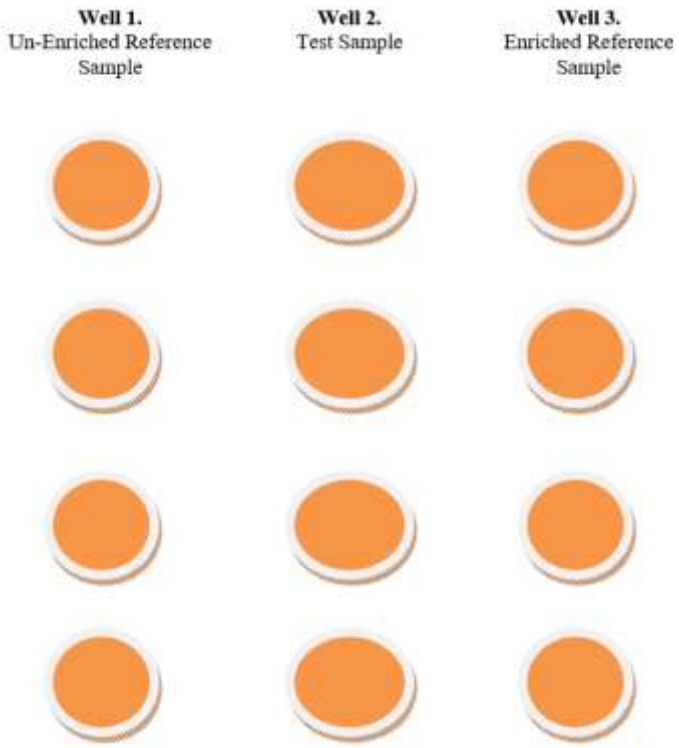


FIGURE 5.4 – SPOT PLATE FOR PRUSSIAN BLUE METHOD FOR IRON ENRICHMENT IN RICE

Show the results on the work record and in the results section of the certificate.

c. Certification.

(1) To certify rice that is fortified, type “Yes” in the “Factor Result” section of the certificate next to the factor “Fortified.” In the “Factor Remarks” section, type the following statement, “This rice is Fortified.” Located in the “Include in Certificate” section, select “Remarks.”

(2) To certify rice tested and found not fortified, type “No” in the “Factor Result” section of the certificate next to the factor “Fortified.” In the “Factor Remarks” section, type the following statement, “This rice is Not Fortified.” Located in the “Include in Certificate” section, select “Remarks.”

5.42 TOTAL OIL AND FREE FATTY ACID

Note: This factor is not provided for under the United States Standards for Milled Rice but may be determined upon request.

Caution: Conduct this test in a well-ventilated area.

For reference, see "Equipment and Chemicals for Total Oil and Free Fatty Acid Analyses," at the end of this chapter.

a. Determine total oil and free fatty acid on a work sample of approximately 650 grams.

b. Divide out a 650-gram representative portion and determine the moisture content. Record this information on the Total Oil and Free Fatty Acid Worksheet (work record) and in the "RESULTS" section of the certificate to the nearest tenth percent.

c. Divide the remainder of the work sample to no less than 15 grams. Grind the sample portion as follows:

(1) Turn on the grinder and allow it to reach maximum RPM.

(2) Adjust the feed gate to provide a feed rate of approximately 2 grams per second.

(3) Pour the sample into the feed hopper and allow it to grind.

(4) Press the plunger three to five times and tap above the clear plastic cyclone to clear the grinder of all loose flour.

(5) Hold the plunger down, remove the sample jar, and cap it.

(6) Shake and rotate the sample jar to loosen caked flour from the sample jar.

(7) Lightly clean the grinder with a brush after each sample. If practicable, also vacuum the grinding chamber.

d. Extract the oil from the rice as follows:

Note: Prior to beginning the procedure, turn the analytical balance on and allow at least 30 minutes to warm up. Calibrate it by following the manufacturer's instructions and then verify its accuracy using a 10-gram, Class S weight.

(1) Make sure the extraction beaker is clean and dry.

(2) Clean and dry your hands or wear clean plastic or rubber gloves. This is to limit the transfer of dust and oil from hands to extraction beaker, filter paper, or extraction thimble.

(3) Weigh[7] the extraction beaker on an analytical balance to the nearest 0.0000 g and record the weight on the worksheet. Handle the extraction beaker only at the top, with your forefinger and thumb or with gloved hands. Handle the beaker as little as possible to limit the transfer of oil from your hands to the beaker.

(4) Place filter paper or a weighing dish on the analytical balance and tare off its weight.

(5) Mix the ground sample in the sample bottle with the spatula. Place 10 grams (+ .02 grams) of ground sample on the filter paper or weighing dish and record the net weight on the worksheet.

(6) Pour the sample into the extraction thimble and plug with nonabsorbent cotton; or place sample on filter paper, fold the filter paper tightly with the sample inside, and then place it in the extraction thimble.

Note: Before its initial use, wash the nonabsorbent cotton with petroleum ether.

(7) Turn on the fan in the fume hood. Start the cold water running through the cooling chamber.

(8) Place the thimble with the sample into the open ended Goldfisch tube and lock it into place on the extractor.[8] To extend the life of the heating elements, run two, four, or six samples at a time. Turn off the heating elements not being used.

Note: Steps 9 through 19 must be performed inside the fume hood by a technician who is wearing non-absorbent gloves and appropriate eye protection. Strict adherence to the following procedures is essential.

[7] When using an analytical balance, the balance's doors should be closed and the balance allowed to stabilize before recording the weight.

[8] The main power switch to the Goldfisch fat/oil extractor should be turned off before: (1) raising or lowering the heating elements; (2) changing the heating selector switch; or (3) putting extraction beakers up or taking them down.

(9) Add approximately 50 ml of petroleum ether into the weighed extraction beaker. Cover one of the heating elements on the extractor with a heating element cover.

(10) Attach the extraction beaker to the extractor with the attachment ring and tighten well. Remove the heating element cover.

(11) Raise the heating element to the bottom of the beaker and extract for 2½ hours at the standard heat setting (approximately 8). Begin the 2½-hour period when the first drop comes through the open-end tube.

Note: The standard heat setting should yield approximately 150 drops per minute of petroleum ether from the bottom of the open-end tube, depending on the proximity of the heating element to the bottom of the beaker. Adjust the dial and/or height of the heating element to yield this amount.

(12) After starting, check to see if petroleum ether is escaping from the system. When the petroleum ether starts to boil, the level of petroleum ether in the beaker will drop. This drop is because some of the petroleum ether is in a gaseous state. After the initial drop, if the level continues to drop, then there is a leak in the system. Lower the heating element, re-tighten the ring, raise the heating element, continue extracting, and recheck for escaping petroleum ether.

(13) Check the petroleum ether for cloudiness. If cloudy, rice particles have infiltrated the petroleum ether. Stop the procedure and determine if the rice particles came from an improperly seated cotton plug, from a leaking thimble, or from rice particles on the outside of the thimble. Start the procedure over with a new sample portion and make the proper corrections.

(14) Make sure that water condensation on the cooling chamber does not drip onto the heating element or drip into the beaker when it is released.

(15) At the end of the extraction period, turn off and lower the heating element. Release vacuum in the beaker by pulling the tab on top of the extractor. Cover the heating element with a heating element cover. Release the beaker, remove the open-end tube with the sample and replace it with the closed- end tube, reattach the beaker, remove the heating element cover, raise the heating element, and heat the beaker to collect any excess petroleum ether.

(16) Remove the thimble from the open-end tube. Place the thimble with the sample in the fume hood to dry. After drying, remove the filter paper with the rice (or cotton and rice) from the thimble, save the thimble and cotton for future extractions. Throw rice and filter away.

(17) When the level of petroleum ether in the extraction beaker reaches about 1/8 inch, turn off and lower the heating element. Place the heating element cover over the heating element, release the vacuum, and release the beaker.

(18) Remove and empty the closed-end tube into the used petroleum ether container or dispose of the used petroleum ether by letting it evaporate in the fume hood. Do not turn the fume hood fan off until all petroleum ether has evaporated, and sufficient air has been used to flush the fumes from the fume hood exhaust system.

(19) Evaporate the remaining petroleum ether in the extraction beaker by placing the beaker in the front part of the fume hood with the door to the fume hood lowered to a level just above the beaker's top. When the beaker appears to be free of ether, place it upright on the heating element cover that is on the element for a few seconds to assure that all remaining ether is removed. (Be careful not to allow oil to char.) Remove the extraction beaker from the element cover and let the beaker cool in the fume hood to room temperature.

(20) Weigh the cool, dry extraction beaker and record the weight on the worksheet.

e. Determine the amount of free fatty acid as follows:

(1) Using a crystallizing dish and a magnetic stirrer-hot plate, heat a water bath to 60-65˚ C.

(2) Prepare a titration solvent as follows:

(a) Place 25 ml of alcohol reagent - specially denatured anhydrous ethyl alcohol - in a 250-ml beaker.

(b) Add 1 ml of phenolphthalein with the pipet to the alcohol.

(c) Place the beaker in the hot water bath and warm the titration solvent. Add a stirring bar to the beaker and start it stirring.

(d) Using the buret, titrate with 0.02 N Sodium Hydroxide (NaOH) slowly, one drop at a time, into the titration solvent until a faint pink color persists.

Note: Larger amounts of titration solvent may be prepared provided the ratio is the same (e.g., 75 ml alcohol to 3 ml of phenolphthalein). Unused solvent must be stored in a tightly sealed container and used within 2 days.

(3) Add 10 ml of the titration solvent with the pipet to the residue in the extraction beaker. Rinse the sides of the beaker while adding the titration solvent.

(4) Place the extraction beaker in a hot (60-65˚ C) water bath and let the temperature stabilize, then add the stirring bar and start stirring.

(5) Zero the buret with NaOH and titrate the sample until a faint pink color persists for at least 1 minute.

(6) Determine the amount of NaOH titrated and record it on the worksheet. Record the amount to the nearest one hundredth of a milliliter.

(7) Empty the contents of the extraction beaker down the drain with a large amount of water. Carefully wash the extraction beaker with soap and water making sure all oil residue is removed. Rinse the beaker with distilled water. Cover the beaker with a towel to help keep it clean and let it air dry.

(8) Should the buret or stopcock become plugged with crystallized NaOH or foreign material, clean them with distilled water and let dry. If water is present in the buret, rinse it with NaOH before using.

f. Calculate the percentage of total and free fatty acid as follows:

(1) Percentage of Total Oil, Moisture-Free Basis (TODB).

(Wt. of Beaker with Oil Residue - Tare Wt. of Beaker) X 10% = % Total Oil

(% Total Oil ÷ (100 - % Moisture)) X 100 = % TODB

Example: (69.1003 - 69.0244) X 10 = 0.759 or 0.76%
(0.759 ÷ (100 - 11.9)) X 100 = 0.862 or 0.86%

Record the percentage of Total Oil, Moisture-Free Basis (TODB) on the word record and in the "RESULTS" section of the certificate to the nearest whole percent.

(2) Percentage of Free Fatty Acid in Oil (FFA/O).

Normality of NaOH Titrate X ml of NaOH Used in Titrating X 28.2 ÷ (Weight of Beaker with Oil Residue - Tare Weight of Beaker)
= % FFA/O

Example: 0.0202 X 3.25 X 28.2 ÷ 0.0759 = 24.4 or 24%

Record the percentage of Free Fatty Acid in Oil (FFA/O) on the word record and in the "RESULTS" section of the certificate to the nearest hundredth percent.

(3) Percentage of Free Fatty Acid in Sample (FFA/S).

% TODB X % FFA/O ÷ 100 = % FFA/S

Example: 0.862 X 24.4 ÷ 100 = 0.212 or 0.21%

Record the percentage of Free Fatty Acid in Sample (FFA/s) on the word record and in the "RESULTS" section of the certificate to the nearest hundredth percent.

g. Maintain a file sample of at least 300 grams of whole rice on each sample analyzed for TOFFA. Keep file samples in a refrigerator at approximately 40˚ F.

5.43 VISUAL REFERENCE IMAGES (VRI)

The visual grading aids system consists of a series of commodity specific VRIs and descriptive text which, with regular use, provides an effective tool for aligning inspectors and assisting them in making proper and consistent subjective grading decisions.

TABLE 5.7 – RICE VISUAL REFERENCE IMAGES

Interpretive Lines	General Appearance
CHALKY KERNELS	WHITE
DAMAGE BY HEAT	LIGHT GRAY
HEAT-DAMAGED KERNELS	DARK GRAY
LIGHTLY STAINED	CREAMY
NON-OBJECTIONABLE SEEDS	GRAY
OBJECTIONABLE SEEDS	ROSY
PECKY KERNELS DAMAGE	SLIGHTLY GRAY
SMUT DAMAGE	SLIGHTLY ROSY
WATER,STAIN & PECK DAMAGE	HARD MILLED
	WELL MILLED
	REASONABLY WELL MILLED

5.44 EQUIPMENT AND CHEMICALS FOR ENRICHMENT AND FORTIFICATION ANALYSES

a. Materials.

(1) Reference Rice Samples:

(a) Un-enriched Milled Rice;

(b) Un-enriched Parboiled Milled Rice;

(c) Enriched Milled Rice; and

(d) Enriched Parboiled Milled Rice (Provided by FGIS-TSD).

(2) Hydrochloric Acid (Provided by FGIS-TSD).

(3) Potassium Ferrocyanide (Provided by FGIS-TSD).

(4) Spot plates, porcelain (4 inches X 4 inches) with concave depression, white (1 each).

(5) Timer.

(6) Plastic sample spoon/scoop (1/4 teaspoon).

(7) Gloves.

b. Safety Equipment.

(1) Plastic or rubber gloves.

(2) Safety glasses recommended.

5.45 EQUIPMENT AND CHEMICALS FOR TOFFA ANALYSES

a. Safety Equipment.

(1) Safety goggles; Impact and Chemical Splash Goggles.

(2) Plastic or rubber gloves; Powder Vinyl Gloves.

(3) Plastic or rubber apron (e.g., laboratory smock).

(4) Fire blanket.

(5) Fire extinguishers; Class BC CO2 extinguisher.

(6) Eye wash station.

(7) Laboratory safety signs: No Smoking, No Eating, Authorized Personnel Only, and any other appropriate signs.

b. Laboratory Equipment.

(1) Explosion-proof fume hood.

(2) Goldfisch fat/oil extractor.

(3) Analytical balance with + 0.1 mg division size, with 10-gram NIST-class S weight.

(4) Magnetic stirrer-hot plate.

(5) Stirring bar (dia. 3 mm, L 12.7 mm).

(6) Stir bar retriever (L 31 cm).

(7) Beakers, glass, graduated, 250-ml capacity.

(8) Cylinder, glass, graduated, 100-ml capacity.

(9) Buret (either a Class A automatic, precision bore, three-way stopcock with PTFE plug, 5-ml or 25-ml capacity).

(10) Support stand.

(11) Single-buret clamp.

(12) Scoopula spatula.

(13) Low lint wipes/tissues.

(14) Crystallizing dish (dia. 190 mm, depth 100 mm).

(15) Beaker brush.

(16) Dust brush (for dusting balance).

(17) Carboy with spigot; Nalgene Rectangular Polyethylene with Quick-Action Spigot; 5-gallon capacity.

(18) Bulb-type safety pipet filler.

(19) Pipet, Nalgene unbreakable, 10-ml capacity.

(20) Filter; Qualitative Grade Circles; 2 filter (15.0 cm).

(21) Udy cyclone sample mill with 1 mm screen.

(22) Vacuum cleaner.

(23) Thermometer; - 20 degrees to + 110 degrees Celsius Scale.

(24) Chemical storage cabinet.

(25) Extraction Thimbles: Pure Cellulose Thimbles (22 mm x 80 mm).

(26) Filling funnel; Nalgene polypropylene; (top dia. 65 mm, stem length 25 mm, stem dia. 15 mm).

(27) Nalgene polypropylene wash bottle (500 ml).

(28) Nonabsorbent cotton.

c. Chemicals.[9]

(1) Petroleum ether 30 degrees - 60 degrees C. (ACS).

[9] A Material Safety Data Sheet must be on hand for each chemical.

Note: After breaking a container's seal, store the container under forced ventilation (an activated fume hood). Store unopened containers in the chemical storage cabinet. Write the date that petroleum ether is received in the laboratory on each container. Dispose of petroleum ether that has been on hand over a year. Keep no more than 7 liters of petroleum ether on hand.

(2) Sodium hydroxide (NaOH) solution 0.02 N.

Note: Replace NaOH solution with a fresh batch every 3 months.

(3) 0.3 percent Phenolphthalein in ethanol.

(4) Alcohol, Reagent grade (specially denatured anhydrous ethyl alcohol).

d. Grinder Maintenance.

(1) Clean grinders after every 20 samples are ground. To clean, unplug the grinder, then remove the lid and dust all parts, including the cover, impeller, grinding ring screen, separator, cyclone, and filter assembly. Dust all other accessible surfaces.

(2) Replace the grinding ring and screen after approximately 8,000 samples have been ground. Always replace the grinding ring and screen at the same time.

(3) Adjust the feed gate on the grinder to allow a flow rate of approximately 2 grams per second. The grinder motor should not be allowed to "drag," or run at a reduced RPM when a sample is introduced. If motor drag occurs and cannot be eliminated by setting the feed rate properly or replacing the belts, service is required.

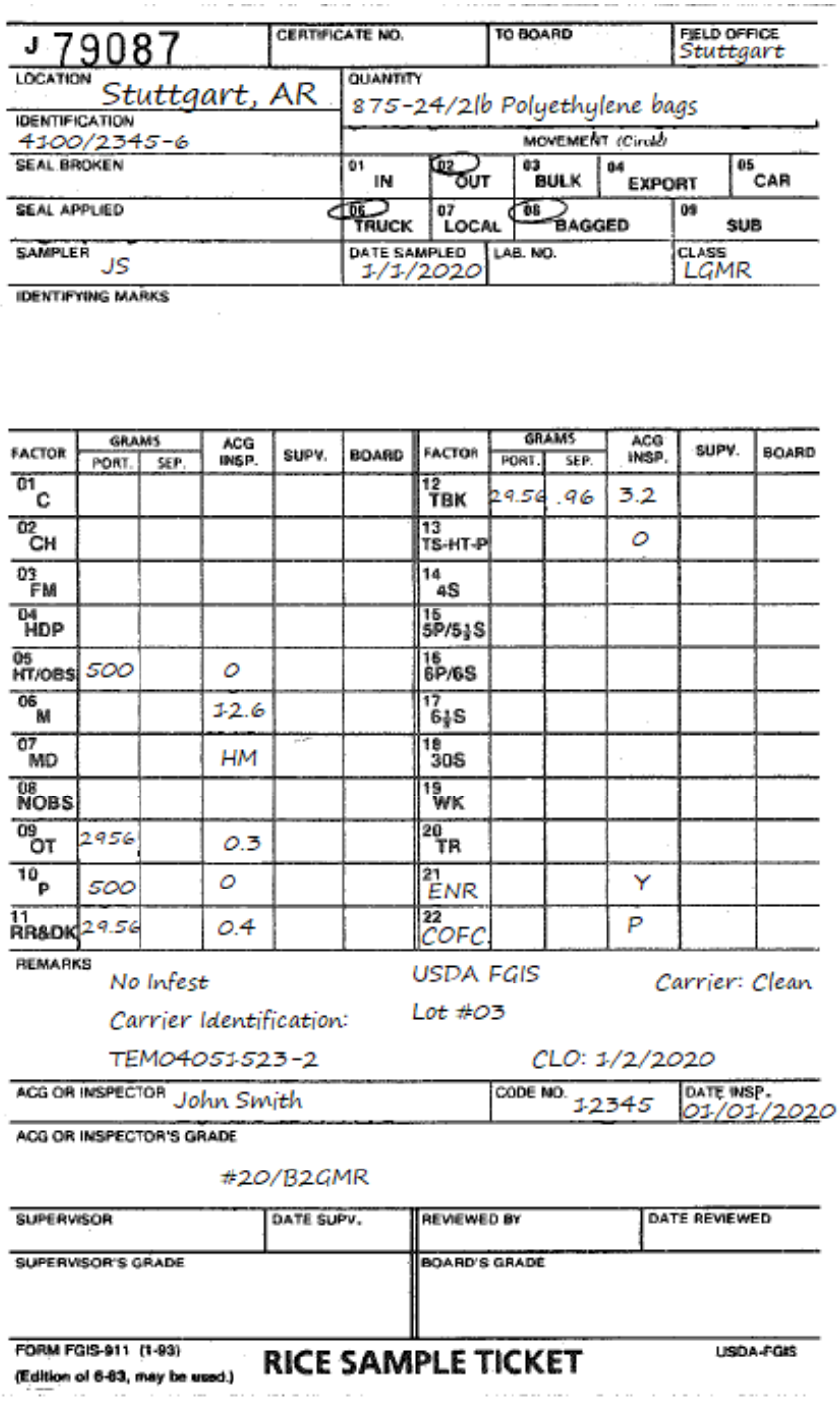
(4) When one belt must be replaced, replace the other belt as well. Never replace only one of the two belts. After replacing the belts, make certain the round, plastic sleeve that houses the motor is positioned properly. The air vents at the base of the sleeve must be toward the back of the grinder; the air vents on the upper end encircle it.

5.46 TOTAL OIL AND FREE FATTY ACID WORKSHEET

Field Office:	Date:		Technician:	
Sample Number				
	100.0	100.0	100.0	100.0
% Moisture in Sample				
Moisture Conversion				
Weight of Ground Sample				
Weight of Beaker and Oil				
Weight of Beaker				
Weight of Oil				
	X 10	X 10	X 10	X 10
% Total Oil				
Moisture Conversion				
	X 100	X 100	X 100	X 100
% Total Oil, Moisture-Free basis				
% Total Oil, Moisture-Free Basis (Rounded)				
Ending ml of NaOH				
Beginning ml of NaOH				
ml of OH				

Normality of NaOH				
	X 28.2	**X 28.2**	**X 28.2**	**X 28.2**
Weight of Oil				
% FFA in Oil				
% FFA in Oil (Rounded)				
% Total Oil, Moisture-Free Basis				
	÷ 100	**÷ 100**	**÷ 100**	**÷ 100**
% FFA in Sample				
% FFA in Sample (Rounded)				

ATTACHMENT 1:
FGIS-911, "RICE SAMPLE TICKET"



J 79087

J 79087	CERTIFICATE NO.	TO BOARD	FIELD OFFICE: Stuttgart
LOCATION: Stuttgart, AR	QUANTITY: 875-24/2lb Polyethylene bags		
IDENTIFICATION: 4100/2345-6	MOVEMENT (Circle): 01 IN, 02 OUT, 03 BULK, 04 EXPORT, 05 CAR		
SEAL BROKEN	SEAL APPLIED: 06 TRUCK, 07 LOCAL, 08 BAGGED, 09 SUB		
SAMPLER: JS	DATE SAMPLED: 1/1/2020	LAB. NO.	CLASS: LGMR

IDENTIFYING MARKS

FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD	FACTOR	GRAMS PORT.	GRAMS SEP.	ACG INSP.	SUPV.	BOARD
01 C						12 TBK	29.56	.96	3.2		
02 CH						13 TS-HT-P			0		
03 FM						14 4S					
04 HDP						15 5P/5½S					
05 HT/OBS	500		0			16 6P/6S					
06 M			12.6			17 6½S					
07 MD			HM			18 30S					
08 NOBS						19 WK					
09 OT	2956		0.3			20 TR					
10 P	500		0			21 ENR			Y		
11 RR&DK	29.56		0.4			22 COFC			P		

REMARKS: No Infest; USDA FGIS; Carrier: Clean
Carrier Identification: TEMO4051523-2; Lot #03; CLO: 1/2/2020

ACG OR INSPECTOR	CODE NO.	DATE INSP.
John Smith	12345	01/01/2020

ACG OR INSPECTOR'S GRADE: #20/B2GMR

SUPERVISOR	DATE SUPV.	REVIEWED BY	DATE REVIEWED
SUPERVISOR'S GRADE		BOARD'S GRADE	

FORM FGIS-911 (1-93) (Edition of 6-83, may be used.) **RICE SAMPLE TICKET** USDA-FGIS

J 79087

CHAPTER 6:
CERTIFICATION

CONTENTS

6.1 GENERAL

a. Official certificates issued and not superseded under the Act and the regulations are receivable by all offices and all courts of the United States as prima facie evidence of the truth of the statements stated thereon.

b. A certificate must be issued for all the following official services provided:

(1) Each official lot inspection or submitted sample inspection of rice whether for kind;

(2) Class;

(3) Grade;

(4) Factor analysis;

(5) Equal-to-type;

(6) Milling yield; or

(7) Other quality designations as defined in the standards or instructions and for any other approved services performed.

All officially issued certificates are maintained by the FGIS certification program.

c. The information shown on the certificate must be taken from the work record and the application for service. All official inspection information must be verified by official personnel and recorded on the work record.

d. Cooperators may use FGIS forms and certificates or their own forms and certificates. All forms and certificates must be approved by FGIS prior to use.

6.2 LOT INSPECTION CERTIFICATE

a. A lot inspection certificate, “Rice Inspection Services Certificate” (FGIS-956), must be issued to show quality and other service results for an identified lot of rice based on a sample drawn by official personnel.

(1) An inspection for quality may include kind, class, grade, factor analysis, equal-to- type, milling yield, or any other quality designation as defined in the standards or instructions.

(2) Other services that, when performed, must be shown on the certificate include: checkweighing, checkloading, checkcounting, condition of food containers, plant approval, witness fumigation and observation of loading, etc.

b. An unqualified lot inspection certificate will not be issued as representing an identified lot unless the entire lot is accessible for sampling and a representative sample can be obtained.

c. If only part of a lot is accessible for sampling, a lot inspection certificate may be issued based on a representative sample obtained from the accessible portion, provided that the certificate is qualified by conspicuously showing the words “PARTIAL INSPECTION” in the “REMARKS” section of the inspection certificate. (see section 6.5, “Partial Inspection Certificate”).

6.3 SUBMITTED SAMPLE INSPECTION CERTIFICATE

a. A submitted sample inspection certificate, “Commodity Submitted Sample Inspection Certificate” (FGIS-994), must be issued to show the results of an inspection for quality of rice based on a sample submitted by an applicant.

An inspection for quality may include kind, class, grade, factor analysis, equal-to- type, milling yield, or any other quality designation as defined in the standards or instructions.

b. Each submitted sample inspection certificate must clearly state that the results of the inspection apply only to the sample submitted and described by the certificate and not to the lot from which the sample may have been taken.

Note: Submitted sample inspection certificates cannot state or reference the weight or quantity of the lot from which the sample may have been taken in any way.

Note: Phytosanitary inspections cannot be performed on submitted samples.

c. A submitted sample may be identified by the applicant by sample number, producer’s name, letters of the alphabet, or any other identification, including a lot or carrier identifier. If a submitted sample is not adequately identified, the inspector may assign a number to the sample or request the applicant to assign a number or other identifier to the sample.

6.4 DIVIDED-LOT CERTIFICATE

a. Divided-lot certificates are multiple certificates issued for specified quantities which comprise a lot for which an original lot inspection certificate has been issued and voided.

b. When rice is offered for inspection and is certified as a single lot, the applicant may exchange the lot certificate for two or more divided-lot certificates.

c. Requests for divided-lot certificates must be made, in writing, to the office that issued the outstanding certificate by the applicant who made the initial request.

d. Divided-lot certificates must be issued within 5 business days of the outstanding certificate date and before the lot's identity has been lost. FGIS field office managers may waive these requirements on a case-by-case basis, when necessary, to facilitate trade.

e. Requests for divided-lot certificates must show the following:

(1) The rice quantity to be shown on each divided-lot certificate.

(2) Name and address of each consignee, if any.

(3) Load order number, purchase authorization number, reference number, contract number, letter of credit identification, or similar identification required for each individual consignee.

f. Prior to issuing a divided-lot certificate, the original inspection certificate must be marked void.

g. If official personnel determine that the condition of the affected rice has changed since the original inspection, the request for divided-lot certificates must be dismissed.

h. Show the same information, inspection date, and statements on each divided-lot certificate, including approved statements that were shown on the superseded certificate. Additionally, show on each divided-lot certificate the following:

(1) On the original and all copies, show the completed statement "This rice is part of an undivided lot of (number of pounds or bags, as warranted)."

(2) The original divided-lot certificate will show the term “Divided-Lot Original,” and the copies will show the term “Divided-Lot Copy.”

(3) The same certificate number as shown on the superseded certificate will show a consecutively numbered suffix on each divided-lot certificate (e.g., US-NOFO-2001764, US-NOFO-2001764).

(4) The rice quantity for each divided-lot must be requested on the application. No divided-lot certificate will be issued which shows, individually or collectively, a rice quantity in excess of the quantity shown on the superseded original certificate.

(5) At the request of the applicant, a separate consignee, load order number, purchase authorization number, reference number, contract number, letter of credit identification, or similar identification may be shown on each divided- lot certificate. This information must be furnished by the applicant, in writing, and identical information must be shown on the superseded certificate

Note: It is not necessary to list the individual sets of information on the original master certificate, when you have not formally issued it to the applicant, because you will void the original master certificate for a divided-lot certificate(s) and eventually list all the requested sets of information on each individual divided-lot certificate. However, you must still include all other required information (e.g., factor results, statements) on the original master certificate.

(6) The markings on packaged rice containers will be shown according to procedures in section 6.12, “Container Markings Information,” of this chapter. The markings shown on the superseded certificate must be shown on each divided-lot certificate with the number of containers for each marking.

i. If checkweighing is performed as part of the original inspection, the estimated average gross, tare, and net weights determined during the original service must be used to determine the estimated total gross, tare, and net weights to be shown on the divided-lot certificate. To certify checkweighing, you may use a “Rice Inspection Services Certificate” (Official White Certificate).

(1) If an inspection certificate is issued in addition to a separate checkweighing or official weight certificate, do not include the weighing information on the inspection certificate.

(2) If a separate checkweighing or official weight certificate is issued, show the same type and class of rice as shown on the official inspection certificate. Do Not show U.S. Grade. For example, if the inspection certificate was issued for US #2 Long Grain Milled Rice, use Long Grain Milled Rice for the commodity on the weight certificate.

j. When a rice bag lot is not required to be checkweighed or in the case of a bulk lot which is not officially weighed (e.g., barge, trucks, containers), obtain the estimated net weight of the lot in writing from the applicant. Show the estimated net weight of the lot in the Quantity section and enter "Vendor's Weight" on the certificate in the "REMARKS" section.

k. If an applicant requests a divided-lot certificate, each certificate must contain the same information and statements as the original certificate and the vendor weights must add up exactly to the original weight.

l. After divided-lot certificates have been issued, further dividing or combining is prohibited except with the approval of the FGIS Deputy Administrator. These limitations do not apply when a corrected certificate must be issued.

6.5 PARTIAL INSPECTION CERTIFICATE

a. There may be circumstances when the entire lot is not accessible, or a representative sample cannot be obtained. In such instances, official personnel will provide information on the work record stating the estimated quantity of the rice in the accessible portion and that the inspection is limited to the accessible portion. The inspection certificate issued must have the words "PARTIAL INSPECTION" conspicuously shown in the "REMARKS" section of the certificate.

b. For bulk rice in bins and shipholds that are sampled by a 12-foot probe that does not reach the bottom of the lot, a partial inspection certificate must be issued. Show the following statement in the "REMARKS" section of the certificate:

"Top _____ feet sampled. Bottom not sampled."

Note: Do not issue a partial inspection certificate for bulk rice in hopper cars or barges that are sampled using the approved length probe (see section 2.13(a)) that does not reach the bottom of the lot when fully inserted. The statement "Top ___ feet sampled. Bottom not sampled." must be shown in the "REMARKS" section of the certificate.

c. Bulk or bagged rice offered for inspection at rest in a container loaded in such a manner that it is only possible to secure a door-probe, mustow-probe, door-bag-probe, or surface-bag-probe sample(s) of the lot, or the rice is not trimmed, or otherwise does not have a reasonably level surface, the carrier or container will be considered to be "heavily loaded" and a partial inspection certificate issued.

(1) If a partial inspection is made, the inspection certificate issued must have the words "PARTIAL INSPECTION" conspicuously shown in the "REMARKS" section of the certificate.

(2) In addition, the certificate must show the type of sample(s) obtained. The type of sample(s) will be described as "door-probe," "mustow-probe," "door-bag-probe," or "surface-bag-probe" sample and shown in the "REMARKS" section of the certificate. In the case of packaged rice (including bagged rice), the approximate number of containers accessible for sampling and the approximate number of containers in the lot must be shown in the "REMARKS" section of the certificate. (e.g., "800/100-pound polypropylene bags, part of an undivided lot of 1,250 bags.")

6.6 CORRECTED CERTIFICATE

a. The accuracy of the statements and information shown on official certificates must be verified by the individual whose name or signature, or both, is shown on the official certificate, or by the authorized agent who affixed the name or signature, or both. Errors found during this process will be corrected according to this section. The term "errors" includes errors of commission or omission and are not limited to errors of commission or omission attributed to official personnel. Such errors may be attributed to the applicant for inspection.

b. Only official personnel may make corrections, additions, or other changes to official certificates.

c. If errors are found on an official certificate at any time up to a maximum of 1 year after issuance, the errors must be corrected by voiding the incorrect certificate and issuing a corrected certificate. A corrected certificate must be issued superseding the incorrect one.

(1) Written or verbal notice of error may be issued to the applicant and respondents.

(2) The original of the incorrect certificate must be "Voided."

(3) The original and the copies of the corrected certificate must be issued to the same applicant and respondents who received the certificate found incorrect.

(4) The corrected certificate must show the identical information and statements as shown on the incorrect certificate *except* the following:

(a) The correct statement or information must be shown instead of the incorrect or omitted statement or information.

(b) The corrected original certificate must show the term "Corrected Original" and the corrected copies must show the term "Corrected Copy."

(c) The original and the copies must show in the "REMARKS" section, the following complete statement:

"This certificate is corrected as to (reason for correction) and supersedes Certificate No. (superseded certificate number), dated (date of superseded certificate). The superseded certificate has not been surrendered and is no longer valid for commerce."

Official personnel must exercise other such precautions as may be necessary to prevent the fraudulent and unauthorized use of the superseded certificate.

Note: This statement is required even when the voided certificate has not been released.

(d) A new certificate number must be shown.

(5) The provisions of this section must be applicable to all types and levels of inspections.

6.7 MULTIPLE GRADE CERTIFICATE

a. When rice is offered for inspection as one lot and is subsequently found to contain portions that are distinctly different in class/type, quality, or condition, the rice in each portion must be sampled, inspected, and graded separately, but the results must be recorded on one certificate.

b. The certificate must include the approximate quantity or weight of each portion, the location of each portion in the carrier, and the grade and factor information on the rice in each portion.

(1) Enter an estimate of the quantity of the larger portion and the grade of that portion on the certificate in the "RESULTS" section and the grade line of the certificate. Enter an estimate of the remainder of the lot, factors, and the grade assigned to that portion in the "REMARKS" section of the certificate. For hopper cars, include the identification of the compartment(s).

(2) Factor information must be entered in the same order as the factors listed in the results section of the certificate and must be related to a particular portion and its position in the carrier.

6.8 INSPECTION DATE INFORMATION

a. The inspection date (or date of service) is the day on which the final service is completed as shown in the detailed work records.

Note: If multiple services are performed, the date shown on the certificate must be the day the last service was performed.

b. A uniform lot which requires more than one day to sample, may be certified as one lot, provided no undue delay occurs in completion of the lot.

(1) There must be a reasonably continuous operation taking into consideration weather and other conditions which might interfere in the completion of the lot.

(2) If reasonably continuous inspection service is not maintained, one lot inspection certificate must be issued for the portion inspected prior to the break in inspection service, and one lot inspection certificate must be issued for the portion inspected after the break in inspection service (or after each additional break).

(3) “Reasonably continuous inspection service” may include inactive periods of no more than 88 consecutive hours (including weekends and holidays). For roundlot or warehouse lot inspection plan purposes, at least one block or sublot must be inspected during the prescribed time period. The 88-hour limit may be extended at the discretion of the appropriate FGIS field office manager.

c. Divided-lot certificates must be dated the same date as shown on the original certificate.

6.9 REMARKS INFORMATION

a. The “REMARKS” section is for showing information which will facilitate marketing. No statement may be shown which is known to be false or misleading. Remarks may include information, such as warehouse receipt numbers, loan numbers, load order numbers, container markings, seal numbers, and approved statements.

b. If an applicant requests that any factor information be shown differently than the standard (e.g., portion size, count, percent), you must show that factor information in the “REMARKS” section of the certificate. (e.g., Number of Damaged by Heat kernels in 500 grams; Heat damaged kernels shown in percent).

Note: All lots that receive a US grade determination *must* be graded according to U.S. Standards and results shown in the “RESULTS” section of the certificate.

c. Additional page(s) of certificates may be used for showing pertinent information and approved statements. When information requires more than one page, the following must be shown:

(1) The statement “Continuing: Page 1 of [Y]” must be shown on the first page and report the total number of pages

(2) The statement “Continuing: Page [X of Y]” must appear at the top of each subsequent page to document page number and total number of pages

Note: Requests for special statements which are substantially different from approved statements or which are not approved, must be referred to the appropriate FGIS field office manager for approval.

6.10 SHIPPER AND CONSIGNEE INFORMATION

Rice certificate forms do not have a preprinted space for showing the name and address of a shipper or consignee. This information may be shown in the space provided for remarks. Showing this information is not mandatory, it will only be shown when requested.

Note: When divided-lot inspection certificates are requested with different consignees for each divided-lot certificate, all consignees must be shown on the surrendered original certificate.

Note: It is not necessary to list the individual sets of information on the original master certificate, when you have not formally issued it to the applicant, because you will void the original master certificate for a divided-lot certificate(s) and eventually list all the requested sets of information on each individual divided-lot certificate. However, you must still include all other required information (e.g., factor results, statements) on the original master certificate.

6.11 CARRIER, CONTAINER, AND LOT IDENTIFICATION

a. Carrier, container, lot and seal identification may be shown on lot inspection certificates and on submitted sample inspection certificates.

b. Care should be taken to ensure that the proper identification information is recorded.

c. For lot inspections, official personnel must provide identification information on the work record. Do not transcribe the information from the application or other documents supplied by the applicant or others.

Note: In certain instances, it may be necessary to separately certify the rice in one or more compartments of a hopper car because of different class, quality, or condition. A statement identifying the compartment must be shown after the car initials and number and must be followed by the seal identification applied to the compartment, if applicable.

6.12 CONTAINER MARKINGS INFORMATION

Most packaged rice has identifying marks on the containers. These marks are required to be shown on the rice inspection certificate if the marks indicate a different quality of rice than what is actually in the container. All other times, the marking may be shown upon request of the applicant. Show such markings on certificates as follows:

a. Uniform Markings.

(1) When container markings are uniform for an identified rice lot, then all markings may be shown on the certificate.

(2) However, much of the markings shown on the containers is information which identifies the container manufacturer or some container specification and does not serve any useful purpose with regard to identifying marks. Such information, unless requested by the applicant, need not be shown as identifying marks on the certificate.

(3) Markings are usually shown in lines one above the other substantially, as follows:

RICE
PRODUCT OF U.S.A.
EXTRA FANCY
LONG GRAIN
888
SAM, INC.
STUTTGART, AR

(4) Space permitting, such markings may be shown on the certificate as shown above but are usually shown with slash marks indicating the end of each line of markings, as follows:

RICE/PRODUCT OF U.S.A./EXTRA FANCY/LONG GRAIN/888/ SAM, INC./STUTTGART, AR

b. Nonuniform Markings.

(1) On some occasions, an identified rice lot will have varied markings shown on the containers. Such markings are usually the result of the use of “leftover” containers accumulated and used by a shipper at the end of a shipping season.

(2) When such marks are found and the applicant does not request that such marks be shown, the statement “No Common Marks” may be shown in the “REMARKS” section of the certificate.

(3) If the applicant requests that such varied markings be shown, the applicant has the responsibility of separating the containers by the various markings so that the number of containers of each marking can be determined or the applicant can furnish the count.

c. Nonuniform Markings - With Uniform Sublot Markings.

(1) There are occasions when several sublots, with uniform markings within each sublot but varying markings from each other, will be accumulated in warehouses and designated as one overall lot.

(2) In such instances, a record will be kept of the number of bags of each set of uniform markings contained within the overall lot. Such information may be shown in the “REMARKS” section of the certificate.

For Example: An identified warehouse lot consisting of 10 separate cars (1,200 100-pound bags each) was unloaded on a warehouse floor. Six of the carlots have one set of uniform markings and four of the carlots have another set of uniform markings. The certificate (with regard to markings) would be issued as follows:

7,200 bags marked: RICE/Product of U.S.A./Jones Rice Co./Eunice, LA/(Reverse) LARENCO MARQUES

4,800 bags marked: RICE/Product of U.S.A./Smith Rice Inc./Houston, TX/ (Reverse) LARENCO MARQUES

d. Tag Markings. When containers are tagged with identifying markings, the tag information may be shown in the space provided for remarks on the certificate as follows:

Example: EXPORT/RICE/SOUTH AFRICA/LONG GRAIN

e. Contract Specification Markings. An applicant may request that the markings be checked only for compliance with contract specifications. In such cases, show in the “REMARKS” section of the certificate, one of the following statements:

(1) "Bag markings as specified by (contract number, agency, or other pertinent information)."; or

(2) "Bag markings not as specified by (contract number, agency, or other pertinent information) because (reason; e.g., code number omitted or letter size incorrect)."

f. Registered Trademark Markings.

(1) Many rice companies, exporters, and shippers have registered trademarks (i.e., brand names) for rice packaged by or for them. Such markings may contain artwork, such as an eagle, crossed rifles, a plantation home, and many other markings which frequently are not necessary, practicable, or requested by the applicant.

(2) When such instances occur and all of the brand name information is not needed or requested by the applicant, the brand name may only be shown in parenthesis followed, if necessary, by any export marks shown on the reverse of the bag. In such cases, show on the work record and in the "REMARKS" section of the certificate as follows:

Example: (Eagle Brand) (Reverse) XYC/RICE/SOUTH AFRICA/LONG GRAIN

6.13 LOCATION INFORMATION

a. The space identified as "LOCATION" is provided to show the city and state where an inspection is performed. The place of inspection (e.g., rice mill, warehouse, or wharf) may also be shown.

b. Applicants for inspection may request that the place of inspection not be shown. This request is frequently made by rice exporters or their representatives who may enter into purchase contracts with several rice facilities to fulfill a sales contract commitment for a larger export cargo shipment. In such instances, the place of inspection is not needed by the applicant, would not facilitate efficient and orderly marketing of the rice, and is not required to be shown. However, the place, city, and state where the inspection was performed must be shown on all inspection work records and certificates.

6.14 QUANTITY INFORMATION

a. On lot inspection certificates, the space identified as “QUANTITY” is provided to show the quantity of rice in the lot that is inspected.

(1) The rice lot quantity must be stated in terms of Bargelot, Bushels, Carlot, Container lot, Grams, Metric Tons, Trucklot, or in Pounds or by container type and capacity and whether the rice is in bulk or bagged. (Totes are considered “bagged.”)

Note: The statement of quantity serves as a part of the lot identity and is not to be construed as a certificate of weight or quantity, except when the applicant requests that a lot of packaged/bagged rice be checkloaded, checkweighed, or checkcounted and the certificate so states. The weight provided by the vendor will not be shown in the “Quantity” section of an official certificate. Vendor’s weight must be reported in the “REMARKS” section of the certificate using the following statement:

“Vendor’s Weight: _____ pounds.”

(2) Typical statements of quantity shown on the work record and in the “REMARKS” section of the certificate are as follows:

(a) 1,000 100-pound, double polypropylene bags 1,000 50-kilogram new jute bags

(b) 1,000 110.23-pound bags (50 kilograms) or (50 kilos)

(c) 55,000 100-pound bags

(d) 1 carlot (bulk)

(e) 1,000,000 pounds (bulk)

(f) 2 bargelots (bulk) 1,760,000 pounds

(g) 875 48-pound paper balers (24/2-pound poly bags)

(h) 1,000 30-pound cases of 30/1-pound polyethylene bags

(i) 8,400 99.3-pound bags (100 pound gross)

Note: When a lot of rice if officially weighed, the results must be issued on a "Commodity Weight Certificate" (FGIS-7).

b. On submitted sample inspection certificates, the space provided for quantity must be used to show the approximate sample quantity in terms of weight or volume. *No submitted sample inspection certificate will be issued which shows, directly or indirectly, the quantity of rice in the lot from which the sample may have been taken.*

6.15 FACTOR INFORMATION

a. Each official certificate will show the class, grade, and any other quality designation according to the United States Standards for Rice, all factor information requested by the applicant, and all grade determining factors for rice graded below U.S. No. 1. (The milling degree must also be shown for graded milled rice.)

Note: A factor must be considered a quantified physical or chemical property identified in official standards, specifications, information abstracts, contracts, or other documents whose measurement describes a specific quality of a commodity.

b. Factor information must be shown on the certificate.

(1) Show factor information on lot inspection certificates by selecting the factor followed by the appropriate percentage, count, or other quality descriptions.

(2) Show factor information on submitted sample inspection certificates by selecting the factor followed by the appropriate percentage, the count, or other quality descriptions.

Note: Total Rice and Whole Kernel results for Milling Yield determinations must be inserted in the "RESULTS" section of the certificate in tenths of a percent (unrounded) but must not be shown on the official certificate.

c. Factor Only Inspections. Applicant may request the factor(s) for inspections. The class of rice must be recorded on the grade line of the official certificate. The type may be recorded on the grade line upon request. A numerical grade will not be assigned on the grade line of the certificate. Factors must be recorded on the work record and in the "RESULTS" section on the official certificate.

6.16 GRADE AND MIXED RICE DESIGNATIONS

a. Show the grade designation for all types and classes of rice in the following order:

(1) The letters “U.S.;”

(2) The number of the grade or the words “Sample Grade,” as warranted;

(3) The words “or better” when applicable and requested by the applicant prior to inspection;

(a) Applicants for inspection may obtain “Option 1” or “Option 2” certification by requesting it on the application for inspection. The request must be filed prior to the beginning of the inspection.

Note: If no request for either option is submitted prior to the beginning of inspection, certification must be “Option 1.”

(b) Under “Option 1,” rice offered for inspection is certified as a specific grade. (e.g., “U.S. No. 2 Long Grain Rough Rice.”)

(c) Under “Option 2,” rice offered for inspection would be certified as being a specific grade “or better.” (e.g., “U.S. No. 3 or better Long Grain Rough Rice.”)

(4) The class;

(5) Each applicable special grade; and

(6) For rough rice and brown rice for processing, when applicable, a statement of the milling yield.

b. For each class of mixed rice, record the following in the “RESULTS” section:

Note: Upon applicant request, other types may be shown in the “REMARKS” section of the certificate.

(1) For Mixed Rough Rice, record the percentage of whole kernels of each type present in the order of predominance; the percentage of large broken kernels of each type present in order of predominance; and when applicable, the percentage of material removed by the No. 6 sieve or the No. 6 plate and the percentage of seeds to the nearest tenth percent on the work record and in the "RESULTS" section of the certificate. (These percentages must total 100%.)

Note: Large broken kernels other than long grain, in mixed rough rice, must be certified as "medium or short grain."

(2) For Brown Rice for Processing, record the percentage of whole kernels of each type present in the order of predominance; the percentage of broken kernels of each type present in order of predominance; and when applicable, the percentage of seeds, related material, and unrelated material to the nearest tenth percent on the work record and in the "RESULTS" section of the certificate. (These percentages must total 100%.)

Note: Broken kernels other than long grain, in mixed brown rice for processing, must be certified as "medium or short grain."

(3) For Milled Rice, record the percentage of whole kernels of each type present in the order of predominance; the percentage of broken kernels of each type present in order of predominance; and when applicable, the percentage of seeds and foreign material to the nearest tenth percent on the work record and in the "RESULTS" section of the certificate. (These percentages must total 100%.)

Note: Broken kernels other than long grain, in mixed milled rice, must be certified as "medium or short grain."

6.17 OTHERWISE GRADE INSPECTIONS

a. Applicants may request information as to what the quality of rice in a lot or sample would "otherwise grade" if the results of one or more factors were not considered.

b. When requested, official personnel must:

(1) Determine and show the actual grade of the lot or sample in the space provided for the grade designation; determine requested factors only and show the type or class of the rice on the grade line (e.g., "Milled Rice").

(2) Show the grade determining factor results and the results of other analyses in the factor information space. Factor results are recorded in the "RESULTS" section of the certificate. The type and class of rice with no mention of numerical grade is recorded on the certificate grade line.

c. Show the following statement in the "REMARKS" section of the certificate:

"(Desired grade and kind) except for (factor(s) that prevent the lot or sample from being assigned the desired grade)."

d. The following examples demonstrate certification of otherwise grade inspections:

(1) **An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is U.S. No. 4 Long Grain Milled Rice because of 17.0 percent total broken kernels.**

(a) Grade Designation. "U.S. No. 4 Long Grain Milled Rice."

(b) Statement. "U.S. No. 3 Long Grain Milled Rice except for total broken kernels."

(2) **An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is of the class Mixed Milled Rice because of 18.9 percent other types.**

(a) Grade Designation. "U.S. No. 3 Mixed Milled Rice. Long grain whole kernels 72.0 percent, medium grain whole kernels 12.9 percent, long grain broken kernels 9.0 percent, medium or short grain broken kernels 6.0 percent, and seeds 0.1 percent."

(b) Statement. "U.S. No. 3 Long Grain Milled Rice except for other types."

(3) **An application is received to inspect a lot of U.S. No. 5 Long Grain Milled Rice. The inspection determines that the rice is U.S. Sample Grade Long Grain Milled Rice because of 57.4 percent total broken kernels. The applicant does not want "U.S. Sample Grade" to be shown on the grade line. The factor results meet the grade limits for U.S. No. 3 Second Head Milled Rice.**

(a) Grade Designation. "Milled Rice."

(b) Statement. "U.S. No. 3 Second Head Milled Rice except for whole kernels."

6.18 APPROVED STATEMENTS

The following statements may be shown on official inspection certificates when deemed appropriate *and* the information has been verified by official personnel. The wording of these statements may be modified provided the meaning is not altered and the statements are approved by the FGIS field office manager.

Note: Any information requested by the applicant for inspection which is known to be false or misleading must not be shown.

Show the following statements in the "RESULTS" section of the certificate:

a. Mixed Milled Rice. When a lot grades Mixed Milled Rice, the official 'breakdown' results must be shown in the "RESULTS" section of the certificate in the following order:

(1) The percentage of whole kernels of each type in the order of predominance;

(2) The percentage of broken kernels of each type in the order of predominance, when applicable; and

(3) The percentage of seeds and foreign material.

b. Mixed Brown Rice for Processing. When a lot grades Mixed Brown Rice for Processing, the official 'breakdown' results must be shown in the "RESULTS" section of the certificate in the following order.

(1) The percentage of whole kernels of each type in the order of predominance;

(2) The percentage of broken kernels of each type in the order of predominance, when applicable; and

(3) The percentage of seeds, related and unrelated material.

(4) After being milled to a well-milled degree under laboratory conditions, the whole kernels of this rice has (_____%) red rice and damaged kernels.

c. Mixed Rough Rice. For the class mixed rough rice, the following 'breakdown' information must be included in the "RESULTS" section of the certificate in the following order:

(1) The percentage of whole kernels of each type in the order of predominance;

(2) The percentage of large broken kernels of each type in the order of predominance, when applicable; and

(3) The percentage of seeds and 6 plate (southern production) or 6 sieve (western production).

d. Enrichment and Fortification Statements. Factor statements listed in this section must be shown in the "RESULTS" section of the certificate:

(1) Enrichment Statements.

(a) To certify rice that is enriched, type "Yes" in the "Factor Result" section of the certificate next to the factor "Enriched." In the "Factor Remarks" section, type the following statement, "This rice is Enriched.". Located in the "Include in Certificate" section, select "Remarks."

(b) To certify rice tested and found not enriched, type "No" in the "Factor Result" section of the certificate next to the factor "Enriched." In the "Factor Remarks" section, type the following statement, "This rice is Not Enriched.". Located in the "Include in Certificate" section, select "Remarks."

(2) Fortification Statements.

(a) To certify rice that is fortified, type "Yes" in the "Factor Result" section of the certificate next to the factor "Fortified." In the "Factor Remarks" section, type the following statement, "This Milled Rice is Fortified.". Located in the "Include in Certificate" section, select "Remarks."

(b) To certify rice tested and found not fortified, type "No" in the "Factor Result" section of the certificate next to the factor "fortified." In the "Factor Remarks" section, type the following statement, "This Milled Rice is Not Fortified.". Located in the "Include in Certificate" section, select "Remarks."

Show the following statements in the "REMARKS" section of the certificate:

e. General Statements.

(1) Condition Statements:

(a) “Condition of Container: Good”

(b) “Condition of Commodity: Good”

(c) “Condition of Carrier: Good”

(2) All superseded certificates:

> “This certificate supersedes Certificate No. ____, dated _____. The superseded certificate has not been surrendered and is no longer valid for commerce.”

(3) “This rice was packed under USDA observation.”

(4) The following statement must be shown on shipments that include cases of seasoning:

> "This rice loaded on board with (number of cases) cases marked (markings)."

For Example: “This rice loaded on board with 6 cases marked Spanish Seasoning Samples.”

(5) “This rice may contain some kernels that are externally covered with an excess of an FDA-approved (safe for human consumption) food grade dye applied in excess to the outside of some bags.”

(6) “The U.S. rice, industry generally comingles and rotates rice, to ensure good condition and quality. While there is no viable method to determine the crop year, an official grade, based on an official FGIS inspection, has been established for this rice to ensure that the desired quality will be shipped. This type of rice is sold, processed, and consumed in the United States.”

(7) Statement in the event of U.S. Standards Change:

> “This (kind of rice) meets the specifications of the United States Standards for Rice which were in effect (date) for (grade).”

(Approved for use during the 6-month period following a change of standards.)

f. Appeal and Board Appeal Statements.

(1) Appeal Only Statements:

(a) When the results of an appeal inspection are based on a new sample, the certificate must show the following statement:

"Grade results based on new sample."

(2) Appeal and Board Appeal Statements:

(a) When not all the services are appealed, use the following statement:

"(Factor and/or type of service and/or Grade Factor(s)) results based on appeal inspection; all other results are those of the original inspection service."

(b) When the results of an appeal or Board Appeal inspection are based on the official file sample, the certificate must show the following statement:

"(Appeal or Board Appeal) Results based on file sample."

(c) When the results of an appeal inspection are based on a new sample, the certificate must show the following statement:

"Appeal Results based on new sample."

(3) Retest statements:

(a) When the results for more than one kind of service are reported on the original certificate and not all the services are retested, use the following statement:

"(Type of Test) results based on retest inspection; all other results are those of the original inspection service."

(b) The certificate must show the following statement:

"Retest Results based on file sample."

g. Service Statements.

(1) "Inspection for quality, checkweighing, and checkcounting was performed on (date). The inspection for condition was performed prior to loading. This rice lot was observed being loaded into holds (hold numbers) of the (name of vessel) on (all dates rice was loaded)."

(2) Checkcounting:

(a) "Checkcounted on dock prior to loading aboard a vessel."

(b) When rice is not "Checkcounted," show the following statement: "Vendor's count: (count)."

(3) Weighing Statements:

(a) When rice is not officially weighed but weight is provided by the vendor show "Vendor's weight" or "Vendor's weight: (weight)."

(b) "(Number) torn and obviously under-filled bags included in shipment but were not used to determine average weights."

(4) Checkweighing Statements:

Note: For the specific use of statements to certify government contract lots, see "Commodity Procurement Lot Inspections," located in Appendix 1.

(a) "Average estimated tare weight per bag is (average tare weight) pounds."

(b) "Estimated total weight (pounds) gross (weight) tare (weight) net (weight)."

(c) "Average estimated net weight per container is (the net weight per container for the lot)."

(5) Loading Statements:

(a) "Official personnel witnessed the loading of this rice into the container(s) and the sealing of the container(s)."

(b) If rice in a shiplot is found to be not uniform in quality, show on the inspection certificate for each portion of different quality:

1 A statement that the rice has been loaded on board with rice of other quality;

2 The grade, location, or other identification and approximate quantity of rice in the portion; and

3 Other information required by the Regulations and instructions. This requirement does not apply to rice that is inspected as it is unloaded from a ship or to portions loaded in separate stowage spaces.

When rice is loaded on a carrier with other rice without separation the statement must show:

a That the rice has been loaded on board with other rice;

b The grade, location, and approximate quantity of the other rice; and

c Any additional information.

For Example: "This rice was loaded aboard with approximately 1,500,000 pounds of US No. 6 LGRUF in holds 1,2,3 without separation."

(c) Observation of Loading Statements:

Note: In order for the carrier name and the stowage space to be shown, a stowage examination must be performed. If a stowage examination is not performed, the carrier's name must not be shown and add the statement "Stowage area not examined" in the Remarks section of the certificate.

1 General Statements.

a "Observed (commodity, Lot Number) being loaded aboard the carrier on (date(s))."

b "Observed (commodity, Lot Number) being loaded aboard the carrier in (hold number(s)) on (date(s))."

2 Barges to Ships – Observation of Loading Statements.

a "The (type of rice) contained in barge(s) (barge number(s)) was observed being loaded into (hold number(s)) of the (name of ship) on (date)."

b "The (type of rice) contained in (barge number(s)) was observed being loaded into a vessel on (date)."

c "This rice lot was observed being loaded into (hold number(s)) of the (name of ship) on (all dates rice was loaded)."

3 To Ships - Observation of Loading Statements.

"This rice lot was observed being loaded into (hold number(s)) of the (name of ship) on (all dates rice was loaded)."

(d) Transload Statements:

1 "Results based on composite sample analysis of (number) trucks prior to loading onto barge. The (type of rice) contained in (number) trucks was observed being loaded onto (Barge ID) on (Date(s))."

2 "This (bulk milled) rice was observed being fumigated in (Identification of carrier(s) or bin(s)) with (amount) grams of (type of fumigant) in each (carrier(s)/bin(s)) on (date(s)). After fumigation the (bulk milled) rice was sampled and examined while being transloaded into (size/type) bags."

3 "On (date) official personal witnessed the transfer of (number and size of bags) unloaded from (carrier(s)) and loaded onto (carrier(s))."

(6) Fumigation Statements:

Note: For the specific use of statements to certify government contract lots, see "Commodity Procurement Lot Inspections," located in Appendix 1.

(a) "This rice was observed being fumigated with (quantity of fumigant used) of (type of fumigant) after it was loaded into the carrier but was not sampled and examined after fumigation."

Note: The word "approximately" may be added to the statement if the exact amount of fumigant cannot be verified.

(b) "The carrier openings were observed being taped and sealed for fumigation."

(c) "The carrier was sprayed with (type of insecticide) prior to loading."

(d) Witness Fumigation Removal:

1 "On (Date) official personnel witnessed the removal of fumigant residue from (Carrier ID)."

2 "On (Date) official personnel witnessed the removal of fumigant residue from (Carrier ID). Seal numbers (numbers) were observed being applied."

(e) Rough Rice Only: When a lot is determined to be infested and the lot is fumigated according to official procedures, remove the Special Grade Infested. (Do not show the "no infestation" statement.) Add the following statement:

"This rice was fumigated according to official procedures".

(f) Fumigant-Free Statements:

1 "On (date) official personnel verified the carrier(s) listed above to be gas free (≤0.3ppm)."

2 "(Carrier) was sealed after aeration on (date)."

(g) Fumigation Prior to Loading Statements:

1 "This rice was observed being fumigated with (dosage) of (fumigant). After fumigation, the rice was sampled and examined while being loaded into (carrier or container)."

2 "This bulk (class) rice was observed being fumigated in (carrier(s) or bin(s)) with (amount) grams of (fumigant) in each (carrier(s)/bin(s)) on (date(s)). After fumigation the bulk milled rice was sampled and examined while being transloaded into (size/type) bags."

h. Stowage and Facility Exam Statements. A separate work record must be completed for those stowage areas that pass and for those that do not pass.

(1) Stowage Exam Statements (other than ships and containers):

(a) "(Stowage space) was examined on (date) at (time) hours and found to be clean, dry, free of insect infestation, and suitable to maintain the quality of the (type of rice)."

(b) "(Stowage space) examined on the above date and found not suitable to maintain the quality of the (type of rice), because (list criteria for failure)".

(c) "Woven polyethylene liner installed in barge in lieu of removing rust scale."

(d) When certifying on a FGIS 915: "Results: Stowage area examined on the above date and found to be substantially clean, dry, free of insect infestation, and suitable to store or carry grain or commodity."

(2) Stowage Exams (ships): When similar stowage areas are examined they are grouped together. The type of stowage area and the abbreviation "No(s)." are followed by each stowage area's identifying number, separated by commas. Avoid using the word "and."

Example(s): **Hold Nos. 1, 2, 3, 4.**

Lower Hold and Tween Deck Nos. 1, 2, 3, 4.

(a) "Type of Inspection: (USGSA and/or AMA)."

(b) "Stowage Area Examined: (Hold No(s))."

(c) Pass versus Fail.

1 (*pass*) "Results: Stowage area examined on the above date and found to be substantially clean, dry, free of insect infestation, and suitable to store or carry grain or commodity."

2 (*fail*) "Results: Stowage area examined on the above date and found not suitable to store or carry grain or commodity because of (reason hold failed)."

(3) Stowage Examination Certificates (FGIS-915) for Containers.

(a) Enter the stowage area pass/fail statement after the carrier ID's. Begin that line with "Results:"

(b) When multiple containers are reported in the "REMARKS" section, enter the container ID as a continuous string of alphanumeric characters followed by a semicolon and a space before entering the next container ID, unless seals or unsuitable stowage conditions are also reported (e.g., GSTU456790-7; GSTU456791-5).

(c) When reporting seals, place a space between the container ID and the seal number. Include "Seal" as part of the seal number (e.g., GSTU456790-7 Seal 1234; GSTU456791-5 Seal 2234).

(d) When reporting unsuitable conditions, place a space between the container ID and the condition (e.g., UXXU242319 wet paint, missing vent cover; XRML123456-7 missing gasket).

(e) If there are multiple lines of container ID's, then the last container ID, seal number, or condition must end in a semicolon.

Note: Additional statements should follow the stowage area pass/fail statement.

(4) Facility Examination Statements.

(a) "The bulk loading facility was examined on (date) at (military time) and found to be clean, dry, free of insect infestation, and suitable to maintain the quality of the (type of rice)."

(b) "The bulk loading facility was examined on (date) at (military time) and found not suitable to maintain the quality of the (type of rice).

i. Type/Class Specific Statements.

(1) Rough Rice Statements:

(a) No infestation statement: "This rice does not contain live insects."

(b) When a lot is determined to be infested and the lot is fumigated according to official procedures, remove the Special Grade Infested. (Do not show the "no infestation" statement.) Add the following statement:

"This rice was fumigated according to official procedures."

(c) "Milling yield (percent of whole kernels)% - (percent of total rice)%."

(d) "Milling yield: (percent)% whole kernels - (percent)% total rice."

(e) "Milling yield: Whole kernels of milled rice (percent)% - Total milled rice (whole and broken kernels) (percent)%."

(f) Milling Yield Results for Sublots:

1 "Sublot milling yield results ranged from (Lowest percent – highest percent whole kernels)% to (Lowest percent – highest percent total rice)%."

Example: Sublot milling yield results ranged from 68%-72% to 74%-77%.

2 "Sublot Milling yield results ranged from (Lowest percent – highest percent)% Whole kernels - (Lowest percent – highest percent)% Total rice."

Example: Sublot milling yield results ranged from 68%-72% Whole Kernels to 74%-77% Total Rice.

(g) "The USDA designation 'Rough Rice' is equivalent to the generally accepted international designation 'Paddy Rice'."

(h) "(count) kernels of false smut in 1,000 grams."

(i) When seeds; heat damaged kernels (count); red rice and damage or chalk (percent) are requested in large broken kernels, show the following statement:

"(Factor(s)) was/were based on a portion of no less than 25 grams of large broken kernels of well-milled rough rice."

(2) Brown Rice for Processing Statements.

(a) No infestation statement: "This rice does not contain live insects."

(b) Milling yield (percent of whole kernels)% - (percent of total rice)%."

(c) "Milling yield: (percent)% whole kernels - (percent)% total rice."

(d) "Milling yield: Whole kernels of milled rice (percent)% - Total milled rice (whole and broken kernels) (percent)%."

(e) Milling Yield Results for Sublots:

1 "Sublot milling yield results ranged from (Lowest percent – highest percent whole kernels)% to (Lowest percent – highest percent total rice)%."

Example: Sublot milling yield results ranged from 68%-72% to 74%-77%.

2 "Sublot Milling yield results ranged from (Lowest percent – highest percent)% Whole kernels - (Lowest percent – highest percent)% Total rice."

Example: Sublot milling yield results ranged from 68%-72% Whole Kernels to 74%-77% Total Rice.

(f) "This rice, after being milled to a well-milled degree under laboratory conditions, meets the grade requirements of U.S. No. (grade) Milled Rice."

Note: The statement "except for the factor (name)" may be added to the statement, if applicable.

(g) "This rice meets the "United States Standards for Brown Rice for Processing," is intended for use as an edible product, and is of the type normally consumed in the United States."

(3) Milled Rice Statements.

(a) "This rice does not contain live or dead weevils or other insects, insect webbing, or insect refuse."

(b) "This rice meets the United States Standards for Milled Rice (White Rice)."

(c) "This rice meets the "United States Standards for Milled Rice," is intended for use as an edible product, and is of the type normally consumed in the United States."

(d) If "other types" is the only grading factor and the amount of "whole kernels - other types" is less than 5.1 percent and the amount of "whole and broken kernels - other types" is more than 5.0 percent, show the following statement in the "REMARKS" section of the certificate:

"This rice contains (percent) broken kernels of (type) of milled rice."

(e) "Upon Applicant request, Bran Streaks picked according to buyers specifications – (percentage)%."

(4) Length/width:

(a) "This rice meets the length/width ratio requirements (length/width ratio) for (type)."

(b) "Length/width ratio is (length/width ratio)."

(c) "The average kernel (length or width), based on fifteen whole kernels selected at random from a representative portion of the lot, measured (measurement in mm or cm)."

j. Grade/Factor Statements.

(1) Lightly Stained Statements:

(a) "This lot contains (count) lightly stained kernels. Lightly stained kernels are not considered as damaged kernels and are not included in the damaged result."

(b) The following statement will be shown on the official certificate when the factor Lightly Stained kernels are requested by count in 500 grams:

"This rice contains (count) Lightly Stained kernels in 500 grams. Lightly Stained kernels are not considered as damaged kernels and are not included in the damaged results."

(c) When Lightly Stained kernels are requested (but 'count in 500 grams' is not requested), the factor will be determined according to the Visual Aid: Lightly Stained (Not Damage) (VRI R-2.2). (25-gram portion and shown in percent):

"This lot contains (percentage)% Lightly Stained kernels. Lightly Stained kernels are not considered as damaged kernels and are not included in the damaged result."

(2) No Heat/No Stain Statement:

"This rice contains (count) heat-damaged kernels and (count) stain kernels in (weight) grams. Stain is defined as being kernels damaged by heat."

(3) When applicant requests a factor to be determined on a portion size different than official instructions/procedures, factor results must be shown in remarks. For Example:

(a) "Upon applicant request, the following factor(s) are to be shown in percent."

(b) "Upon applicant request, the following factor(s) are to be shown in count."

(4) When contracts require a lesser percentage of a factor than the maximum allowed by the contracted grade, the contract limit may be shown on the second line in the grade designation space. The actual factor results will be shown in the factor results section.

Example: "Maximum (percent) percent Total Broken Kernels."[10]

(5) "This rice meets applicant's specification of maximum (requirement) objectionable seeds."[11]

(6) "The quality factors of this rice are equal to or better than the grade requirements of (grade)."

(7) Otherwise Grade. Show the following statement in the "REMARKS" section of the certificate:

"(Desired grade and kind) except for (factor(s) that prevent the lot or sample from being assigned the desired grade)."

EXAMPLE 1: An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is U.S. No. 4 Long Grain Milled Rice because of 17.0 percent total broken kernels.

Grade Designation. "U.S. No. 4 Long Grain Milled Rice."

Statement. "U.S. No. 3 Long Grain Milled Rice except for total broken kernels."

EXAMPLE 2: An application is received to inspect a lot of U.S. No. 3 Long Grain Milled Rice. The inspection determines that the rice is of the class Mixed Milled Rice because of 18.9 percent other types.

Grade Designation. "U.S. No. 3 Mixed Milled Rice. Long grain whole kernels 72.0 percent, medium grain whole kernels 12.9 percent, long grain broken kernels 9.0 percent, medium or short grain broken kernels 6.0 percent, and seeds 0.1 percent."

Statement. "U.S. No. 3 Long Grain Milled Rice except for other types."

[10] This same statement may also be used by substituting other contract limit factors.
[11] This statement may be used to show other factor information.

EXAMPLE 3: An application is received to inspect a lot of U.S. No. 5 Long Grain Milled Rice. The inspection determines that the rice is U.S. Sample Grade Long Grain Milled Rice because of 57.4 percent total broken kernels. The applicant does not want "U.S. Sample Grade" to be shown on the grade line. The factor results meet the grade limits for U.S. No. 3 Second Head Milled Rice.

Grade Designation. "Milled Rice."

Statement. "U.S. No. 3 Second Head Milled Rice except for whole kernels."

(8) "This is a certificate of analysis stating qualitative characteristics of rice."

(9) Off Colored Rice Statement:

"This rice does not meet the color requirements for U.S. No. 1 or 2 (enter the class: Rough Brown Rice for processing or milled) rice."

(10) Not Standardized Rice:

(a) If an inspection service is requested on a rice sample or lot that does not meet the definition of Rough Rice, Brown Rice for Processing, or Milled Rice, show one of the following statements in the space provided for grade designation:

1 "Not Standardized Rice."

2 "Not Standardized Rice: Does not meet the United States Standards for Rough Rice, Brown Rice for Processing, or Milled Rice."

(b) If requested, the following statement may be shown in the "REMARKS" section:

"This rice consists of (number) percent paddy kernels, (number) percent brown rice kernels, and (number) percent milled rice kernels."

(11) "Moisture content (exceeds/less than) the approved moisture calibration range."

(12) "This rice is not musty, sour, and does not have a commercially objectionable foreign odor."

(13) Test Weight per Bushel Statement:

"Test weight per bushel of (number) pounds is approximately equivalent to (number) kilograms per hectoliter."

Note: Kilograms per hectoliter may be determined by the test weight per bushel multiplied by 1.287, or dividing the test weight per bushel by .777 and showing the results to the nearest tenth of a kilogram.

(14) Upon request, also show the following statement in the "REMARKS" section: "The quality of this rice, (show factor results that meet or exceed the desired rice grade), are equal to or better than the grade requirements of (desired grade)."

k. Identity Preserved.

(1) Bagged Rice:

(a) "FGIS identity preserved code number: (number)."

(b) When seals are used as Identity Preserved identifier use: "FGIS identity preserved lot: (seal number(s))."

(2) For Bulk IP – Rough Rice Barges: If numbered seals are not used and another method of sealing is used, show the following statement:

"This barge was sealed with (method of sealing)."

Example: "This barge was sealed with FGIS-approved tamper evident security tape."

l. Seal Statements.

(1) Witness Seal Statements:

(a) On (date) official personnel witnessed the breaking of seal numbers (numbers).

(b) On (date) official personnel witnessed the applying of seal numbers(numbers).

(2) Sealed Sample Statements:

(a) FGIS provided applicant with sealed sample: (FGIS seal number).

(b) If the applicant requests a sealed sample(s) to be mailed to another party, use the following statement:

"FGIS provided sealed sample(s) as per applicant's request. (seal number(s))"

(3) If the applicant requests White Tip Nematode testing to be performed by the Arkansas State Plant Board, the official sealed sample will be shipped from the Field Office and the following statement will be shown on the official certificate:

"FGIS provided sealed sample(s) to the Arkansas State Plant Board Lab. (seal number(s))"

m. Applicant's Declaration Statements. Applicants frequently request statements and information be shown on certificates that official personnel cannot verify as true. When requested and known not to be false or misleading, the statements may be shown singularly or in combination. Examples of most common applicant statements include:

(1) "Applicant states Contract Number (contract Number)."

(2) "Applicant states that the variety of this rice is (variety)."

(3) "Applicant states that this rice was grown in the State of (state)."

(4) "Applicant states that this rice is from the crop year (crop year)."

(5) "Applicant states that this is first crop rice."

(6) "Applicant states that this rice is a product of the soil and industry of the United States."

(7) Applicant states: Licensed fumigator (Rick Rice). Commercial pesticide license no. (GH123-4567)

(8) "Applicant states Consignee: (_____)"

(9) "Applicant states shipper: (_____)"

6.19 AUTHORIZATION TO AFFIX NAMES

a. Official personnel's name or signature, or both, may be affixed to official certificates which are prepared from work records signed or initialed by the person whose name will be shown. The agent affixing the name or signature, or both, must:

(1) Be employed by a cooperator or FGIS;

(2) Have been designated to affix names or signatures, or both; and

(3) Hold a power of attorney from the person whose name or signature, or both, will be affixed. The power of attorney must be on file with the employing cooperator or FGIS as appropriate.

b. When a name or signature, or both, is affixed by an authorized agent, the word "By" and the initials of the agent must appear directly below or following the name or signature of the person. This guidance applies to manual signatures, not electronic signatures.

Example: "Walter Jacobs by nc."

6.20 VOIDED CERTIFICATE

Each official certificate which is rendered useless through an error or by being superseded by another certificate must be “VOIDED.”

6.21 CERTIFICATE DISTRIBUTION

a. The original and one copy of each certificate will be distributed to the applicant or the interested parties. In addition, one copy of each certificate may be filed with the office providing the inspection.

b. In addition to the aforementioned distribution requirements, one copy of each review (retest, appeal and board appeal) certificate must be distributed to each interested person of record or the interested person’s agent.

CHAPTER 7:
ROUND-LOT INSPECTION PLAN

CONTENTS

7.1 GENERAL INFORMATION

a. A roundlot is a single lot of bulk or bagged rice that is comprised of multiple units. Roundlots are usually loaded aboard, or unloaded from, two or more carriers. However, a lot of rice loaded aboard a single barge or ship may also be considered a roundlot.

b. The roundlot inspection plan provides for sampling and inspecting roundlots of rice.

(1) Rice inspected under this plan is examined for both uniformity in quality and compliance with grade, factor, and/or contract requirements. (Roundlots may be inspected for grade, grade and special factors, or factors only.)

(2) This plan utilizes established tolerances (i.e., statistically predetermined limits) for accepting those occasional portions of a lot that, due to known sampling and grading variations, may grade below the desired lot quality.

7.2 APPLICATION FOR INSPECTION

a. Prior to loading or unloading the lot, the applicant must submit an FGIS-907, "Application for Inspection and Weighing Services", or an appropriate cooperator's form.

(1) The application must declare: (1) all official services requested; (2) the contract requirements (i.e., contract grade, factor limits, and/or other specifications); (3) the approximate quantity of rice in the lot; (4) the sublot size; (5) "Option 1" or "Option 2" certification; and (6) any other necessary information.

(2) The application must be signed.

7.3 COMPONENTS AND SUBLOTS

Note: Sublots must be recorded on FGIS-911 or logged in the order that they are graded.

a. Component. A component is a portion of a sublot (e.g., one compartment of a hopper car).

(1) Generally, there should be no less than two components in every sublot.

(2) All components in the lot must be uniform in size (i.e., the largest sized component no more than 5 percent larger than the smallest sized component).

(3) Component size must be established by the official inspection personnel and may not be changed once loading or unloading has begun.

b. Sublot. A sublot is a portion of the overall lot (e.g., one railcar in a unit train).

(1) Except for the last sublot, all sublots in the lot should be reasonably uniform in size (i.e., the largest sized sublot no more than 25 percent larger than the smallest sublot), excluding the last sublot.

(2) To determine the allowable variation in size, multiply the smallest size sublot by 1.25, and the resulting figure is the maximum sublot size.

For Example: Bulk Sublot

If the smallest size sublot is 4,000,000 pounds, then the maximum sublot size would be 5,000,000 pounds.

(4,000,000 x 1.25 = 5,000,000)

For Example: Bagged Sublot

If the smallest size sublot is 1,500, bags then the maximum sublot size would be 1,875 bags.

(1,500 x 1.25 = 1,875)

(3) The last sublot should not amount to less than 5 percent of the average size of the sublots in the lot; unless after the final sublot is loaded aboard a vessel and the National Cargo Bureau (NCB) surveyor, port surveyor, stevedoring personnel, ship's captain, or other persons responsible for the security of the vessel, indicates that more grain must be loaded for vessel security.

(4) Sublot size must be established by the applicant for inspection and may not be changed once loading or unloading has begun without the approval of the field office manager or the cooperator manager

c. Components and sublots must comply with the size restrictions in Table 7.1 – Component and Sublot Size.

TABLE 7.1 – COMPONENT AND SUBLOT SIZE

Carriers	Maximum Component Size	Maximum Sublot Size
Ships	**450,000 pounds**	**6,000,000 pounds**
Standard Barges	**300,000 pounds**	**1,000,000 pounds**
Hopper Cars	**30,000 pounds or one compartment**	**One car**
Box Cars	**50,000 pounds**	**One car**
Trucks	**20,000 pounds or one truck**	**Four trucks**

Note: When two packers are fed from one bin and are used for bagging rice for two different boxcars simultaneously, four component samples representing approximately 60,000 pounds each, when uniform, may be combined and graded as one sublot sample representing the two carriers, provided that each component sample is obtained proportionally from each packing line.

7.4 UNIFORMITY CRITERIA

a. During the loading or unloading of a lot, draw a sample from each component according to the procedures in Chapter 2, Sampling.

(1) When bulk rice is sampled with a compartmented probe, consider each probe as one component sample.

(2) When bagged rice is sampled, each component must be approximately equal in size and should be taken from no less than eight bags.

(a) If the rice is sampled in a boxcar, use an X probing pattern across the face of a tier and randomly space the sampling during the loading or unloading.

(b) When the rice is sampled online, randomly space the sampling during the loading or unloading.

b. Visually examine each component sample for uniformity of quality.[12] (i.e., No factors appear to exceed the grade/contract requirements by more than the grade limit or the established roundlot tolerance.) For more information, see section 7.10, "Roundlot Tolerances."

Note: Do not examine component samples for milling yield.

c. If the component sample appears to be uniform in quality, combine the sample with other uniform component samples to form a sublot sample.

d. When the component sample appears to be not uniform in quality, analyze the sample for the potential nonuniform factor(s).

(1) For factors that have roundlot tolerances, make *only one* determination.

(a) If the results do not exceed the roundlot tolerance, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or FGIS-911.

[12] See Chapter 3, Rough Rice, Chapter 4, Brown Rice for Processing, and Chapter 5, Milled Rice, for insect infestation.

(b) When the results exceed the roundlot tolerance, declare the rice represented by that component sample to be a material portion and certify it as a separate lot or as a portion of a multiple grade lot, as appropriate.

(2) For all other factors, make two determinations.

(a) If the results of either determination are within the grade/contract requirement, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or FGIS-911.

(b) If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion and certify it as a separate lot or as a portion of a multiple grade lot, as appropriate.

e. Analyze each sublot sample for all contract and grade determining factors and record the results on the log or FGIS-911.

Note: For a factor's average results to be shown on the roundlot inspection certificate, all sublots must be analyzed for that factor and the sublot results must be properly recorded on the log or FGIS-911.

(1) For factors that have roundlot tolerances, make *only one* determination.

(a) If the results do not exceed the grade/contract requirement, consider the sublot as being within contract.

(b) If the results exceed the roundlot tolerance, declare the rice represented by that sublot sample to be a material portion, certify it as a separate lot or as a portion of a multiple grade lot, as appropriate, and line through the factor results on the log or FGIS-911.

(c) If the results exceed the grade/contract requirement, but not the roundlot tolerance, consider the sublot as "within contract"; provided that, the run rule is not subsequently violated (see section 7.5, "Run Rule").

Note: If the applicant requests "average milling yield", do not apply roundlot tolerances to the results.

(2) For all other factors, make one determination

(a) If the results do not exceed the grade/contract requirement, consider the sublot as being “within contract.”

(b) If the results exceed the grade/contract requirement, make another determination and average the results of the two determinations.

1 If the average meets the grade/ contract requirement, consider the sublot as being “within contract.”

2 If the average does not meet the grade/contract requirement, declare the rice represented by that sublot sample to be a material portion, certify it as a separate lot or as a portion of a multiple grade lot, as appropriate, and line through the factor results on the log or FGIS-911.

7.5 RUN RULE

a. When a sublot exceeds the grade/contract requirement for a factor, but not the roundlot tolerance, average that sublot's factor results with the factor results of the next four consecutive sublots from the same source.[13]

(1) If the average results are equal to or better than the grade/contract requirements for all factors, consider the first sublot to be "within contract."

(2) If the average results are not equal to or better than the grade/contract requirements for all factors, consider all five sublots as a material portion and certify them as a separate lot, unless corrective action is taken.

Corrective action consists of the following:

(a) Withdrawing (unloading) one or more of the five sublots included in the average;

(b) Separately certifying the withdrawn sublot(s); and

(c) After withdrawal, reapplying the run rule. When a sublot(s) is withdrawn, the run rule must be reapplied as if the withdrawn sublot(s) had never been offered for inspection.

Note: Do not apply the run rule if there are less than five sublots in the entire lot or less than four sublots remaining in the lot after a "run" has started.

[13] A "source" may be: (a) Rice moving from the warehouse floor to one carrier; (b) One packer that is used for bagging rice for one carrier; (c) Two packers fed from two different bins, but used for sacking rice for one carrier; (d) Two packers fed from the same bin, but used for bagging rice for two different carriers simultaneously; (e) Each belt delivering bulk rice to a carrier; or (f) Each spout receiving rice from different belts or shipping bins. Consider all other systems as "multiple sources" and sample/grade the rice from each packer as a "source."

7.6 TIME LIMITATIONS

If reasonably continuous inspection service is not maintained, a roundlot inspection certificate must be issued for that portion of the lot inspected prior to the break in inspection service or after each additional break in inspection service.

a. "Reasonably continuous inspection service" can include inactive periods of no more than 88 consecutive hours (includes weekends and holidays).

b. To be considered "reasonably continuous service," at least one sublot must be loaded during any 88-hour period. The 88-hour limit may be extended at the discretion of the field office manager.

7.7 REVIEW INSPECTIONS

When a sublot's factor results exceed either the grade/contract requirements or the roundlot tolerance, the applicant may request an appeal inspection on that sublot; provided that, the applicant withdraws the sublot from the lot.

a. The roundlot tolerances cannot be applied to a single sublot.

b. If the appeal inspection determines that the sublot meets the grade/contract requirements, the sublot cannot be re-entered in the original lot unless the applicant requests an appeal inspection on all of the other sublots in that lot.

7.8 MATHEMATICAL OR WEIGHTED AVERAGE

a. After completing the inspection of all sublots, calculate the factor information to be shown on the certificate(s) by one of the following methods:

(1) Mathematical Average Method. If the lot is composed of 10 or more "reasonably uniform"[14] sublots or any number of "uniform"[15] sublots, mathematically average the sublot factor results (excluding any sublot(s) to be certified as a separate lot).

(2) Weighted Average Method. For all other lots, average the sublot factor results (excluding any sublot(s) to be certified as a separate lot) in the following manner:

[14] The term "reasonably uniform" means that the largest sized sublot is no more than 25 percent larger than the size of the smallest sublot (excluding the last sublot) in the lot.
[15] The term "uniform" means that the sublots are one standard size or are within 5 percent of the standard.

(a) Multiply each sublot factor result by the quantity of rice (bags or pounds) in the sublot.

For Example: Weighted Average Calculation

Sublot	Quantity		TBK Results		Product
Sublot No. 1	1,200 bags	x	19.6	=	23,520
Sublot No. 2	869 bags	x	18.9	=	16,424
Sublot No. 3	1,163 bags	x	20.8	=	24,190
Sublot No. 4	1,006 bags	x	19.3	=	19,416
TOTAL	4,238 bags				83,550

(b) Total the products for each factor column. (In the above example, the total is 83,550.)

(c) Divide each totaled product by the total quantity (e.g., 83,550).

Example: 4,238 = 19.71
or
19.7 percent total broken kernels.

Note: For subjective factors (e.g., milling degree), show on the certificate the lowest quality determined for one or more sublots.

7.9 CERTIFICATION

a. If the mathematical or weighted average of all factors in the lot are within contract requirements, issue one certificate.

b. When the average of all factors is not within contract requirements, issue separate certificates for each individual sublot. Two or more sublots failing to meet the same contract requirement may be combined and certified together as a separate lot. Sublots that fail to meet different contract requirements must be certified as separate lots.

Note: If there are less than five sublots in the lot or less than four sublots remaining in a lot after a "run" has started, and the average of the overall lot is not within contract requirements, the applicant may request one certificate for the entire lot with the grade of the lot determined by the average sublot results.

c. If the applicant requests "average milling yield," show the average sublot milling yield results for the entire lot and include the following statement in the "REMARKS" section of the certificate:

> "Sublot milling yield results ranged from (show the lowest percent of whole kernels and the highest percent of whole kernels) percent to (show the lowest percent of total rice and the highest percent of total rice) percent."

(This statement may be modified, as necessary, to clearly indicate the actual range of whole kernels and total rice results in the lot.)

d. Issue an inspection certificate for each roundlot inspection. Show the following information on each certificate:

(1) The identification and sampling date for each carrier;

(2) The date on which the last official service was completed (i.e., "inspection date");

(3) The average results for each of the factors determined during inspection; and

(4) The lowest results for subjective quality factors (e.g., milling degree and color) that were determined for one or more sublots.

7.10 ROUNDLOT TOLERANCES

a. Rough Rice.

(1) Milling yield (total): 3.0 percent of contract requirement.

(2) Milling yield (whole kernels): 4.0 percent of contract requirement.

(3) Seeds and heat-damaged kernels:

(a) Total (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	4	3
U.S. No. 2	7	4
U.S. No. 3	10	5
U.S. No. 4	27	6
U.S. No. 5	37	8
U.S. No. 6	75	12

(b) Heat-damaged kernels and objectionable seeds:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	3	3
U.S. No. 2	5	4
U.S. No. 3	8	4
U.S. No. 4	22	7
U.S. No. 5	32	8
U.S. No. 6	75	12

(c) Heat-damaged kernels:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

(4) Red rice and damaged kernels (singularly or combined):

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6[16]	15.0	2.5

(5) Other types:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

b. Brown Rice for Processing.

(1) Milling yield (total): 2.0 percent of contract requirement.

[16] U.S. No. 6 Rough rice must contain no more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singularly) is 1.5 percent.

(2) Milling yield (whole kernels): 3.0 percent of contract requirement.

(3) Paddy kernels:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	20 (count)	7
U.S. No. 2 – 5	2.0%	1.0%

(4) Seeds and heat-damaged kernels:

(a) Total (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	10	5
U.S. No. 2	40	10
U.S. No. 3	70	13
U.S. No. 4	100	16
U.S. No. 5	150	17

(b) Heat-damaged kernels:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	4	3
U.S. No. 4	8	4
U.S. No. 5	15	6

(c) Objectionable seeds:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	10	5
U.S. No. 3	20	7
U.S. No. 4	35	10
U.S. No. 5	50	12

(5) Red rice and damaged kernels (singularly or combined):

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	4.0	1.5
U.S. No. 4	8.0	2.0
U.S. No. 5	15.0	2.5

(6) Total broken kernels:

Contract Requirement (%)	Tolerance (%)
1.0 – 5.0	1.0
5.1 – 10.0	1.2
10.1 – 15.0	1.5
15.1 – 25.0	2.0
25.1 – 35.0	2.4

(7) Other types:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	5.0	1.1
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

(8) Well-milled kernels:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	3.0	0.8
U.S. No. 3	10.0	1.5
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

c. Milled Rice.

(1) Seeds, heat-damaged, and paddy kernels (singularly or combined):

(a) Total:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	4	3
U.S. No. 3	7	4
U.S. No. 4	20	7
U.S. No. 5	30	8
U.S. No. 6	75	13

(b) Heat-damaged kernels and objectionable seeds:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

(2) Red rice and damaged kernels (singularly or combined):

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6[17]	15.0	2.5

[17] U.S. No. 6 Milled rice must contain no more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singularly) is 1.5 percent.

(3) Total broken kernels:

Contract Specification (%)	Tolerance (%)
1.0 -4.0	1.0
4.1 – 7.0	1.2
7.1 – 15.0	1.8
15.1 – 27.0	2.0
27.1 – 35.0	2.4
35.1 – 50.0	2.5

(4) Other types:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	01.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

d. Brewers Milled Rice.

(1) Total paddy kernels and seeds:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.04
U.S. No. 2	1.0	0.10
U.S. No. 3	1.5	0.20
U.S. No. 4	3.0	0.20
U.S. No. 5	5.0	0.20

(2) Objectionable seeds:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.05	0.02
U.S. No. 2	0.1	0.10
U.S. No. 3	0.2	0.10
U.S. No. 4	0.4	0.20
U.S. No. 5	1.5	0.20

e. Second-Head Milled Rice.

(1) Seeds, heat-damaged, and paddy kernels (singularly or combined):

(a) Total (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	15	6
U.S. No. 2	20	7
U.S. No. 3	35	8
U.S. No. 4	50	10
U.S. No. 5	75	12

(b) Heat-damaged kernels and objectionable seeds (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	5	4
U.S. No. 2	10	5
U.S. No. 3	15	6
U.S. No. 4	25	7
U.S. No. 5	40	9

(2) Red rice and damaged kernels (singularly or combined):

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	3.0	1.2
U.S. No. 4	5.0	1.5
U.S. No. 5	10.0	2.0

f. Special Contract Limit. When the contract requires a factor limit that differs from the grade limit set in the U.S. Standards for Rice, use the tolerance established for the next higher quality grade.

For Example: A contract for U.S. No. 3 Long Grain Brown Rice for Processing limits the percentage of damaged kernels (DK) to a maximum of 1.5 percent. The grade limit for a U.S. No. 1 for red rice and damaged kernels is 1.0 percent, with a tolerance of 0.7 percent. The grade limit for a U.S. No. 2 is 2.0 percent, with a tolerance of 1.0 percent. Use the tolerance for a U.S. No. 1 for red rice and damaged kernels (0.7 percent), establishing the maximum DK for sublots graded under this contract at 2.2 percent.

7.11 EXAMPLES OF RUN RULE APPLICATIONS AND CORRECTIVE ACTION

Example #1. The declared grade of the lot is U.S. No. 5 Long Grain Milled Rice, maximum 20.0 percent total broken kernels (TBK). The sublot results for TBK are:

Sublot No. 1	21.3 percent
Sublot No. 2	20.0 percent
Sublot No. 3	21.9 percent
Sublot No. 4	19.9 percent
Sublot No. 5	19.6 percent
Sublot No. 6	18.5 percent
Sublot No. 7	9.0 percent

Explanation. Sublot 1 exceeds the contract requirement for TBK but not the tolerance. Therefore, the TBK results for sublots 1 - 5 are averaged.

a. The average TBK result is 20.5 percent. Since this exceeds the contract requirement, sublots 1 - 5 are declared a material portion.

b. To correct the material portion, the applicant elects to withdraw sublot 1.

c. After withdrawing sublot 1, the run rule is reapplied with sublot 6 replacing sublot 1.

d. The new average (sublots 2 - 6) is less than 20.0 percent.

e. After withdrawing sublot 1, the roundlot continues as if there had been no run, except that the next potential run begins with sublot 3 (21.9 percent). When the next four consecutive sublots (sublots 4 - 7) are averaged with sublot 3, the result is less than 20.0 percent, so the rice is considered to be within contract requirements.

Note: In this example, either sublot 1 or sublot 3 can be withdrawn from the roundlot in order to meet the contract requirement of 20.0 percent or less. When a sublot is withdrawn, the run rule is reapplied as if the withdrawn lot had never been offered for roundlot inspection.

Example #2. The declared grade of the lot is U.S. No. 5 Long Grain Milled Rice, maximum 20.0 percent total broken kernels (TBK). The sublot results for TBK are:

Sublot No. 1	22.0 percent
Sublot No. 2	21.8 percent
Sublot No. 3	20.3 percent
Sublot No. 4	19.8 percent
Sublot No. 5	19.3 percent
Sublot No. 6	19.6 percent
Sublot No. 7	19.6 percent
Sublot No. 8	18.6 percent
Sublot No. 9	19.6 percent
Sublot No. 10	21.7 percent
Sublot No. 11	20.4 percent

Explanation. Sublot 1 exceeds the contract requirement for TBK but not the tolerance. Therefore, the TBK results for sublot 1 are averaged with the TBK results for sublots 2 - 5.

a. The average result is over 20.0 percent. Since this exceeds the contract requirement, sublots 1 - 5 are declared a material portion.

b. To correct the material portion, the applicant elects to withdraw sublot 1 and sublot 2. Withdrawal of only one of the two sublots would not have been sufficient to lower the average of the five sublot group to 20.0 percent or less.

c. After withdrawing sublots 1 and 2, the roundlot continues as if there had been no run, except that the next potential run begins with sublot 3 (20.3 percent).

d. When the next four consecutive sublots (sublots 4 - 7) are averaged with sublot 3, the result is less than 20.0 percent, so the rice is considered to be within contract requirements.

Example #3. The declared grade of the lot is U.S. No. 2 Long Grain Milled Rice. The sublot results for OBS and HT are:

Sublot No. 1	3
Sublot No. 2	2
Sublot No. 3	3
Sublot No. 4	2
Sublot No. 5	2
Average	2.4 = 2

Sublot No. 1	3
Sublot No. 2	2
Sublot No. 3	3
Sublot No. 4	3
Sublot No. 5	2
Average	2.6 = 3

Explanation. Sublot 1 exceeds the contract requirement for OBS and HT but not the tolerance. Therefore, the results for sublots 1 - 5 are averaged and yield an average result of 2.4, which rounds to 2.

a. Since this does not exceed the contract requirement, sublots 1 - 5 are not considered to be a material portion.

b. Sublot 6 exceeds the contract requirement for OBS and HT but not the tolerance. Therefore, the results for sublots 6 - 10 are averaged and yield an average result of 2.6, which rounds to 3.

c. Since this exceeds the contract requirement, sublots 6 - 10 are considered a material portion.

Note: To determine results for a run for factors determined by count, add the factor results for five consecutive sublots beginning with a sublot which does not meet the contract requirements. Determine the average for these sublots then round to the nearest whole number according to established rounding.

CHAPTER 8:
IDENTITY-PRESERVED INSPECTION PLAN

CONTENTS

8.1 GENERAL INFORMATION

The identity-preserved (IP) inspection plan provides for the certification of bagged rice lots and bulk rough rice barges at one location based on results determined at another location.

The remainder of this chapter provides guidance on the responsibilities, lot identification, origin services, and destination services for bagged rice lots and bulk rough rice barges, respectively.

8.2 BAGGED RICE LOTS

Accordingly, a lot of bagged rice is specifically identified, sampled, inspected (and, when requested, checkweighed), and certified at an origin location. Then, after the lot has been shipped to another official service location (destination), its identity and condition is verified.

If the identification and condition of the lot has not changed, a new certificate is issued. This certificate shows the grade, class, factor results, and other information that were determined at origin, along with the carrier identification and similar information determined at destination.

a. Responsibilities.

(1) Applicant at Origin. The applicant must:

(a) Complete an application for service.

1 Show “IP Inspection” in the “REMARKS” section.

2 Show the destination of the lot in the “REMARKS” section.

(b) File the application with official personnel at origin prior to or at the time of the service.

(c) Provide for the proper identification of the lot and maintain the lot so that its identity is preserved.

(d) Provide the original certificates and any other pertinent documents to the applicant at destination.

Note: For shipments where destination services may be requested before the origin certificate can be delivered to the applicant at destination, the applicant at origin should surrender the original certificates to the official personnel at origin and request that the pertinent information and identification codes be transmitted to the official personnel at destination.

(2) Official Personnel at Origin. Official personnel must:

(a) Ensure that the lot is properly identified, and the identity is maintained.

(b) Sample and inspect the lot; perform all the requested services in accordance with the applicable procedures.

(c) Issue an official certificate in accordance with the applicable procedures.

(3) Applicant at Destination. The applicant must:

(a) Complete an application for service.

1 Show “IP Inspection” in the “REMARKS” section.

2 Show the method that was used at origin to identify the lot and the applicable bag code number or carrier seal number in the “REMARKS” section. (e.g., “Lot identified by coding bags - bag code number H123.”)

(b) File the application, the original certificate for the origin inspection, and any other pertinent documents, with official personnel at the destination office prior to or at the time of the requested service. Note on the application the amount of rice to be shipped.

(c) For lots identified only by carrier seal numbers, ensure that official personnel are present prior to breaking the seals and unloading the carriers. If such a lot is to be stored in a warehouse or similar facility at destination prior to final shipment, apply a code, or arrange for official personnel to apply a code, to the bags during the unloading operation.

(4) Official Personnel at Destination. Official personnel must:

(a) Review the origin certificate, application for service, and any other pertinent documents.

(b) Verify the identification and the condition of the lot, and, when necessary, apply or witness the application of a bag code to the bags during the unloading operation.

(c) Perform all other requested services in accordance with the applicable procedures.

(d) Issue an official certificate(s) in accordance with the applicable procedures.

b. Lot Identification. The applicant at origin must provide specific identity to the lot by either coding the bags in the lot or sealing the carriers into which the lot is loaded.

(1) Coding Bags.

(a) When coding is used, the applicant at origin must apply or arrange for official personnel to apply a special and unique code number to no less than 25 percent of the bags in each carrier or sublot.

(b) Each code number must consist of four or more alphanumeric digits. The first digit will be the letter identifying the field office from the list below. The remaining digits will be assigned according to procedures adopted by the field office manager or cooperator, in cooperation with the shipper.

B – Beaumont	**J – Jonesboro**	**N - New Madrid**
C – Crowley	**L - Lake Charles**	**S - Sacramento**
G – Greenville		**T - Stuttgart**
H - League City		

(c) The code number must be applied with either a hand roller stamp, commercial coder, coded tags sewn in seams, or any other FGIS-approved method.

1 Official personnel must maintain full control of hand roller stamps, and any other similar FGIS owned labeling equipment.

2 Official personnel must maintain a log of officially issued IP lot codes.

(d) Official personnel must record the code number on the work record(s) and in the "REMARKS" section of the certificate.

Note: If coded bags are subsequently loaded aboard carriers, official personnel must observe the bags being loaded into the carriers, witness the carriers being sealed, and issue an observation of loading certificate with the carrier identification and seal numbers listed.

(2) Sealing Carriers. When sealing is used, official personnel must observe the bags being loaded into the carriers, witness the carriers being sealed, and record the carrier identification and seal number(s) on the work record(s) and in the "REMARKS" section of the certificate.

c. Origin Services.

(1) Sampling, Inspection, and Other Services. Official personnel must:

(a) Sample, inspect, and perform all other requested services on the lot in accordance with the applicable procedures.

(b) If a component/sublot does not meet contract requirements, direct its removal from the lot and certify it separately. Ensure that all coded bags in such components/sublots have their code numbers obliterated or are emptied.

(2) Certification.

(a) Official personnel must certify the lot in accordance with the applicable procedures. Record the IP code in the identification field and show in the "REMARKS" section as follows:

"FGIS IDENTITY PRESERVED CODE NUMBER: (number)."

A separate code number must be used for each lot.

(b) Divided-lot certificates must not be issued on Identity Preserved lots at origin.

d. Destination Services.

(1) Identification and Condition Verification. Official personnel must:

(a) Check bag code numbers or carrier seal numbers to determine if the lot is the same as that identified on the origin certificate. If the identification of the lot cannot be verified, the IP inspection must be canceled.

(b) For lots identified only by carrier seal numbers, observe the breaking of the seals. If such a lot is to be stored in a warehouse or similar facility prior to final shipment, apply or witness the application of a bag code to the bags during the unloading operation.

(c) Examine the outside of all visible bags in each pallet or barge for animal filth, wetness, infestation, and large holes. Rice in a barge or ship may be examined while still in the barge, on the deck of a ship, or in the shiphold; provided that, a significant number of bags are accessible for examination.

1 If animal filth, wetness, or large holes are found on the outside of the bags, direct the applicant to remove the bags from the lot and subtract the number of bags removed from the lot. If the bags are not removed, cancel the IP inspection on that portion of the lot that contains the affected bags.

2 If insect infestation is found only on the outside of the bags, allow the applicant to fumigate the lot and request a condition examination. If the subsequent condition examination determines that the rice in the bags is free of live or dead insects, the lot may still be certified under the IP plan. If the bags are not fumigated, or if there is still live or dead infestation, cancel the IP inspection on that portion of the lot that contains the affected bags.

Note: Do not sample fumigated rice until after the time period specified by the manufacturer for the effective use of the fumigant, the rice has been adequately aerated, and a gas-free certificate has been issued by a licensed fumigator.

(d) Draw a sample from approximately 1 percent of the bags in each component or carrier. Examine each sample separately.

1 If the sample is out-of-condition, direct the applicant to remove the affected bags from the lot and subtract the number of bags removed from the lot. If the bags are not removed, cancel the IP inspection on that portion of the lot that contains the affected bags.

2 If the sample appears to be of a lower quality than the contract requirement, analyze the sample. If the sample exceeds the "New Sample" tolerance for any factor (see "Uniformity Tolerance Tables," located in Appendix 3, cancel the IP inspection on that portion of the lot that contains the affected bags.

Note: The applicant may request a warehouse-lot inspection on any portion of a lot which is out-of-condition or off-grade (exceeds the "new sample" tolerance).

(e) Perform any other services requested, such as checkcounting and observation of loading.

(f) Fully describe on the work record and certify any off-grade/out-of-condition portion of a lot so that bags from that portion will not be subsequently included with another lot without being inspected.

Note: Issue condition examination certificates for (a) bags that were removed from the lot; (b) bags that were not removed from the lot which have animal filth, wetness, or large holes on the outside of the bags, or which contain rice that is infested, out-of-condition, or of a lower quality than the contract requirement; and (c) bags that required a second examination subsequent to fumigation.

(2) Certification. Official personnel must:

(a) If the identification and condition of the lot is determined to be the same as that shown on the origin certificate(s), mark the certificate(s) issued at origin "VOID" and issue a new (destination) certificate.

(b) On each destination certificate, show the grade designation, class, kind, factor results, and other service-related information (e.g., checkweighing) taken from the origin certificate(s). Show all other information, such as identification of carrier, place of issuance, date, quantity, and location, as determined at destination. Do not show the IP code on the destination certificate.

(c) When a lot inspected under the IP plan is loaded aboard two or more carriers, issue a separate destination certificate for each portion of the lot, by carrier; provided, it has not been more than 30 days since the first destination certificate was issued.

1 Do not issue destination certificates on any remaining portion of a lot after the expiration of the 30-day period.

2 Show on each destination certificate the amount the applicant requests; provided, the amount does not exceed the total amount covered by the origin certificate.

3 Attach and file the superseded origin certificate(s) with a copy of the first destination certificate issued.

4 Document destination certificate number(s) on the work records.

(d) Allow applicants to switch from "Option 1" to "Option 2" certification. When two or more certificates are combined, the lowest quality grade will prevail on the destination certificate.

(e) Allow lots inspected under the IP plan to be combined with other lots of like grade and kind that were inspected under the IP plan or under the Warehouse Lot Inspection Plan (see Chapter 9, Warehouse Lot Inspection Plan).

1 Once certificates are combined, no further combining may be performed.

2 Factor results and other information must be based on the weighted average of the results shown on the origin certificates.

3 Multiply the number of bags recorded on each origin certificate by the factor results shown on each certificate.

4 Divide the total product by the total quantity of bags.

5 Follow the same procedure for other percentages, count factors, and checkweights. In cases where a percentage or count factor does not appear on all origin certificates, the weighted average must be based on those certificates which show the factor. For subjective factors, such as milling degree and color, show the factor which represents the lowest quality grade shown on the origin certificate(s).

For Example: Weighted Average Calculation

Origin Certs.	Quantity		Factor - Total Broken Kernels	Product
Certificate 1	26,250 bags	X	19.6 =	514,500
Certificate 2	48,750 bags	X	18.9 =	921,375
Certificate 3	23,350 bags	X	19.3 =	450,655
Certificate 4	56,700 bags	X	19.9 =	1,128,330
Certificate 5	46,250 bags	X	20.0 =	925,000
Certificate 6	35,000 bags	X	19.7 =	689,500
Total:	**236,300 bags**			**4,629,360**

4,629,360 ÷ 236,300 = 19.59 or 19.6 percent TBK

8.3 BULK IDENTITY-PRESERVED INSPECTION PLAN (BIP) (ROUGH RICE BARGES ONLY)

The bulk identity-preserved (BIP) inspection plan provides for the certification of bulk rough rice lots loaded into barges at one location based on results determined at another location.

Note: BIPs are not allowed for milled rice or brown rice. BIP is only allowed for bulk rough rice barges.

a. Requirements for Participation.

(1) Identification. The lot(s) must be loaded into a barge(s) that is clearly marked with a unique word or alpha numeric identifier. Barges must be sealed to preserve the identity of the lot.

(2) Sampling Methods. Only approved diverter-type (D/T) mechanical samplers, Pelican and Ellis cup sampling methods are approved for this inspection plan. Probe sampling methods are not approved for this inspection plan.

(3) Lot Requirements. Each barge must have an official single lot inspection certificate.

(4) Identity-Preserved. Use either FGIS-approved seals, an FGIS-approved tamper evident security tape, and/or other approved device(s) to secure the identity of each barge.

(5) Time Limits. Transfer to the final export vessel must occur within 30 days of the origin inspection service.

(6) Method of Transfer/Discharge. A floating rig using a “clam shell” for the method of discharge is the only transfer method approved.

b. Responsibilities.

(1) Applicant at Origin. The applicant must:

(a) Complete an application for service.

1 Show “Bulk IP Inspection” in the “REMARKS” section.

2 Show the Identification of the barge(s).

3 Show the destination of the lot in the “REMARKS” section.

(b) File the application with official personnel at origin prior to or at the time of the service.

(c) Provide the original certificates and any other pertinent documents to the applicant at destination.

(2) Official Personnel at Origin. Official personnel must:

(a) Ensure that the lot is properly identified, and that the identity is maintained.

(b) Sample and inspect the lot; perform all the requested services in accordance with the applicable procedures. Verify the barge(s) is sealed with appropriate sealing device(s) upon completion of loading and record on the work record.

(c) Issue an official certificate in accordance with applicable procedures.

(3) Applicant at Destination. The applicant must:

(a) Complete an application for service.

1 Show “Bulk IP Inspection” in the “REMARKS” section.

2 Check the box for “Condition” in the space provided for “KIND OF OFFICIAL INSPECTION SERVICE REQUESTED.”

3 Show the Identification of the barge(s), the amount of rice to be shipped and the name of the Vessel

(b) File the application, the original certificate for the origin inspection, and any other pertinent documents, with official personnel at the destination office prior to or at the time of the requested service.

(c) Ensure that the rice will be discharged at a floating rig location using the clam shell method of discharge.

(d) Ensure that official personnel are present prior to unsealing and unloading the barge(s).

(4) Official Personnel at Destination. Official personnel must:

(a) Review the origin certificate, application for service, and any other pertinent documents.

(b) Verify the identification, check that the seals or other approved sealing device(s) are intact and, if applicable, that the seal numbers are correct, witness the unloading/loading operation, and the condition of the lot.

(c) Perform all other requested services in accordance with the applicable procedures.

(d) Issue an official certificate(s) in accordance with the applicable procedures.

c. Origin Services.

(1) Sampling, Inspection, and Other Services. Official personnel must:

(a) Perform a stowage exam and facility exam.

(b) Sample the lot during loading with an FGIS-approved D/T mechanical sampler, Pelican, or Ellis cup sampler. Probe sampling is not permitted for this plan.

(c) Inspect/grade the rice and perform all other requested services on the lot in accordance with the applicable procedures.

(2) Certification.

(a) Official personnel must certify the lot in accordance with the applicable procedures and show in the "REMARKS" section the following statement:

"FGIS IDENTITY-PRESERVED BULK LOT."

(b) If the barge is sealed with approved seals, record the seal numbers on the work record and in the "REMARKS" section of the certificate. If another method of sealing is used, show the method in the "REMARKS" section. Use the following statement as a guide:

"This barge was sealed with FGIS-approved tamper evident security tape."

(c) Do not issue Bulk Identity Preserved divided-lot certificates at origin.

d. Destination Services.

(1) Identification and Condition Verification. Official personnel must:

(a) Check the barge identification and sealing device(s), to ensure that the lot is the same as that identified on the origin certificate. If the identification of the lot cannot be verified, the BIP inspection must be canceled.

(b) Observe the breaking of the sealing device(s).

Note: Sometimes during transit, seals do break. If the seal(s) is broken, but the condition of the lot is unchanged, continue with the BIP inspection plan.

(c) During the unloading/transfer process, draw a sample from each barge using Table 8.1 – Component and Sublot Size, shown below:

TABLE 8.1 – COMPONENT AND SUBLOT SIZE

Carriers	Maximum Component Size	Maximum Sublot Size
Standard Barges	300,000 pounds	1,000,000 pounds

(d) Examine each sample separately. Examine the rice for animal filth, heating, off-odors (sour, musty, and commercially objectionable), infestation, and quality.

1 If animal filth, heating, off-odors, or Distinctly Low Quality rice is found, direct the applicant to remove the affected rice from the lot. Subtract the weight of the portion removed from the lot and certify that portion separately. If the rice is not removed, cancel the BIP inspection on that portion of the lot that contains the affected rice and certify the lot as having (estimated quantity) of inferior rice loaded on board.

2 If the sample appears to be of a lower quality than the contract requirement, analyze the sample. If the sample exceeds the "New Sample" tolerance for any factor (see "Uniformity Tolerance Tables," located in Appendix 3, cancel the BIP inspection on that portion of the lot that contains the affected rice. (Do not examine samples for milling yield.)

3 If insect infestation is found, notify the applicant and record the amount and types of insects found on the work records. The applicant may choose to fumigate the lot in accordance with the guidelines in the Fumigation Handbook. If the rice is fumigated, the certificate will be issued as if the infestation designation had never been assigned. If the applicant chooses not to fumigate the lot, cancel the BIP inspection on that portion of the lot that contains the affected rice.

(e) Perform any other services requested.

(2) Certification. Official personnel must:

(a) If the identification and condition of the lot is determined to be the same as that shown on the origin certificate(s), mark the certificate(s) issued at origin "VOID" and issue a new (destination) certificate.

(b) Allow lots inspected under the BIP plan to be combined with other lots of like grade and kind that were inspected under the BIP plan or single-lot plan.

(c) Allow applicants to switch from "Option 1" to "Option 2" certification. When two or more certificates are combined, the lowest quality grade will prevail on the destination certificate.

(d) Factor results and other information must be based on either the mathematical or the weighted average, as applicable, of the results shown on the origin certificate(s).

(e) For subjective factors that are not quantified, such as color, show the factor that represents the lowest quality grade shown on the origin certificate(s).

(f) On the destination certificate, show the grade designation, class, kind, factor results, and other service-related information taken from the origin certificate(s). Show all other information, such as identification of ship, place of issuance, date, quantity, and location, as determined at destination. Do not show the BIP statement on the destination certificate.

(g) When a lot inspected under the BIP plan is loaded aboard two or more ship, issue a separate destination certificate for each portion of the lot, by ship, provided it has not been more than 30 days since the first origin certificate was issued.

1 Do not issue destination certificates on any remaining portion of a lot after the expiration of the 30-day period.

2 Attach and file the superseded origin certificate(s) with a copy of the first destination certificate issued.

3 Document destination certificate number(s)on the work records.

(h) When BIP rice loaded on board a ship is loaded with rice that is not uniform in quality, certify as a separate lot. When the rice is non-uniform, the certificate for each lot loaded on board the ship will show the grade of the lot, as well as the following, located in the “REMARKS” section:

1 A statement that the rice has been loaded on board with other rice;

2 The grade, location, and approximate quantity of the other rice; and

3 Any additional information required by the Administrator.

For Example: “This rice was loaded aboard with approximately 1,500,000 pounds of US No. 6 LGRUF in holds 1,2,3 without separation.”

CHAPTER 9:
WAREHOUSE-LOT INSPECTION PLAN

CONTENTS

9.1 GENERAL INFORMATION

a. A warehouse-lot is a multiple-unit lot of bagged rice, including rice in containers and “tote” bags, or bulk rice in bins, that is at rest in a warehouse, mill, or similar structure (e.g., staging units to be loaded into a vessel).

b. The warehouse-lot inspection plan provides for sampling and inspecting warehouse-lots of rice as a single lot.

(1) Rice inspected under this plan is examined for both uniformity in quality and compliance with grade/contract requirements.

(2) This plan utilizes established tolerances (i.e., statistically pre-determined limits) for accepting those occasional portions of a lot that, due to known sampling and grading variations, may grade below the desired lot quality.

9.2 APPLICATION FOR INSPECTION

Prior to beginning the inspection, the applicant must submit an FGIS- 907, “Application for Inspection and Weighing Services,” or a cooperator’s form.

a. The application must declare: (1) the contract requirements (contract grade and other specifications); (2) the approximate quantity of rice in the lot; (3) “Option 1” or “Option 2” certification; and (4) any other needed information.

b. The application must be signed.

9.3 COMPONENTS, BLOCKS, AND SUBLOTS

a. Component. A component is a portion of a block (e.g., 2,000 bags in a 4,000-bag block).

(1) There must be no less than two components in every block.

(2) All components in the lot must be reasonably uniform in size (i.e., the largest sized component no more than 25 percent larger than the smallest component).

(3) Component size must be established by the official inspection personnel and may not be changed once the inspection has begun.

b. Block. A block is a portion of a sublot consisting of 4,000 to 8,000 bags of rice, or approximately 400,000 to 800,000 pounds of bulk rice. Component size and composition must be established by the official inspection personnel and may not be changed once the inspection has begun.

c. Sublot. A sublot is a portion of the overall lot consisting of one or more blocks.

(1) Except for the last sublot, all sublots in the lot must be reasonably uniform in size. (i.e., The largest-sized sublot must not be more than 25 percent larger than the smallest sublot, excluding the last sublot.)

(2) Sublot size must be established by the official inspection personnel and may not be changed once the inspection has begun.

d. Use Table 9.1 – Components, Blocks, and Sublots, shown below, when determining the quantity of rice to include in a component, and when determining the number of components in a block, blocks in a sublot, and sublots in a lot.

TABLE 9.1 – COMPONENTS, BLOCKS, AND SUBLOTS

BAGS (CWT)[1] IN THE LOT	COMPONENTS[2] IN THE BLOCK	BLOCKS IN THE SUBLOT	SUBLOTS IN THE LOT
1 - 6,000	2 - 6	1	1
6,001 - 18,000	6 - 18	2 - 3	2
18,001 - 36,000	18 - 36	4 - 6	3
36,001 - 78,000	36 - 78	7 - 13	4
78,001 - 150,000	78 - 150	14 - 25	5
150,001 - 300,000	150 - 300	26 - 50	6
300,001 - 600,000	300 - 600	51 - 100	7
600,001 or more	Add one for each 1,000 bags over 600,000	Add one for each 6,000 bags over 600,000	8

1 For bulk lots, equivalent amount in hundredweight (CWT) or pounds.

2 When a bulk probe is used, consider each probe as a component sample.

e. After determining the number of components, blocks, and sublots in the lot, identify the rice that will comprise each of the blocks.

(1) Review the size and physical layout of the lot.

(2) Randomly select a storage area (section, bay, or doorway).

(3) Then, begin physically grouping the rice into blocks and the blocks into sublots. (e.g., Ex-railcar lot UP 1234 is identified as component 1, components 1, 2, 3, and 4 are grouped together as block 1, and blocks 1 and 2 are combined to form sublot 1.)

f. For bagged rice, determine which blocks must be made fully accessible. (i.e., a minimum of one side of each pallet in a block is completely exposed so that a sample may be drawn from any sack facing that side.)

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(1) *For new applicants*, all pallets in each block must be made fully accessible for inspection until 15 consecutive blocks are inspected without noting any non-uniformity.

(2) *For all other applicants*, approximately one-fifth of the blocks must be made fully accessible; provided that, if any non-uniformity is noted in a component, block, or sublot, then all pallets in each of the next 15 consecutive blocks must be made fully accessible.

Note: When some bags are non-uniform because of water damage, bird droppings, or similar conditions, and these bags are removed from the lot, the applicant is not required to make the next 15 blocks fully accessible.

(3) For each lot inspected, a minimum of one block must be made fully accessible.

(4) Use a random number table that has been assigned to the specific applicant to determine which blocks must be made fully accessible.

(a) Divide the number of blocks in the lot by 5 and select that number of random numbers. Select one additional number if there is a remainder after dividing (e.g., if there are 19 blocks in lot, select 4 random numbers).

(b) When a number selected from the random number table is greater than the number of blocks in the lot, select another number.

(c) The number selected from the table represents the intervals between blocks that must be made fully accessible.

For Example: A lot has 20 blocks. Four random numbers are selected: 5, 8, 3, and 6. By using these numbers to plot the intervals between selected blocks, it is determined that blocks 5, 13, and 16 must be made fully accessible.

Block #s	1	2	3	4	**5**	6	7	8	9	10	11	12	**13**	14	15	**16**	17	18	19	20
Random #s	1	2	3	4	**5**	1	2	3	4	5	6	7	**8**	1	2	**3**	1	2	3	4

9.4 UNIFORMITY CRITERIA

a. Draw a sample from each component according to the procedures in Chapter 2, Sampling.

(1) When bulk rice is sampled with a compartmented probe, consider each probe as one component sample.

(2) Each component must be approximately equal in size.

(a) If the component being sampled is part of a block that must be made fully accessible, a minimum of one bag from each pallet must be sampled.

(b) If the component being sampled is part of a block that is not required to be made fully accessible, a minimum of one bag from each pallet that is accessible must be sampled.

Note: The surface of top bags on the top pallets of blocks selected must be examined for condition.

b. Visually examine each component sample for uniformity of quality. (i.e., No factors appear to exceed the grade/contract requirements by more than the grade/contract limit or the established warehouse-lot tolerance.)

Note: Do not examine component samples for milling yield.

c. If the component sample appears to be uniform in quality, combine the sample with other uniform component samples to form a block sample.

d. When the component sample appears to be not uniform in quality, analyze the sample for the potentially nonuniform factor(s).

(1) Warehouse-Lot Tolerances. For factors that have warehouse-lot tolerances, make *only one* determination.

(a) If the results do not exceed the warehouse-lot tolerance, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a block sample. Do not record the component factor results on the log or FGIS-911.

(b) When the results exceed the warehouse-lot tolerance, declare the rice represented by that component sample to be a material portion and certify it as a separate lot. When this occurs, the next 15 consecutive blocks must be made fully accessible.

(2) Other Factors. For all other factors, make two determinations.

(a) If the results of either determination are within the grade/contract requirement, consider the component as being uniform in quality and combine the component sample with other uniform component samples to form a block sample. Do not record the component factor results on the log or FGIS-911.

(b) If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion and certify it as a separate lot. Show the average results of the determination on the certificate. When this occurs, the next 15 consecutive blocks must be made fully accessible.

e. Visually examine each block sample for uniformity of quality. (i.e., No factors appear to exceed the grade/contract requirements by more than the grade/contract limit or the established warehouse-lot tolerance.)

Note: Do not examine block samples for milling yield.

f. If the block sample appears to be uniform in quality, combine the sample with other uniform block samples to form a sublot sample.

Note: Since the size of blocks may vary by as much as 4,000 bags, combine block samples in proportion to their size. For example, if 40 percent of the bags in the sublot are from block 1, then 40 percent of the sublot sample should be taken from the block 1 sample.

g. When the block sample appears to be not uniform in quality, analyze the sample for the potentially nonuniform factor(s).

(1) Warehouse-Lot Tolerances. For factors that have warehouse-lot tolerances, make *only one* determination.

(a) If the results do not exceed the warehouse-lot tolerance, consider the block as being uniform in quality and combine the block sample with other uniform block samples to form a sublot sample. Do not record the block factor results on the log or FGIS-911.

(b) When the results exceed the warehouse-lot tolerance, declare the rice represented by that block sample to be a material portion and certify it as a separate lot. When this occurs, the next 15 consecutive blocks must be made fully accessible.

(2) Other Factors. For all other factors, make two determinations.

(a) If the results of either determination are within the grade/contract requirement, consider the block as being uniform in quality and combine the block sample with other uniform component samples to form a sublot sample. Do not record the component factor results on the log or FGIS-911.

(b) If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion and certify it as a separate lot. Show the average results of the determination on the certificate. When this occurs, the next 15 consecutive blocks must be made fully accessible.

h. Analyze each sublot sample for all contract and grade determining factors and record the results on the log or FGIS-911.

Note: For a factor's average results to be shown on the Rice Inspection certificate for warehouse-lot inspection, all sublots must be analyzed for that factor and the sublot results must be properly recorded on the log or FGIS-911.

(1) Warehouse-Lot Tolerances. For factors that have warehouse-lot tolerances, make only one determination.

(a) If the results do not exceed the warehouse-lot tolerances, consider the sublot as being "within contract."

(b) If the results exceed the warehouse-lot tolerance, declare the rice represented by that sublot sample to be a material portion, certify it as a separate lot, and line through the factor results on the log or FGIS-911. When this occurs, the next 15 consecutive blocks must be made fully accessible.

Note: If the applicant requests "average milling yield," do not apply warehouse-lot tolerances to the results.

(2) Other Factors. For all other factors, make two determinations.

(a) If the results of either determination are within the grade/contract requirement, consider the sublot as "within contract."

(b) If the results of both determinations exceed the grade/contract requirement, declare the rice represented by that component sample to be a material portion, certify it as a separate lot, and line through the factor results on the log or FGIS-911. Show the average results of the determination on the certificate. When this occurs, the next 15 consecutive blocks must be made fully accessible.

9.5 CORRECTING NON-UNIFORMITY

When non-uniformity of quality is noted within an identified lot, the action required to correct the non-uniformity will vary. Inspection personnel must exercise good reasoning and judgement when at warehouse locations. Questionable or unusual situations must be discussed with supervisory personnel before taking final action.

Note: Whenever non-uniform bags are found in a lot, inspectors must observe and verify that the affected bags are removed from the lot and conspicuously marked as rejected.

a. Component Sample – Non-Uniform.

(1) When a component sample is found to be non-uniform in quality, other component samples taken from the block must be carefully examined before requiring that all pallets in the next 15 consecutive blocks be made fully accessible.

(a) If the non-uniformity is limited to only a small number of bags in the component, the non-uniform bags must be removed from the lot and separately certified.

(b) In such circumstances, it would not be necessary to require the next 15 blocks to be made fully accessible. However, if the non-uniformity is prevalent throughout one or more components, accessibility of the next 15 blocks is required.

(2) When a component is found to be non-uniform *because of conditions such as water damage or bird droppings*, the non-uniform bags must be removed from the lot and separately certified. In such circumstances, it would not be necessary to require the next 15 blocks to be made fully accessible. However, the top bags of the next 15 blocks must be carefully inspected to ensure that all such damaged bags are found and removed.

b. Insect Infestation – Not Fully Accessible. When insect infestation is found in a component sample of a block that is not fully accessible, the inspector must record the incident and continue with the inspection.

(1) If, by sampling consecutive blocks (fully accessible or not), the inspector continues to find infestation, there would be no need to require that the next 15 blocks be made fully accessible.

(2) If the infestation is not prevalent in one or more components of a block, the inspector may require one or more of the next 15 blocks be made accessible to determine the extent of the infestation.

(3) If flying moths are found on or around the block, there would be no need to require that the next 15 blocks be made fully accessible. However, the other blocks should be carefully examined for such infestation.

(4) Bagged rice stored in warehouses sometimes becomes infested with larvae, moths, and weevils. Often the entire lot is not infested, but only a portion of the lot. Applicants may request that official inspection personnel inspect and segregate the infested rice from the rice that would be acceptable for shipment. Accordingly, the rice may be inspected on a pallet-by-pallet basis, but not on a bag - by- bag basis.

The following example illustrates the procedure to be used:

Step 1 The applicant requests an inspection of 100,000 bags of milled rice on pallets in a warehouse.

Step 2 The warehouse-lot inspection plan is followed, and the rice submitted for inspection is divided into appropriate blocks.

Step 3 The plan calls for 5 sublots, each sublot containing 20,000 bags.

Step 4 The plan permits the inspector to have 20 blocks for the entire lot. Each block will consist of 5,000 bags.

Step 5 Each block will have 5 components of 1,000 bags each. (100 components in the total lot.)

Step 6 The inspector finds a component sample representing 1,000 bags that is not uniform in quality because of dead insects in the sample or on the bags.

Step 7 The 4,000 bags that were found uniform in quality are considered as an accepted block, and the sample representing the 4,000 bags will be composited with the sublot sample.

Step 8 The 1,000 bags of U.S. Sample Grade rice will be separately certified and the Food and Drug Administration (FDA) will be contacted in accordance with *FGIS Directive 9060.2*, "Implementation of the FGIS-FDA Memorandum of Understanding."

Step 9 Notify the applicant of the above action.

Step 10 The applicant requests FGIS to perform a pallet-by-pallet inspection to separate the infested pallets from the acceptable pallets.

Step 11 FGIS informs FDA of the applicant's request, and, if FDA has no objections, FGIS will perform a pallet-by-pallet inspection.

Step 12 The applicant will make each pallet accessible to the inspector for inspection.

Step 13 Each pallet will be treated as a single lot inspection and will first be inspected for condition. The minimum number of bags sampled will be in accordance with the Chapter 2, Sampling. More bags may be sampled at the discretion of the inspector, and an individual bag may be sampled more than one time.

Suspected infested areas that can be viewed through the translucent bag material may be sampled to determine if these areas are insects, seeds, or foreign material. Some pallets may be rejected without sampling by a visual examination if webbing, insects, or insect refuse is present on the outside of the bags or is viewed through the bag material. Samples taken must be sieved to determine if insects are present (one insect per pallet will be sufficient to consider the pallet U.S. Sample Grade).

Note: Samples taken from suspected areas may contain more seeds and foreign material than representative samples. Samples taken at this time are to determine condition only and must be discarded after sieving.

Step 14 If the pallets examined for condition are found not to be acceptable, they may be included with other pallets of the same condition.

Failing pallets may be certified as one lot. A portion of the bags on all four sides of the rejected pallet are to be marked with a felt tip marker, chalk, roller stamp, or other suitable means of identification.

Step 15 Pallets found to be in an acceptable condition (no infestation) are to be immediately sampled for quality. Samples are to be taken in accordance with the procedures in Chapter 2, Sampling. This sample will be sieved for infestation. One insect per pallet will be sufficient to consider the pallet U.S. Sample Grade, as a number of pallets will be combined to constitute a lot. If no infestation is found, this sample will be composited with other samples of the same quality to make a lot sample.

Step 16 Issue two separate certificates at the conclusion of the inspection: One certificate representing the pallets found acceptable, and another certificate representing the pallets found unacceptable. Show the quality of the rice and condition of the containers on each certificate.

Step 17 Notify FDA of the location and amount of rice that meets the defect action level.

Step 18 No further inspection may be performed until the rice is released by FDA.

9.6 TIME LIMITATIONS

If reasonably continuous inspection service is not maintained, a warehouse-lot inspection certificate must be issued for that portion of the lot inspected prior to the break in inspection service or after each additional break in inspection service.

a. "Reasonably continuous inspection service" can include inactive periods of no more than 88 consecutive hours (includes weekends and holidays).

b. To be considered "reasonably continuous service," at least one block must be inspected during any 88-hour period.

9.7 REVIEW INSPECTIONS

When a sublot's factor results exceed either the grade/contract requirements or the warehouse-lot tolerance, the applicant may request an appeal inspection on that sublot, provided that the applicant withdraws the sublot from the lot.

a. The warehouse-lot tolerances cannot be applied to a single sublot.

b. If the appeal inspection determines that the sublot meets grade/contract requirements, the sublot cannot be re-entered in the original lot unless the applicant requests an appeal inspection on all of the other sublots in that lot.

9.8 MATHEMATICAL OR WEIGHTED AVERAGE

After completing the inspection of all sublots, calculate the factor information to be shown on the certificate(s) by one of the following methods:

a. Mathematical Average Method. If the lot is composed of 10 or more "reasonably uniform"[18] sublots or any number of "uniform"[19] sublots, mathematically average the sublot factor results (excluding any sublot(s) to be certified as a separate lot).

b. Weighted Average Method. For all other lots, average the sublot factor results (excluding any sublot(s) to be certified as a separate lot) in the following manner:

(1) Multiply each sublot factor result by the quantity of rice (bags or pounds) in the sublot.

For Example: Weighted Average Calculation

Sublot	Quantity		Factor to be Weighted (Total Broken Kernels)		Product
Sublot No. 1	18,750 bags	x	19.6	=	367,500
Sublot No. 2	18,750 bags	x	18.9	=	354,375
Sublot No. 3	18,750 bags	x	20.8	=	390,000
Sublot No. 4	21,250 bags	x	19.3	=	410,125
TOTAL	77,500 bags				1,522,000

(2) Total the products for each factor column. (In the above example, the total is 1,522,000.)

(3) Divide each totaled product by the total quantity (e.g., 1,522,000); 77,500 = 19.64, or 19.6 percent total broken kernels.

Note: For subjective factors (e.g., milling degree), show on the certificate the lowest quality determined for one or more sublots.

[18] The term "reasonably uniform" means that the largest sized sublot is no more than 25 percent larger than the size of the smallest sublot (excluding the last sublots) in the lot.
[19] The term "uniform" means that the components are one standard size or are within 5 percent of the standard.

9.9 CERTIFICATION

a. If the mathematical or weighted average of all factors in the lot are within contract requirements, issue one certificate.

b. When the average of all factors is not within contract requirements, issue separate certificates for each individual sublot:

(1) Two or more sublots failing to meet the same contract requirement may be combined and certified together as a separate lot.

(2) Sublots that fail to meet different contract requirements must be certified as separate lots.

c. If the applicant requests "average milling yield," show the average sublot milling yield results for the entire lot and include one of the following statements in the "REMARKS" section of the certificate:

(1) "Sublot milling yield results ranged from (Lowest Percent – Highest Percent Whole Kernels) % to (Lowest Percent – Highest Percent Total Rice) %."

Example: Sublot milling yield results ranged from 68%-72% to 74%-77%.

(2) "Sublot Milling yield results ranged from (Lowest Percent – Highest Percent) % Whole kernels - (Lowest Percent – Highest Percent Total Rice) %."

Example: Sublot milling yield results ranged from 68%-72% Whole Kernels to 74%-77% Total Rice.

d. Issue an inspection certificate for each warehouse-lot inspection. Show the following information on each certificate:

(1) The identification and sampling date(s);

(2) The date that the last sublot was graded as the inspection date;

(3) The average results for each of the factors determined during inspection; and

(4) The lowest results for subjective quality factors (e.g., milling degree and color) that were determined for one or more sublots.

9.10 WAREHOUSE-LOT TOLERANCES

a. Rough Rice.

(1) Milling yield (total): 3.0 percent of contract requirement.

(2) Milling yield (whole kernels): 4.0 percent of contract requirement.

(3) Seeds and heat-damaged kernels:

(a) Total (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	4	3
U.S. No. 2	7	4
U.S. No. 3	10	5
U.S. No. 4	27	6
U.S. No. 5	37	8
U.S. No. 6	75	12

(b) Heat-damaged kernels and objectionable seeds:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	3	3
U.S. No. 2	5	4
U.S. No. 3	8	4
U.S. No. 4	22	7
U.S. No. 5	32	8
U.S. No. 6	75	12

(c) Heat-damaged kernels:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

(4) Red rice and damaged kernels (singularly or combined):

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6[20]	15.0	2.5

(5) Other types:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

b. Brown Rice for Processing.

(1) Milling yield (total): 2.0 percent of contract requirement.

[20] U.S. No. 6 Rough rice must contain no more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singularly) is 1.5 percent.

(2) Milling yield (whole kernels): 3.0 percent of contract requirement.

(3) Paddy kernels:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	20 (count)	7
U.S. No. 2 – 5	2.0%	1.0%

(4) Seeds and heat-damaged kernels:

(a) Total (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	10	5
U.S. No. 2	40	10
U.S. No. 3	70	13
U.S. No. 4	100	16
U.S. No. 5	150	17

(b) Heat-damaged kernels:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	4	3
U.S. No. 4	8	4
U.S. No. 5	15	6

(c) Objectionable seeds:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	10	5
U.S. No. 3	20	7
U.S. No. 4	35	10
U.S. No. 5	50	12

(5) Red rice and damaged kernels (singularly or combined):

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	4.0	1.5
U.S. No. 4	8.0	2.0
U.S. No. 5	15.0	2.5

(6) Total broken kernels:

Contract Requirement (%)	Tolerance (%)
1.0 – 5.0	1.0
5.1 – 10.0	1.2
10.1 – 15.0	1.5
15.1 – 25.0	2.0
25.1 – 35.0	2.4

(7) Other types:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	5.0	1.1
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

(8) Well milled kernels:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.5
U.S. No. 2	3.0	0.8
U.S. No. 3	10.0	1.5
U.S. No. 4	10.0	1.5
U.S. No. 5	10.0	1.5

c. Milled Rice.

(1) Seeds, heat-damaged, and paddy kernels (singularly or combined):

(a) Total:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	2	2
U.S. No. 2	4	3
U.S. No. 3	7	4
U.S. No. 4	20	7
U.S. No. 5	30	8
U.S. No. 6	75	13

(b) Heat-damaged kernels and objectionable seeds:

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	1	1
U.S. No. 2	2	2
U.S. No. 3	5	4
U.S. No. 4	15	6
U.S. No. 5	25	7
U.S. No. 6	75	13

(2) Red rice and damaged kernels (singularly or combined):

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.6
U.S. No. 2	1.5	0.9
U.S. No. 3	2.5	1.1
U.S. No. 4	4.0	1.5
U.S. No. 5	6.0	1.5
U.S. No. 6[21]	15.0	2.5

[21] U.S. No. 6 Milled rice must contain no more than 6.0 percent damaged kernels. The tolerance for damaged kernels (singularly) is 1.5 percent.

(3) Total broken kernels:

Contract Specification (%)	Tolerance (%)
1.0 -4.0	1.0
4.1 – 7.0	1.2
7.1 – 15.0	1.8
15.1 – 27.0	2.0
27.1 – 35.0	2.4
35.1 – 50.0	2.5

(4) Other types:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	01.0	0.5
U.S. No. 2	2.0	0.7
U.S. No. 3	3.0	0.8
U.S. No. 4	5.0	1.1
U.S. No. 5	10.0	1.5
U.S. No. 6	10.0	1.5

d. Brewers Milled Rice.

(1) Total paddy kernels and seeds:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.5	0.04
U.S. No. 2	1.0	0.10
U.S. No. 3	1.5	0.20
U.S. No. 4	3.0	0.20
U.S. No. 5	5.0	0.20

(2) Objectionable seeds:

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	0.05	0.02
U.S. No. 2	0.1	0.10
U.S. No. 3	0.2	0.10
U.S. No. 4	0.4	0.20
U.S. No. 5	1.5	0.20

e. Second-Head Milled Rice.

(1) Seeds, heat-damaged, and paddy kernels (singularly or combined):

(a) Total (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	15	6
U.S. No. 2	20	7
U.S. No. 3	35	8
U.S. No. 4	50	10
U.S. No. 5	75	12

(b) Heat-damaged kernels and objectionable seeds (singularly or combined):

U.S. Grade	Grade Limit	Tolerance
U.S. No. 1	5	4
U.S. No. 2	10	5
U.S. No. 3	15	6
U.S. No. 4	25	7
U.S. No. 5	40	9

(2) Red rice and damaged kernels (singularly or combined).

U.S. Grade	Grade Limit (%)	Tolerance (%)
U.S. No. 1	1.0	0.7
U.S. No. 2	2.0	1.0
U.S. No. 3	3.0	1.2
U.S. No. 4	5.0	1.5
U.S. No. 5	10.0	2.0

f. Special Contract Limit. When the contract requires a factor limit that differs from the grade limit set in the U.S. Standards for Rice, use the tolerance established for the next higher quality grade.

For Example: A contract for U.S. No. 3 Long Grain Brown Rice for Processing limits the percentage of damaged kernels (DK) to a maximum of 1.5 percent. The grade limit for U.S. No. 1 Red rice and damaged kernels is 1.0 percent, with a tolerance of 0.7 percent. The grade limit for U.S. No. 2 is 2.0 percent with a tolerance of 1.0 percent. Use the tolerance for U.S. No. 1 Red rice and damaged kernels (0.7 percent), establishing the maximum DK for sublots graded under this contract at 2.2 percent.

CHAPTER 10:
COMMODITY PROCUREMENT LOT INSPECTIONS

CONTENTS

10.1 INTRODUCTION

a. The USDA Agricultural Marketing Service (AMS) purchases a variety of 100% domestically produced and processed commodity food products by periodically issuing a Master Solicitation for Commodity Procurements (Master Solicitation) for distribution through Domestic and International Food Distribution Programs. These purchases support American agriculture by encouraging consumption of domestically produced foods. The products purchased by USDA are delivered to schools, food banks and households in communities across the country and are a vital component of our nation's and the world's food safety net.

b. USDA Foods purchasing is a coordinated effort. AMS Commodity Procurement Program (CPP) develops the product and purchase specifications, manages the Web-Based Supply Chain Management System (WBSCM), and conducts the procurements. The Food and Nutrition Service (FNS) manages the food and nutrition assistance programs, including the National School Lunch Program and The Emergency Food Assistance Program, generating demand (orders) from qualified recipients for various USDA Foods and coordinating with AMS on the purchase planning and scheduling.

c. FGIS provides official inspections for rice purchased by USDA to ensure conformance with contract requirements. As official personnel, you play several important and critical roles in the success of these programs. Adhering to the inspection guidance and instructions provided in this appendix ensures that:

   (1) Programs receive both the quality and quantity of rice that American taxpayers committed to the lots being inspected;

   (2) Rice was processed and packaged under sanitary conditions as required by the Food and Drug Administration (FDA);

   (3) Packaging is sound and meets the purchase specifications for type and marketing; and

   (4) Rice inspected is properly loaded into a carrier that is suitable to maintain its quality.

d. Your work is crital to the integrity and image of rice provided by USDA to our fellow citizens in the United States and those that the U.S. Government assists around the globe.

e. This chapter provides you with the information, guidance and documents you will need to perform these important duties.

10.2 CONTRACT SPECIFICATIONS

a. The Commodity Requirement Documents (CRD) provide the contract specifications that suppliers or companies use when bidding to sell rice to USDA. These documents also outline relevant information regarding FGIS inspections and responsibilities.

b. The applicant is responsible for providing all applicable contract documents and specifications to FGIS. The quality, weight, and packaging of the rice must be verified by Rice Inspection Certificates issued by FGIS. In addition to the quality requirements, as determined by officially sampling and grading, the documents also specify all the required inspections that must be performed by FGIS. These requirements include checkweighing, condition of food container examinations, and may include checkloading.

c. Additional inspections may be required. Refer to the Rice Products for use in Domestic Programs and Milled Rice and Fortified Milled Rice for use in International Food Assistance Programs to determine FGIS inspection and certification requirements for Domestic and Export contracts.

d. The Master Solicitation - for Domestic and International programs will also provide contract clauses with information regarding the required plant examinations that include Food Defense Survey and Sanitation Inspections. These examinations must be up-to-date when performing commodity procurement inspections.

10.3 RESPONSIBILTIES OF CONTRACTORS AND OFFICIAL PERSONNEL

a. Applicants. Applicants are required to:

(1) Employ the services of the USDA, FGIS or cooperator to determine all required plant examinations, inspections, services and tests.

(2) Schedule service in a timely manner by notifying the appropriate FGIS office or cooperator by 1400 the business day prior to requested service.

(3) Furnish appropriate specifications, amendments, and standards needed to perform the inspection.

(4) Mark the lot with a traceable code number.

(5) Make the lot and replacement containers available and accessible for examination and sampling.

(6) Re-coop and replace primary and secondary containers removed from the lot for official inspection(s).

Applicants are required to immediately notify the contracting officer of lots that fail to meet contract requirements.

b. Official Personnel. Official personnel are responsible for:

(1) Discussing the contract requirements and inspection procedures with the applicant prior to production and/or inspection.

(2) Performing plant examinations to ensure the rice is processed and packaged in a safe and sanitary environment.

(3) Following FGIS sampling procedures and inspecting the rice according to the U.S. Standards for Rice.

(4) Performing all inspections and services according to contract requirements.

(5) Completing all required official documentation and issuing a rice inspection certificate.

10.4 PLANT EXAMINATIONS

a. Food Defense Survey. A review of a facility's food defense plan to verify their efforts to protect their food and food production processes from acts of intentional adulteration.

b. Sanitation Inspection. An inspection performed in a plant, facility and/or warehouse to ensure that the rice is processed, stored, and handled in a sanitary manner.

Sanitation inspections must be performed in a plant, facility and/or warehouse that processes or intends to process, package and/or store rice requiring USDA inspection for quality or grade under a contract with the federal government.

Sanitation inspections are performed before a facility begins processing and/or packaging and on a periodic basis thereafter, as outlined in the Sanitation Inspection Handbook.

In addition to these inspections, official personnel must constantly stay alert when onsite to make sure that the rice is packaged and stored under sanitary conditions.

(1) Any condition that is unsanitary must be brought to the attention of the plant supervisor for immediate correction.

(2) A notation must also be made on FGIS-992, "Services Performed Report."

(3) If the unsanitary condition is not corrected, the official personnel must contact the field office manager or cooperator manager.

(4) The manager will determine if conditional withholding of service is warranted and, if so, is responsible for notifying the applicant in accordance with *FGIS Directive 9100.3*, "Withholding and Withdrawal of AMA Inspection Services."

10.5 GENERAL INSPECTION PROCEDURES

Receive the "Application for Inspection and Weighing Services" (FGIS-907) from applicant. (Cooperators may use similar form(s)).

a. Review the request for service and determine the inspection and weighing services to be performed on the specified lot(s). Domestic and Export contracts may require different inspection services according to the Commodity Description documents. Contracts may also have varying inspection requests. Work with applicant to ensure all required inspection services for the specific contract are requested. Additional inspection services may also be requested by the applicant.

(1) Obtain the necessary forms for official documentation (e.g., FGIS-992, Condition of Food Container worksheet(s) (COFC), for the type of food container being inspected);

(2) Determine the appropriate sampling device and scale according to the size of the containers to be inspected and weighed;

(3) Identify the lot(s) for inspection to verify the size of the lot and the location; and

(4) Determine how the lot will be identified (e.g., unique lot codes marked on packaging by applicant, USDA assigned lot number).

b. Perform inspection and weighing services. A general order of inspection and weighing services is as follows:

Note: Containers randomly selected may be used for multiple inspection services (e.g., sampling, checkweighing and COFC).

(1) Sample the lot according to official procedures provided in Chapter 2, Sampling, of this Handbook.

(2) Checkweigh the lot according to Chapter 4, Checkweighing, of the FGIS Weighing Handbook.

c. Checkweighing. Checkweighing is performed to determine the estimated weight of the lot to ensure it meets the weight requirements of the contract. (Chapter 4, Checkweighing, of the FGIS Weighing Handbook provides the official procedures to use for performing the checkweighing service.)

(1) To Checkweigh a lot, use an FGIS approved scale with the appropriate division size for the weight of the container (e.g., bag, package, baler) to be weighed. (See Table 10.1 – Weight Range and Allowable Division Size, shown below.)

(a) If packaged in secondary (outer) containers, the secondary containers will be checkweighed to determine the estimated weight of the lot. Determine the appropriate division based on the marked/specified (target) weight of the secondary container.

TABLE 10.1 – WEIGHT RANGE AND ALLOWABLE DIVISION SIZE

Gross Product Target Weight Range			Maximum Allowable Division Size	
Pounds			lb	kg
> 45	≤	120	.1	.05

(b) If the product target weight is outside the range of this chart, refer to Table 1, "Division Size Selection," located in Chapter 4, Checkweighing, of the FGIS Weighing Handbook.

(c) Daily Scale Checks.

1 Balance and check the scales:

a At the beginning of each work shift and at least one other time during each work shift;

b Each time the scale is moved to a new location; and

c When the scale is left unattended and/or the results or the balance is questionable.

(d) Scale - Procedures.

1 Set the scale on a relatively smooth, firm surface. Adjust the level of the scale until balanced. Zero the scale. The indicator must be stable at zero.

2 Place a test weight(s) that is approximately equal to the weight of the rice to be weighed in the center of the platform. If the scale indication for the test load applied is within tolerance, the scale may be used. If the indicator is flashing between two divisions, consider it one-half of a division. (See Table 2a, "Maintenance Tolerances for Marked Devices," located in Chapter 4, Checkweighing, of the FGIS Weighing Handbook.)

3 Record the scale check in the "Remarks" section of FGIS-992, as follows:

"(Scale ID) checked at 0 and (weight(s) used) at (military time) - OK - (weigher's initials)."

Example: "Scale #0152 checked at 0 and 50lbs at 0715-ok-LR"

(2) Establish a tare weight: (If no empty containers are available, refer to Table 4, "Special Tare Weights," located in Chapter 4, Checkweighing, of the FGIS Weighing Handbook to establish tare weight.)

(a) Find Single-Container Unit Tares:

1 Determine the average tare weight by averaging the weight of at least 10 empty containers selected at random.

2 If the combined weight of 10 containers is less than the minimum weight for tare determination (refer to Table 3, "Tare Weight Requirements," in Chapter 4, Checkweighing, of the FGIS Weighing Handbook) add empty containers to the scale until the total weight is equal to or greater than the minimum weight for tare determination.

3 Divide the total weight of the containers by the total number of containers weighed to determine the average tare weight of one empty container.

4 Record tare weights following the guidance provided on FGIS-992.

(b) Find Multiple-Container Unit Tares:

1 Determine the average tare weight by averaging the weight of at least 10 empty primary (inner) containers selected at random and by averaging the weight of at least 10 empty secondary (outer) containers selected at random.

2 If, for either the primary or secondary containers, the combined weight of 10 containers is less than the minimum weight for tare determination (refer to Table 3, "Tare Weight Requirements," in Chapter 4, Checkweighing, of the FGIS Weighing Handbook), add empty containers to the scale until the total weight is equal to or greater than the minimum weight for tare determination.

3 Divide the total weight of the primary containers by the total number of primary containers weighed to determine the average tare weight of one empty primary container.

4 Divide the total weight of the secondary containers by the total number of secondary containers weighed to determine the average tare weight of one empty secondary container.

5 Multiply the average tare weight of one empty primary container by the number of primary containers in one secondary container. Add this total to the average tare weight of one empty secondary container to determine the average tare weight of one unit.

For Example: 24 - 2 Lb. Polyethylene Bags Inside a Paper Baler

Weight of 10 paper balers = 3.28 lbs.
Average weight of balers = 0.33 lbs.
Weight of 24 polyethylene bags = 0.22 lbs.
Average tare weight of one unit = 0.55 lbs.

6 Record tare weights following the guidance provided on FGIS-992.

(3) Determine the sample size for checkweighing according to Table 10.2 – Sample Size, shown below. Checkweigh no less than the minimum number of units required per lot.

TABLE 10.2 – SAMPLE SIZE

Number of Units in Sublot or Lot	Minimum Number of Units Check weighed
0 – 1 500	**12**
1 501 – 3 000	**20**
3 001 – over	**36**

Randomly select containers to be weighed. Do not set a pattern of selecting containers. If selecting samples online when there is more than one filling scale, you must always select 2 adjacent bags to ensure you are collecting weights from both filling scales.

(a) Confirm the scale is free from any obstruction. Weigh each container by placing it in the center of the scale platform.

(b) Record the exact weight for each container as shown on the scale in the gross weight columns on FGIS-992.

(c) After all weights are recorded, calculate the total gross weight of the containers and record the results in block 18 on FGIS-992.

(d) Divide the total gross weight by the number of containers weighed to determine the average gross weight per container. Record the results in block 23 on FGIS-992.

(e) Subtract the average tare weight from the average gross weight to establish an average net weight per container. Record the results in block 25 on FGIS-992.

(f) Multiple the number of containers in the lot by the average gross weight, tare weight and net weight per container to determine the estimated weights of the lot. Record the results in blocks 26, 27 and 28 of FGIS-992.

(4) CPP domestic and export rice contracts have varying net weight requirements and must be certified according to the following guidance:

Note: Domestic Rice *does not* specify a specific net weight requirement.

(a) Compare the average net weight of the containers obtained by checkweighing with the marked net weight on the container or as specified in the contract.

1 If the average net weight of the containers meets or exceeds the marked or specified net weight, multiply the number of containers in the lot by the marked/specified net weight and place this quantity on the work record and in the "Remarks" section of the certificate, as follows:

"Estimated Total Weight (pounds) Net: (net weight of the lot)."

For Example: Average weight after checkweighing 24/2 pound baler lot was 48.26 pounds.

(marked/specified weight) 48.00 x 875 balers = 42,000 pounds

2 If the average net weight of the containers is less than the marked or specified net weight, multiply the number of containers in the lot by the average net weight obtained by checkweighing and place this quantity on the certificate. Certify the lot as not complying with the contract and place the following statement indicating that the lot does not meet average net weight on the work record and in the "Remarks" section of the certificate:

"Estimated Total Weight (pounds) Net: (net weight of the lot)."

"This lot does not meet contract weight requirements."

For Example: Average weight after checkweighing 24/2 pound baler lot was 47.89 pounds.

(actual weight) 47.89 x 875 balers = 41,904 pounds.

"Estimated Total Weight (pounds) Net: 41,904."

"This lot does not meet contract weight requirements."

(b) When "average net weight" requirements are specified, the average net weight of the lot must be 98 percent or more of the marked or specified net weight.

Note: Export Rice contracts specify an "average net weight" requirement.

Determine the average net weight of the containers obtained by checkweighing.

1 If the average net weight of the containers meets or exceeds the marked or specified net weight, multiply the number of containers in the lot by the marked/specified net weight and place this quantity on the certificate.

"Estimated Total Weight (pounds) Net: (net weight of lot)."

For Example: Average weight after checkweighing 50 kilo bag lot was 110.26 pounds.

(marked/specified weight) 110.23 x 2000 bags = 220,460 pounds.

"Estimated Total Weight (pounds) Net: 220,460."

2 If the average net weight of the containers is less than the marked or specified net weight, but not less than 98 percent of the marked net weight, multiply the number of containers in the lot by the average net weight obtained by Checkweighing, and place the quantity on the work record and in the "Remarks" section of the certificate.

Certify the lot as complying with the contract and place the following statement on the work record and in the "Remarks" section of the certificate indicating that the lot does not meet average net weight:

"Estimated Total Weight (pounds) Net: (net weight of lot)."

"This lot does not meet average net weight requirements."

For Example: Average weight after checkweighing 50 kilo bag lot was 109.41 pounds.

(actual weight) 109.41 x 2,000 bags = 218,820 pounds.

"Estimated Total Weight (pounds) Net: 218,820."

"This lot does not meet average net weight requirements."

3 If the average net weight of the containers is less than 98 percent of the marked or specified net weight, multiply the number of containers in the lot by the average net weight obtained by checkweighing and place this quantity on the work record and in the "Remarks" section of the certificate.

Also certify the lot as not complying with the contract and place a statement in the "Remarks" section of the work record and the certificate:

"Estimated Total Weight (pounds) Net: (net weight of lot)."

"This lot does not comply with contract net weight requirements. Average net weight per container is (the net weight per container for the lot)."

For Example: Average weight after checkweighing 50 kilo bag lot was 107.52 pounds.

(actual weight) 107.52 x 2,000 bags = 215,040 pounds.

"Estimated Total Weight (pounds) Net: 215,040."

"This lot does not comply with contract net weight requirements. Average net weight per container is 107.52 pounds."

10.6 CONDITION OF FOOD CONTAINER INSPECTIONS

It is important that the rice is packaged in a way that will maintain its integrity until it reaches the final destination. It is equally important that the packaging be labeled in accordance with the purchase specifications. To accomplish this, purchase specifications require that you perform a Condition of Food Container (COFC) Inspection in accordance with the U.S. Condition of Food Container Standards. The Condition of Food Container Manual provides procedures and information necessary for performing COFC inspections.

Depending on the type of packaging used, two separate condition of container inspections may be necessary -- one for the primary containers and one for the secondary containers.

Note: Samples selected for COFC inspections may be used for other inspection services, such as official sampling and checkweighing.

a. Definitions.

(1) Primary Container (Inner). The immediate container in which the product is packaged, and which serves to protect, preserve, and maintain the condition of the product.

(2) Secondary Container (Outer). The container in which one or more primary containers are packaged.

(3) Sample Size. The number of containers (sample units) to check for condition.

(4) Sample. Any number of sample units which are to be used for inspection.

b. Basis of Determination. Sample size is determined according to Tables for Inspection Levels and Plans, located in Attachment 4 of this Chapter. Sample size is the based on the (1) level of inspection (2) lot size and (3) sampling plan.

(1) Level of Inspection. There are three established levels of inspection: (1) Reduced, (2) Normal, and (3) Tightened. The plant's history of producing acceptable and unacceptable food containers determines which of the three levels of inspection that will be applied. The AD-749, Cumulative Original Inspections for Condition of Container worksheet, is used to record the results of sequential lots to determine the level of inspection required.

Determine which of the three levels of inspection the facility at which you are performing the inspection is currently operating under according to the AD- 749. The procedures for determining the level of inspection can be found on the reverse of the AD-749.

If there is not an established inspection history for the facility, default to the normal level of inspection.

Determine if you are performing an Origin Inspection or Other than Origin Inspection. If "Other than Origin" inspection, refer to the Condition of Food Container Manual, "Other than Origin Inspection AQL's" section.

If the inspection is a reinspection of a previously rejected lot that has been reworked/reconditioned, use tightened level of inspection.

(2) Lot Size. Determine the lot size and the type and size of container(s). Select the appropriate COFC Worksheet(s) for the type(s) of packaging contained in the lot.

(3) Sampling Plan. The U.S. Standards for Condition of Food Containers offers two sampling plan options: single and double sampling plans.

c. Double Sampling Plan. A sampling scheme which involves the use of two independently drawn but related samples, a first sample and a second sample which is added to the first to form a total sample size. A double sampling plan consists of first and total sample sizes with associated acceptance and rejection criteria. The first sample must be inspected first, and if possible, a decision as to acceptance or rejection of the lot will be made before a second sample is inspected. When the decision cannot be made on the first sample, a second sample is inspected; the decision to accept or reject is based on the total sample size.

Note: Use the double sampling plan for original inspections, unless the applicant requests the single sampling plan.

(1) The manner in which samples (first and second) are selected depends on how the rice is being loaded for shipment.

(2) If the rice is being packaged and loaded directly into a carrier, select both the first and second samples at the same time. Set aside the second sample until it is determined if it is needed.

d. Single Sampling Plan. A sampling scheme where the decision to accept or reject an inspection lot with respect to a specified requirement is made after the inspection of the prescribed number of sample units. A single sampling plan consists of a single sample size with associated acceptance and rejection criteria.

e. Procedure – Double Sampling Plan. For an illustrative example of both a secondary and primary container using a double sampling plan, refer to Attachment 1 and Attachment 2 at the end of this Chapter.

(1) Select the appropriate COFC Worksheet(s) for the type(s) of packaging contained in the lot. When primary containers are packed inside a secondary container, two separate condition of container inspections must be performed on separate worksheets -- one for the primary containers and one for the secondary containers.

When it is more time efficient, Condition of Food Container inspections for both the primary and secondary containers may be done at the same time.

When rice is packaged in polypropylene bags or polyethylene bags inside paper or plastic balers, use the AD-3066 Flexible Containers examination worksheet for both the primary and secondary containers (when applicable). If the polyethylene bags are packed in fiberboard boxes, use the AD-3065 Rigid and Semi-Rigid Containers examination for the COFC inspection of the fiberboard boxes.

Populate the examination worksheet(s) with the lot information to include the following:

(a) Inspection level the facility is operating under as previously determined.

(b) Refer to the appropriate table (Table I-A, Table II-A or Table III-A located in Attachment 4 of this Chapter) for the double sampling plan and the level of inspection the facility is operating under (normal, reduced, or tightened) to determine the following:

1 Sample Code (CAA, CA, CB, etc.); and

2 Sample Size /No. of Sample Units for both the first, second and total samples for the double sampling plan.

Note: If the lot contains secondary and primary containers, determine the number of sample units for the primary containers that must be inspected. Divide the number of required primary containers by the number of secondary containers to determine how many primary containers should be selected from each previously selected secondary container. (A maximum of 6 primary containers per secondary is required. If the number exceeds 6, you must select additional secondary containers.)

3 Acceptable Quality Levels (AQL) Accept and Reject limits for Critical, Major, and Total defects for the first sample and the Total Sample:

a Acceptable Quality Level (AQL). The maximum number of defects per hundred units (DHU) which is acceptable as a process average. Lots, or portions of production, having a quality level equal to a specified AQL will be accepted approximately 95 percent of the time when using the sampling plans prescribed for the AQL.

b Acceptance Number (Ac). The number in a sampling plan that indicates the maximum number of defects permitted in a sample in order to consider a lot as meeting a specific requirement.

c Rejection Number (Re). The number in a sampling plan that indicates the minimum number of defects in a sample that will cause a lot to fail a specific requirement.

(2) Perform a preliminary inspection (scanning), prior to drawing the sample, to identify any obvious defects present. While "scanning" the lot:

(a) Confirm the number of secondary containers in the lot; and

(b) Determine if any segments or portions appear abnormal (e.g., Wet balers or bags, leaking bags, critical abnormalities). If such segments or portions are noted, the lot should be rejected for condition of container.

If the lot is rejected prior to sampling, it cannot be subsequently inspected until the lot has been reconditioned/reworked. If no abnormal portions are observed, samples may be drawn to determine condition.

(3) Randomly select sample units for inspection whereby each unit in the lot has an equal chance of being chosen. Use any method that facilitates an unpredictable selection.

Ordinarily, the second sample set is not drawn unless the lot could not be accepted or rejected based on the results of examining the first sample set. However, there may be circumstances in which it would be desirable to draw both first and second samples on the initial sampling of the lot (e.g., the lot is being loaded directly into a carrier during inspection). In such instances, the examination of the second sample set should be held, pending the outcome of the examination of the first sample.

If using the random number method for sample selection, number the pallets in the lot to be inspected. The random number charts are located in Attachment 5 of this Chapter.

Begin randomly selecting the required number of sample units for the inspection.

Note: If a defective container is observed which falls outside the predetermined sampling pattern, do not purposely select the container simply because it is defective. It should be drawn only if it falls within the predetermined pattern. However, the inspector should recommend that obviously defective units be removed from the lot and be replaced. This recommendation should be made for any defective container appearing in the sample, even though the lot is found to be acceptable. There will also be instances in which defective containers are localized. For example, the entire top layer of a pallet may show water damage and contain wet containers, or the front of a stack may show extensive forklift damage. In these instances, identify the defective containers, the location and estimated quantity to properly inform the applicant if reconditioning is in order.

(4) Analyze the first sample set selected for all applicable defects as listed on the appropriate COFC worksheet. Note each defect found for each 'type of defect' in the first sample column.

(5) Once all container units in the first sample set have been analyzed and all defects noted, calculate the total number of the Critical, the Major, and the defects. Add the number of all defects to determine the Total defects.

Compare the total number of Critical; the total number of Major and the Total defects to the AQL accept/reject levels as stated on the container examination worksheet for the lot.

(a) If all defect totals are equal to or less than the acceptable level, mark the action taken based on first sample as "lot accepted".

(b) If the total number of defects for any defect level (Critical, Major and/or Total) meet or exceed the 'reject' level, mark the action taken based on first sample as "lot rejected".

(6) If the total number of defects for any defect level (Critical, Major and/or Total) exceed the acceptable level but is less than the reject level for the first sample, you must move into the second sample of the Double Sampling Plan and analyze the second sample.

Analyze the second sample set selected for all applicable defects as listed on the appropriate COFC worksheet. Note each defect found for each 'type of defect' in the second sample column.

Once all container units in the second sample set have been analyzed and all defects noted, calculate the total number of the Critical, the Major, and the Minor Defects. Add the number of all defects to determine the Total Defects for the second sample.

Then, add the Minor defects, Major defects; Critical defects and Total defects results of each category for the first and second samples to determine the Grand total of each defect category.

Compare the Grand totals to the AQL accept/reject limits for the Critical; Major; and Total categories.

(a) If all defect category Grand totals are equal to or less than the acceptable level, mark the action taken based on second sample as "Lot Accepted".

(b) If the Grand total number of defects for any defect level (Critical, Major and/or Total) exceed the acceptable level, mark the action taken based on second sample as "Lot Rejected".

Note: When the lot contains both primary and secondary containers, the results of these COFC inspections are independent of each other (i.e., the primary containers may be accepted while the secondary containers may be rejected).

f. Procedure – Single Sampling Plan. For an illustrative example of both a primary and secondary container using a single sampling plan, refer to Attachment 3 of this Chapter.

(1) Select the appropriate COFC Worksheet(s) for the type(s) of packaging contained in the lot. When primary containers are packed inside a secondary container, two separate condition of container inspections must be performed on separate worksheets -- one for the primary containers and one for the secondary containers.

When it is more time efficient, Condition of Food Container inspections for both the primary and secondary containers may be done at the same time.

When rice is packaged in polypropylene bags or polyethylene bags inside paper or plastic balers, use the AD-3066 Flexible Containers examination worksheet for both the primary and secondary containers (when applicable). If the polyethylene bags are packed in fiberboard boxes, use the AD-3065 Rigid and Semi-Rigid Containers examination for the COFC inspection of the fiberboard boxes.

Populate the examination worksheet(s) with the lot information to include:

(a) Inspection level the facility is operating under as previously determined.

(b) Refer to the appropriate table (Table I, Table II or Table III located in Attachment 4 of this Chapter) for the single sampling plan and the level of inspection the facility is operating under (normal, reduced, or tightened) to determine the:

1 Sample Code (CAA, CA, CB, etc.)

2 Sample Size /No. of Sample Units for the single sampling plan from the Origin Inspection section

Note: If the lot contains secondary and primary containers, determine the number of sample units for the primary containers that must be inspected. Divide the number of required primary containers by the number of previously selected secondary containers to determine how many primary containers should be selected from each secondary container. (No more than 6 primary containers can be selected from a secondary container. If the primary sample size requires more than 6 per secondary container, additional secondary containers must be selected.)

(c) Acceptable Quality Levels (AQL) Accept and Reject limits for Critical, Major, and Total defects for the Single Sample:

1 Acceptable Quality Level (AQL). The maximum number of defects per hundred units (DHU) which is acceptable as a process average. Lots, or portions of production, having a quality level equal to a specified AQL will be accepted approximately 95 percent of the time when using the sampling plans prescribed for the AQL.

2 Acceptance Number (Ac). The number in a sampling plan that indicates the maximum number of defects permitted in a sample in order to consider a lot as meeting a specific requirement.

3 Rejection Number (Re). The number in a sampling plan that indicates the minimum number of defects in a sample that will cause a lot to fail a specific requirement.

(2) Perform a preliminary inspection (scanning), prior to drawing the sample, to identify any obvious defects present. While "scanning" the lot:

(a) Confirm the number of secondary containers in the lot; and

(b) Determine if any segments or portions appear abnormal (e.g., wet balers or bags, leaking bags, critical abnormalities). If such segments or portions are noted, the lot should be rejected for condition of container.

If the lot is rejected prior to sampling, it cannot be subsequently inspected until the lot has been reconditioned/reworked. If no abnormal portions are observed, samples may be drawn to determine condition.

(3) Randomly select sample units for inspection whereby each unit in the lot has an equal chance of being chosen. Use any method that facilitates an unpredictable selection.

If using the random number method for sample selection, number the pallets in the lot to be inspected. The random number charts are located in Attachment 5 of this Chapter.

Begin randomly selecting the required number of sample units for the inspection.

Note: If a defective container is observed which falls outside the predetermined sampling pattern, do not purposely select the container simply because it is defective. It should be drawn only if it falls in the predetermined pattern. However, the inspector should recommend that obviously defective containers be removed from the lot and be replaced. This recommendation should be made for any defective container appearing in the sample, even though the lot is found to be acceptable. There will also be instances in which defective containers are localized. For example, the entire top layer of a pallet may show water damage and contain wet containers, or the front of a stack may show extensive forklift damage. In these instances, identify the defective containers, the location and estimated quantity to properly inform the applicant if reconditioning is in order.

(4) Analyze the sample set selected for all applicable defects as listed on the appropriate COFC worksheet. Note each defect found for each 'type of defect' in the first sample column.

(5) Once all container units in the sample set have been analyzed and all defects noted, calculate the total number of the Minor, Major and Critical defects. Add the number of all defects to determine the Total defects.

Compare the total number of Critical; the total number of Major and the Total number of defects to the AQL accept/reject levels as stated on the container examination worksheet for the lot.

(a) If all defect totals are equal to or less than the acceptable level, mark the action taken based on first sample as "lot accepted".

(b) If the total number of defects for any defect level (Critical, Major and/or Total) meet or exceed the 'reject' level, mark the action taken based on first sample as "lot rejected".

Note: When the lot contains both primary and secondary containers, the results of these COFC inspections are independent of each other (i.e., the primary containers may be accepted while the secondary containers may be rejected).

g. Review Inspections.

(1) COFC Appeal must be performed:

(a) Prior to when the lot is reworked/reonditioned;

(b) By a person(s) other than the person who made the inspection being appealed, unless there is only one authorized person available at the time and place of the requested appeal inspection; and

(c) On the next larger sample size in the table used in the original inspection.

(2) COFC Reinspection at origin:

(a) May only be done after a lot that failed has been reworked or reconditioned and defects have been removed from the lot.

(b) Use tightened level of inspection.

(c) Single sampling plan must be used.

Refer to the Condition of Food Container Manual (Inspection section, J. Reinspections) for "Other than Origin" (destination) inspection guidance.

h. COFC Certification.

When the official paperwork shows the "lot accepted" for a Condition of Food Container inspection, record on the work record and in the "Results" section of the certificate. Type "Pass" in "Factor Result" section of the certificate next to the factor Condition of Food Container".

When the official paperwork shows the "lot rejected" for a Condition of Food Container inspection, record on the work record and in the "Results" section of the certificate. Type "Fail" in "Factor Result" section of the certificate next to the factor Condition of Food Container". In the "Remarks" section of the certificate, state the reason(s) the lot failed. Use the following statement:

"Lot fails the US Standards for Condition of Food Containers because: (reason(s) for fail)."

For Example: "Lot fails the US Standards for Condition of Food Containers because: Torn containers - materially affecting usability and product sifting or leaking."

(1) Grade. Grade the rice in accordance with the U.S. Standards for Rice and the instructions and procedures in the applicable specifications.

(2) Enrichment/Fortification (When Applicable). Verify enrichment or fortification according to procedures in section 5.40, "Enriched Milled Rice," and section 5.41, "Fortified Milled Rice." Results must be shown on the work record and in the "RESULTS" section of the certificate.

(3) Checkloading (When Applicable). Checkload the lot in accordance with procedures in *FGIS Directive 9180.50*, "Checkcounting, Observation of Loading, and Checkloading Services." (Required for all domestic rice contracts.) Checkloading information will be recorded on the work record and in the "REMARKS" section of the certificate.

(4) Fumigation Documentation (When Applicable). Domestic rice contracts require the contractor to fumigate all lots prior to shipment.

At the time of checkloading, the contractor must provide official personnel with a fumigation statement from a licensed fumigator indicating the lot has been fumigated in accordance with contract requirements. Show the following statement in the "REMARKS" section of the certificate:

> "Applicant states: This rice was fumigated on (Date) by licensed fumigator number (number). Fumigation was not witnessed by official personnel".

Note: Failure to provide the fumigation documentation at checkloading will result in product non-conformance.

i. Rice Inspection Certificate. Issue a rice inspection certificate for the grade and all services performed according to Chapter 6, Certification, of this handbook (e.g., enrichment/fortification, condition, checkweighing, checkcounting and Checkloading).

AMS, Commodity Procurement Program has special certification requirements that include:

(1) Contract Identification Information. The applicant must provide all contract specific information on the application for service.

(a) Identification Field: The 10 digit Purchase Order Number followed by a dash and the Line Item Number must be show in the Identification field (e.g., 4100000432-1).

(b) When the application for inspection indicates more than one line item number, place a semi colon between each Line Item Number (e.g., 4100000432-1; 2; 4).

(2) Results Section. Condition of Food Containers (COFC) results must be shown in the "RESULTS" section of the certificate by typing "Pass or "Fail" in the results field for the factor COFC.

Enrichment/Fortification results must be shown in the "RESULTS" section of the certificate according to procedures in section 6.18(d) of this handbook.

(3) Remarks Section. The following statement must be shown in the "REMARKS" section of the certificate:

> "Applicant States: The Sales Order (SO) number (number) and Sales Item number (number)."

When the application for inspection indicates more than one line item number and/or there will be multiple delivery orders (drops) for the same lot, the Sales Order (SO) number and Sales Item number for each delivery order must be shown in the "REMARKS" section.

(4) Carrier Identification. Carrier identification and seal number must be shown on the FGIS-911 and in the "REMARKS" section of the certificate.

(5) Checkweighing Results. When the lot meets the net weight requirements, only show the marked/specified weight for the lot.

When the lot does not meet the net weight requirements, refer to the checkweighing section of this chapter/appendix for specific certification instructions and statements.

ATTACHMENT 1:
[EXAMPLE] SECONDARY CONTAINER USING THE DOUBLE SAMPLING PLAN

A lot contains 500 secondary containers, of which each contains 24 - 2 pound primary containers of Long Grain Milled Rice. The facility is currently operating under a "Normal" level of inspection using the **Double Sampling Plan**. Refer to the appropriate Table 1-A (shown below) to determine the correct code for the size of the lot.

Table I-A--Double Sampling Plans for
Normal Condition of Container Inspection

Code	Lot size --ranges Number of containers in lot	Type of Plan	Sample Size		Acceptable quality levels											
					Origin Inspection						Other Than Origin Inspection					
					0.25		1.5		6.5		0.25		2.5		10.0	
					Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CA	6,000 or less---	Double-----	1st--------	36	(*)	(*)	0	4	2	7	(*)	(*)	0	4	3	9
			2d---------	60												
			Total------	96	(*)	(*)	3	4	10	11	(*)	(*)	4	5	15	16
CB	6,001-12,000----	Double------	1st--------	120	0	2	2	6	10	14	0	2	3	7	14	19
			2d---------	60												
			Total------	180	1	2	5	6	17	18	1	2	8	9	25	26
CC	12,001-36,000---	Double------	1st--------	168	0	3	2	7	12	18	0	3	5	10	19	26
			2d---------	180												
			Total------	348	2	3	9	10	31	32	2	3	14	15	45	46
CD	Over 36,000-----	Double------	1st--------	228	0	3	3	9	15	24	0	3	5	11	23	34
			2d---------	288												
			Total------	516	3	4	12	13	43	44	3	4	19	20	64	65

(*) = Reject on one or more defects

For this example, you will use Code CA for the secondary container selection since 500 secondary containers are included in the lot, which meets the requirement of 6,000 or less containers.

For the first sample, you will select 36 secondary containers to examine for COFC. As per the table The Acceptable Quality Levels (AQL) for Origin Inspections are as follows:

0.25 = Critical
1.5 = Major
6.5 = Total (Minor, Critical and Major Defects)

Note: Transfer the appropriate AQL criteria from the appropriate Table (see above) to the proper COFC worksheet (see below).

According to the above table, the lot will be rejected (Re) if any Critical defects are found, or if (4) or more major defects, or (7) or more total defects are found in the first phase. The lot will be accepted (Ac) if no critical and no major and (2) or less Total Defects are found.

If no critical defects are found, but up to (3) major or (6) total defects are found, you will need to proceed to the second sample of the double sampling plan. This requires you to randomly select an additional 60 secondary containers from the lot and inspect them for Critical, major and minor defects on the appropriate COFC Worksheet.

Use the same method as above to determine acceptance (Ac) or rejection (Re) for the Total of the first and second sample.

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CONTAINER EXAMINATION WORKSHEET

TABLE IX – FLEXIBLE CONTAINERS

PRODUCT	TYPE AND SIZE OF CONTAINER
Long Grain Milled Rice	48 lb. Polyethylene Bales

LOT NO.	LOT SIZE*	CONTRACT NO.
USDA FGIS Lot 1	500	4100020414-1

Name and Address of Applicant
Rice Mill
123 Rice Mill Rd.
Rice Capital, AR

INSPECTION STATUS OF LOT*
☒ ORIGINAL ☐ RESUBMITTED
*As stated by applicant.

INSPECTION POINT
Rice Capital, AR

CODES AND APPROXIMATE NO. OF CONTAINERS PER CODE* ADDITIONAL CODES SEE REVERSE

SAMPLING PLAN USED	CODE		No. of Sample Units	CRITICAL AQL: 0.25 (If other specify) Ac	CRITICAL Re	MAJOR AQL: 1.5 (If other specify) Ac	MAJOR Re	TOTAL (Minor, Critical, and Major Defects) AQL: 6.5 (If other specify) Ac	TOTAL Re
☒ Normal	CA	First Sample	36	0	1	0	4	2	7
☐ Tightened		Second Sample	60						
☐ Reduced		Total Sample	96	0	1	3	4	10	11

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
	Type or size of container or component parts not as specified	NONE PERMITTED		111	(d) NOT ADHERING TO BAG: 1. Exposing stitching	MAJOR	
1	CLOSURE NOT SEALED, CRIMPED, STITCHED, OR FITTED PROPERLY: (a) Heat processed primary container	CRITICAL		209	2. Not exposing stitching	Minor	
101	(b) Non-Heat processed primary container	MAJOR		210	(e) Improper placement	Minor	
201	(c) Other than primary container	Minor		112	PRODUCT SIFTING OR LEAKING: (a) Non-heat processed	MAJOR	
202	Dirty, stained, or smeared container	Minor		3	(b) Heat processed	CRITICAL	
203	Unmelted gels in plastic	Minor		4	FLEXIBLE POP-TOP: (a) Poor seal (wrinkle, entrapped matter, etc.) reducing intact seal to less than 1/16-inch	CRITICAL	
204	TORN OR CUT CONTAINER OR ABRASION (NON-LEAKER): (a) Materially affecting appearance but not usability	Minor		212	(b) Short pull tab (materially affecting usability)	Minor	
				113	(c) Missing pull tab	MAJOR	
102	(b) Materially affecting usability	MAJOR		213	(d) Materially affecting usability	Minor	
2	Moldy area	CRITICAL		214	Missing component (straw, etc.)	Minor	
103	Individual packages sticking together or to shipping case (tear when separated)	MAJOR			TWO PART CONTAINER (POLY LINED BOX OR BAG IN BOX):		
104	Not fully covering product	MAJOR		215	(a) Outer case torn	Minor	
205	WET OR DAMP (EXCLUDING ICE PACKS): (a) Materially affecting appearance but not usability	Minor		5	(b) POLY LINER: 1. Missing	CRITICAL	
105	(b) Materially affecting usability	MAJOR		114	2. Improper closure	MAJOR	
106	OVER WRAP (WHEN REQUIRED) (a) Missing	MAJOR		216	Missing "zip lock" (re-sealable containers)	Minor	
206	(b) Loose, not sealed, or closed	Minor 11	1	115	Loss of vacuum (in vacuum-packed)	MAJOR	
206	(c) Improperly applied	Minor		217	PRE-FORMED CONTAINERS: (a) Dented or crushed area	Minor	
107	SEALING TAPE, STRAPPING, OR ADHESIVES (*WHEN REQUIRED*): (a) Missing	MAJOR 11	1	218	(b) Deformed container	Minor	
208	(b) Improperly placed, applied, torn, or wrinkled	Minor		116	Missing re-sealable cap	MAJOR	
108	TAPE OVER BOTTTOM AND TOP CLOSURES (*WHEN REQUIRED*): (a) Not covering stitching	MAJOR		6	Inner or outer safety seal - missing, torn, poor seal	CRITICAL	
109	(b) Torn (exposing stitching)	MAJOR		118	(b) Bulging ends more than ¼" beyond lip	MAJOR	
110	(c) Wrinkled (exposing stitching)	MAJOR		117	Air bubble in plastic	MAJOR	

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THERMOSTABLIZED PRODUCTS (INCLUDES BUT NOT LIMITED TO TUBES, POUCHES, ETC.):

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
7	FOLDOVER WRINKLE IN SEAL AREA (THERMOSTABLIZED POUCHES): (a) Extends through all plies across seal area or reduces seal less than 1/16-inch	CRITICAL		12	Blister (in seal) reducing intact seal to less than 1/16-inch	CRITICAL	
219	(b) Does not extend through all plies and effective seal is 1/16-inch or greater	Minor		13	Compressed seal (overheated to bubble or expose inner layer) reducing intact seal to less than 1/16-inch	CRITICAL	
8	Incomplete seal (thermostabilized pouches)	CRITICAL		222	Stringy seal (excessive plastic threads showing at edge of seal area	Minor	
9	Non-bonding seal (thermostabilized pouches)	CRITICAL		14	Contaminated seal (entrapped matter) reducing intact seal to less than 1/16-inch	CRITICAL	
10	LAMINATE SEPERATION IN BODY OF POUCH OR IN SEAL WITHIN 1/16-INCH OF FOOD PRODUCT EDGE: (a) If food contact layer is exposed	CRITICAL		15	Seal creep (product in pouch "creeping into seal) reducing intact seal to less than 1/16-inch	CRITICAL	
118	(b) If food contact surface is exposed after manipulation or laminate separation expands after manipulation	MAJOR		16	Misaligned or crooked seal reducing intact seal to less than 1/16-inch	CRITICAL	
220	(c) If lamination separation is limited to isolated spots that do not propagate with manipulation or is outer ply separation in seal within 1/16-inch of food product edge of seals.	Minor		223	Seal formed greater than 1-inch from edge of pouch (unclosed edge flaps)	Minor	
221	Flex cracks (cracks in foil layer only)	Minor		224	Waffling (embossing on surface from retort rack; not scorable unless severe)	Minor	
11	Swollen container	CRITICAL		225	Poor or missing tear notch (when required)	Minor	
	TABLE X – UNITIZING (PLASTIC OR OTHER TYPE OF CASING/UNITIZING)						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing tray (when required)	MAJOR		203	Off-center wrap (does not overlap both ends	Minor	
103	Missing shrink wrap (when required)	MAJOR		OTHER (Specify)			
201	Loose or improperly applied wrap	Minor					
	TABLE XII – LABEL, MARKING, OR CODE						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing (when required)	MAJOR		203	Text illegible or incomplete	Minor	
103	Text illegible or incomplete (military purchases)	MAJOR		204	In wrong location	Minor	
104	Incorrect	MAJOR		OTHER (Specify)			
201	Loose or improperly applied	Minor					

	Minor	Major	Critical	Total
First sample	2	2	0	4
Second sample	1	1	0	2
Grand total	3	3	0	6

ACTION TAKEN BASED ON FIRST SAMPLE

☐ LOT ACCEPTED ☐ LOT REJECTED ☒ SECOND SAMPLE

ACTION TAKEN ON SECOND SAMPLE (If required)

☒ LOT ACCEPTED ☐ LOT REJECTED

DATE INSPECTED: 7-1-2020

SIGNATURE OF INSPECTOR (Print and Sign Name): Sue Rice

ADDITIONAL CODES

REMARKS

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In the above worksheet example of the **Double Sampling Plan**, the results of the first sample set for secondary containers indicate 2 Minor Defects and 2 Major Defects. According to the AQL limits above, the lot can neither be accepted nor rejected based on the results of the first sample. Therefore, the second sample must be implemented by selecting an additional 60 secondary containers for a total of 96 containers.

In the second sample, the worksheet indicates 1 Minor Defect and 1 Major Defect were found. Add the first sample and second sample defects for a Grand Total. The Grand Total for the lot is: 3 Minor Defects, 3 Major Defects, and 0 Critical Defects, equaling 6 Total Defects. After Comparing the Major, Critical, and Total results to the AQL criteria, the lot is accepted based on the second sample.

Note: Samples selected for COFC inspections may be used for other inspection services, such as official sampling and checkweighing.

ATTACHMENT 2:
[EXAMPLE] PRIMARY CONTAINER USING THE DOUBLE SAMPLING PLAN

When there are primary and secondary containers, COFC inspections can be done in conjunction with one another. Once you have examined the selected secondary container and recorded the results, that container can be opened to provide the primary container(s) to then perform the examination on those containers. Use the appropriate COFC worksheet, codes, sample sizes and AQL limits for the number of primary containers in the lot.

In this example, the lot consists of 500 secondary containers, each containing 24 primary containers (500 x 24 = 12,000). Refer to Table 1-A (shown above and also located in Attachment 4 of this Chapter) for the lot size (6,001 -12,000 units) to determine: the code CB; the first sample size is 120, the second sample size is 60; and the AQL limits for origin inspections.

Select 120 primary containers from the 36 secondary containers. Divide the number of primary containers by the number of secondary containers to determine how many primary containers to select from the secondary containers. In the example, there are 36 secondary containers and 120 primary containers in the first sample. 120/36=3.333. You will need to select between 3-4 samples from each secondary container until you have obtained the required number of primary samples.

Note: You must divide the number of samples as evenly as possible per secondary container.

Once the required number of primary containers have been examined and all defects recorded on the COFC Worksheet, compute the total Critical, the total Major and the total Minor defects. Refer to the AQL limits on the worksheet to determine the action to be taken based on the first sample. This lot could not be accepted based on the results of the first sample, and therefore, the second sample (an additional 60 primary containers) was examined. The total defects from the first and second samples (total of 180 primary containers) were calculated and the grand total defects compared to the AQL limits; the lot was accepted based on the second sample.

Note: You may not select more than 6 primary containers from any secondary container. If the second sample is required for the primary COFC, and the quantity exceeds 6 per outer container, you must select primary containers from additional secondary containers.

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CONTAINER EXAMINATION WORKSHEET

TABLE IX – FLEXIBLE CONTAINERS

PRODUCT	TYPE AND SIZE OF CONTAINER
Long Grain Milled Rice	2 lb. Polyethylene Bags

LOT NO	LOT SIZE*	CONTRACT NO
USDA FGIS Lot 1	12,000	4100020414-1

Name and Address of Applicant
Rice Mill
123 Rice Mill Rd.
Rice Capital, AR

INSPECTION STATUS OF LOT*: ☒ ORIGINAL ☐ RESUBMITTED
*As stated by applicant.

INSPECTION POINT: Rice Capital, AR

CODES AND APPROXIMATE NO. OF CONTAINERS PER CODE* ADDITIONAL CODES SEE REVERSE

CB - 12000

SAMPLING PLAN USED	CODE	No. of Sample Units	CRITICAL (If other specify AQL: 0.25) Ac	CRITICAL Re	MAJOR (If other specify AQL: 1.5) Ac	MAJOR Re	TOTAL (Minor, Critical, and Major Defects) (If other specify AQL: 6.5) Ac	TOTAL Re
☒ Normal	CB							
☐ Tightened	First Sample	120	0	2	2	6	10	14
☐ Reduced	Second Sample	60						
	Total Sample	180	1	2	5	6	17	18

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
	Type or size of container or component parts not as specified	NONE PERMITTED		111	(d) NOT ADHERING TO BAG: 1. Exposing stitching	MAJOR	
1	CLOSURE NOT SEALED, CRIMPED, STITCHED, OR FITTED PROPERLY: (a) Heat processed primary container	CRITICAL I		209	2. Not exposing stitching	Minor	
101	(b) Non-Heat processed primary container	MAJOR		210	(e) Improper placement	Minor	
201	(c) Other than primary container	Minor		112	PRODUCT SIFTING OR LEAKING: (a) Non-heat processed	MAJOR	
202	Dirty, stained, or smeared container	Minor IIII	I	3	(b) Heat processed	CRITICAL	
203	Unmelted gels in plastic	Minor		4	FLEXIBLE POP-TOP: (a) Poor seal (wrinkle, entrapped matter, etc.) reducing intact seal to less than 1/16-inch	CRITICAL	
204	TORN OR CUT CONTAINER OR ABRASION (NON-LEAKER): (a) Materially affecting appearance but not usability	Minor IIII		212	(b) Short pull tab (materially affecting usability)	Minor	
				113	(c) Missing pull tab	MAJOR	
102	(b) Materially affecting usability	MAJOR II	III	213	(d) Materially affecting usability	Minor	
2	Moldy area	CRITICAL		214	Missing component (straw, etc.)	Minor	
103	Individual packages sticking together or to shipping case (tear when separated)	MAJOR			TWO PART CONTAINER (POLY LINED BOX OR BAG IN BOX):		
104	Not fully covering product	MAJOR		215	(a) Outer case torn	Minor	
205	WET OR DAMP (EXCLUDING ICE PACKS): (a) Materially affecting appearance but not usability	Minor		5	(b) POLY LINER: 1. Missing	CRITICAL	
105	(b) Materially affecting usability	MAJOR		114	2. Improper closure	MAJOR	
106	OVER WRAP (WHEN REQUIRED) (a) Missing	MAJOR		216	Missing "zip lock" (re-sealable containers)	Minor	
206	(b) Loose, not sealed, or closed	Minor		115	Loss of vacuum (in vacuum-packed)	MAJOR	
206	(c) Improperly applied	Minor		217	PRE-FORMED CONTAINERS: (a) Dented or crushed area	Minor	
107	SEALING TAPE, STRAPPING, OR ADHESIVES (WHEN REQUIRED): (a) Missing	MAJOR		218	(b) Deformed container	Minor	
208	(b) Improperly placed, applied, torn, or wrinkled	Minor		116	Missing re-sealable cap	MAJOR	
108	TAPE OVER BOTTTOM AND TOP CLOSURES (WHEN REQUIRED): (a) Not covering stitching	MAJOR		6	Inner or outer safety seal - missing, torn, poor seal	CRITICAL	
109	(b) Torn (exposing stitching)	MAJOR		118	(b) Bulging ends more than ¼" beyond lip	MAJOR	
110	(c) Wrinkled (exposing stitching)	MAJOR		117	Air bubble in plastic	MAJOR	

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THERMOSTABLIZED PRODUCTS (INCLUDES BUT NOT LIMITED TO TUBES, POUCHES, ETC.):

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
7	FOLDOVER WRINKLE IN SEAL AREA (THERMOSTABLIZED POUCHES): (a) Extends through all plies across seal area or reduces seal less than 1/16-inch	CRITICAL		12	Blister (in seal) reducing intact seal to less than 1/16-inch	CRITICAL	
219	(b) Does not extend through all plies and effective seal is 1/16-inch or greater	Minor		13	Compressed seal (overheated to bubble or expose inner layer) reducing intact seal to less than 1/16-inch	CRITICAL	
8	Incomplete seal (thermostabilized pouches)	CRITICAL		222	Stringy seal (excessive plastic threads showing at edge of seal area	Minor	
9	Non-bonding seal (thermostabilized pouches)	CRITICAL		14	Contaminated seal (entrapped matter) reducing intact seal to less than 1/16-inch	CRITICAL	
10	LAMINATE SEPERATION IN BODY OF POUCH OR IN SEAL WITHIN 1/16-INCH OF FOOD PRODUCT EDGE: (a) If food contact layer is exposed	CRITICAL		15	Seal creep (product in pouch "creeping into seal) reducing intact seal to less than 1/16-inch	CRITICAL	
118	(b) If food contact surface is exposed after manipulation or laminate separation expands after manipulation	MAJOR		16	Misaligned or crooked seal reducing intact seal to less than 1/16-inch	CRITICAL	
220	(c) If lamination separation is limited to isolated spots that do not propagate with manipulation or is outer ply separation in seal within 1/16-inch of food product edge of seals.	Minor		223	Seal formed greater than 1-inch from edge of pouch (unclosed edge flaps)	Minor	
221	Flex cracks (cracks in foil layer only)	Minor		224	Waffling (embossing on surface from retort rack, not scorable unless severe)	Minor	
11	Swollen container	CRITICAL		225	Poor or missing tear notch (when required)	Minor	
	TABLE X – UNITIZING (PLASTIC OR OTHER TYPE OF CASING/UNITIZING)						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing tray (when required)	MAJOR		203	Off-center wrap (does not overlap both ends	Minor	
103	Missing shrink wrap (when required)	MAJOR		OTHER (Specify)			
201	Loose or improperly applied wrap	Minor					
	TABLE XII – LABEL, MARKING, OR CODE						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing (when required)	MAJOR		203	Text illegible or incomplete	Minor	
103	Text illegible or incomplete (military purchases)	MAJOR		204	In wrong location	Minor	
104	Incorrect	MAJOR		OTHER (Specify)			
201	Loose or improperly applied	Minor					

	Minor	Major	Critical	Total
First sample	8	2	1	11
Second sample	1	3	0	4
Grand total	9	5	1	15

ACTION TAKEN BASED ON FIRST SAMPLE

☐ LOT ACCEPTED ☐ LOT REJECTED ☒ SECOND SAMPLE

ACTION TAKEN ON SECOND SAMPLE (If required)

☒ LOT ACCEPTED ☐ LOT REJECTED

DATE INSPECTED: 7-1-2020

SIGNATURE OF INSPECTOR (Print and Sign Name): Sue Rice

ADDITIONAL CODES

REMARKS

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ATTACHMENT 3:
[EXAMPLE] SECONDARY AND PRIMARY CONTAINER USING THE SINGLE SAMPLING PLAN

A lot contains 500 secondary containers, of which each contains 24 - 2 pound primary containers of Long Grain Milled Rice (500 X 24= 12,000). The facility is currently operating under a "Normal" level of inspection using the Single Sampling Plan. Refer to the appropriate Table 1 (below) to determine the correct code for the size of the lot.

Note: You may not select more than 6 primary containers from any secondary (outer) container. If the sample size requires more than 6, you must select additional secondary containers to pull primary samples from.

TABLE I—SINGLE SAMPLING PLANS FOR NORMAL CONDITION OF CONTAINER INSPECTION

Code	Lot size ranges—Number of containers in lot	Type of Plan	Acceptable quality levels												
			Origin Inspection							Other Than Origin Inspection					
			Sample size	0.25		1.5		6.5		0.25		2.5		10.0	
				Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CA	6,000 or less	Single	84	0	1	3	4	9	10	0	1	4	5	13	14
CB	6,001–12,000	Single	168	1	2	5	6	16	17	1	2	7	8	23	24
CC	12,001–36,000	Single	315	2	3	8	9	28	29	2	3	13	14	41	42
CD	Over 36,000	Single	500	3	4	12	13	42	43	3	4	18	19	62	63
CE		Single	800	4	5	18	19	64	65	4	5	27	28	95	96

Ac = Acceptance number.
Re = Rejection number.

For this example, use Code CB for the primary container selection since 12,000 primary containers are included in the lot, which meets the requirement of 12,000 or less containers.

For the Single Sampling Plan, you will select 168 primary containers to examine for COFC. As per Table 1, The Acceptable Quality Levels (AQL) for Origin Inspections are as follows:

0.25 = Critical
1.5 = Major
6.5 = Total (Minor, Critical and Major Defects)

Note: Transfer the appropriate AQL criteria to the proper COFC worksheet (see below).

According to the above table, the lot will be rejected (Re) if 2 or more Critical Defects are found, or if 6 or more major defects, or 17 or more Total Defects are found in the sample. Otherwise, the lot will be accepted.

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CONTAINER EXAMINATION WORKSHEET

TABLE IX – FLEXIBLE CONTAINERS

PRODUCT	TYPE AND SIZE OF CONTAINER
Long Grain Milled Rice	48 lb. Polyethylene Bales

LOT NO.	LOT SIZE*	CONTRACT NO.
USDA FGIS Lot 1	500	4100020414-1

Name and Address of Applicant
Rice Mill
321 Rice Mill Rd.
Tiger Town, LA

INSPECTION STATUS OF LOT*: [X] ORIGINAL [ ] RESUBMITTED
*As stated by applicant.

INSPECTION POINT: Tiger Town, LA

CODES AND APPROXIMATE NO. OF CONTAINERS PER CODE* ADDITIONAL CODES SEE REVERSE

CA - 500

SAMPLING PLAN USED	CODE	No. of Sample Units	CRITICAL AQL: 0.25 (If other specify) Ac	CRITICAL Re	MAJOR AQL: 1.5 (If other specify) Ac	MAJOR Re	TOTAL (Minor, Critical, and Major Defects) AQL: 6.5 (If other specify) Ac	TOTAL Re
[X] Normal	CA							
[ ] Tightened	First Sample	84	0	1	3	4	9	10
[ ] Reduced	Second Sample							
	Total Sample							

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
	Type or size of container or component parts not as specified	NONE PERMITTED		111	(d) NOT ADHERING TO BAG: 1. Exposing stitching	MAJOR	
1	CLOSURE NOT SEALED, CRIMPED, STITCHED, OR FITTED PROPERLY: (a) Heat processed primary container	CRITICAL		209	2. Not exposing stitching	Minor	
101	(b) Non-Heat processed primary container	MAJOR		210	(e) Improper placement	Minor	
201	(c) Other than primary container	Minor IIII IIII		112	PRODUCT SIFTING OR LEAKING: (a) Non-heat processed	MAJOR	
202	Dirty, stained, or smeared container	Minor IIII		3	(b) Heat processed	CRITICAL	
203	Unmelted gels in plastic	Minor		4	FLEXIBLE POP-TOP: (a) Poor seal (wrinkle, entrapped matter, etc.) reducing intact seal to less than 1/16-inch	CRITICAL	
204	TORN OR CUT CONTAINER OR ABRASION (NON-LEAKER): (a) Materially affecting appearance but not usability	Minor		212	(b) Short pull tab (materially affecting usability)	Minor	
				113	(c) Missing pull tab	MAJOR	
102	(b) Materially affecting usability	MAJOR		213	(d) Materially affecting usability	Minor	
2	Moldy area	CRITICAL		214	Missing component (straw, etc.)	Minor	
103	Individual packages sticking together or to shipping case (tear when separated)	MAJOR			TWO PART CONTAINER (POLY LINED BOX OR BAG IN BOX):		
104	Not fully covering product	MAJOR I		215	(a) Outer case torn	Minor	
205	WET OR DAMP (EXCLUDING ICE PACKS): (a) Materially affecting appearance but not usability	Minor		5	(b) POLY LINER: 1. Missing	CRITICAL	
105	(b) Materially affecting usability	MAJOR		114	2. Improper closure	MAJOR	
106	OVER WRAP (WHEN REQUIRED) (a) Missing	MAJOR		216	Missing "zip lock" (re-sealable containers)	Minor	
206	(b) Loose, not sealed, or closed	Minor		115	Loss of vacuum (in vacuum-packed)	MAJOR	
206	(c) Improperly applied	Minor		217	PRE-FORMED CONTAINERS: (a) Dented or crushed area	Minor	
107	SEALING TAPE, STRAPPING, OR ADHESIVES (WHEN REQUIRED): (a) Missing	MAJOR		218	(b) Deformed container	Minor	
208	(b) Improperly placed, applied, torn, or wrinkled	Minor		116	Missing re-sealable cap	MAJOR	
108	TAPE OVER BOTTTOM AND TOP CLOSURES (WHEN REQUIRED): (a) Not covering stitching	MAJOR		6	Inner or outer safety seal - missing, torn, poor seal	CRITICAL	
109	(b) Torn (exposing stitching)	MAJOR		118	(b) Bulging ends more than ½" beyond lip	MAJOR	
110	(c) Wrinkled (exposing stitching)	MAJOR		117	Air bubble in plastic	MAJOR	

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THERMOSTABLIZED PRODUCTS (INCLUDES BUT NOT LIMITED TO TUBES, POUCHES, ETC.):

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
7	FOLDOVER WRINKLE IN SEAL AREA (THERMOSTABLIZED POUCHES): (a) Extends through all plies across seal area or reduces seal less than 1/16-inch	CRITICAL		12	Blister (in seal) reducing intact seal to less than 1/16-inch	CRITICAL	
219	(b) Does not extend through all plies and effective seal is 1/16-inch or greater	Minor		13	Compressed seal (overheated to bubble or expose inner layer) reducing intact seal to less than 1/16-inch	CRITICAL	
8	Incomplete seal (thermostabilized pouches)	CRITICAL		222	Stringy seal (excessive plastic threads showing at edge of seal area	Minor	
9	Non-bonding seal (thermostabilized pouches)	CRITICAL		14	Contaminated seal (entrapped matter) reducing intact seal to less than 1/16-inch	CRITICAL	
10	LAMINATE SEPERATION IN BODY OF POUCH OR IN SEAL WITHIN 1/16-INCH OF FOOD PRODUCT EDGE: (a) If food contact layer is exposed	CRITICAL		15	Seal creep (product in pouch "creeping into seal) reducing intact seal to less than 1/16-inch	CRITICAL	
118	(b) If food contact surface is exposed after manipulation or laminate separation expands after manipulation	MAJOR		16	Misaligned or crooked seal reducing intact seal to less than 1/16-inch	CRITICAL	
220	(c) If lamination separation is limited to isolated spots that do not propagate with manipulation or is outer ply separation in seal within 1/16-inch of food product edge of seals.	Minor		223	Seal formed greater than 1-inch from edge of pouch (unclosed edge flaps)	Minor	
221	Flex cracks (cracks in foil layer only)	Minor		224	Waffling (embossing on surface from retort rack; not scorable unless severe)	Minor	
11	Swollen container	CRITICAL		225	Poor or missing tear notch (when required)	Minor	
	TABLE X – UNITIZING (PLASTIC OR OTHER TYPE OF CASING/UNITIZING)						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing tray (when required)	MAJOR		203	Off-center wrap (does not overlap both ends	Minor	
103	Missing shrink wrap (when required)	MAJOR		OTHER (Specify)			
201	Loose or improperly applied wrap	Minor					
	TABLE XII – LABEL, MARKING, OR CODE						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing (when required)	MAJOR		203	Text illegible or incomplete	Minor	
103	Text illegible or incomplete (military purchases)	MAJOR		204	In wrong location	Minor	
104	Incorrect	MAJOR		OTHER (Specify)			
201	Loose or improperly applied	Minor					

	Minor	Major	Critical	Total
First sample	12	1	0	13
Second sample				
Grand total				

ACTION TAKEN BASED ON FIRST SAMPLE

☐ LOT ACCEPTED ☒ LOT REJECTED ☐ SECOND SAMPLE

ACTION TAKEN ON SECOND SAMPLE (If required)

☐ LOT ACCEPTED ☐ LOT REJECTED

DATE INSPECTED: 7-1-2020

SIGNATURE OF INSPECTOR (Print and Sign Name): Mike DuRiz

ADDITIONAL CODES

REMARKS

FORM AD-3066 (09-13) (REVERSE)

Reset Form

In the above worksheet example of the **Single Sampling Plan**, the results of the Sample Selection of the secondary containers indicate 12 Minor Defects and 1 Major Defect. According to the AQL limits above, the lot must be rejected on the basis that Total Defects exceed the Acceptable limits for AQL criteria for COFC.

REPRODUCE LOCALLY. Include form number and revision date on all reproductions

Print Form Save Form

U.S. DEPARTMENT OF AGRICULTURE

CONTAINER EXAMINATION WORKSHEET

TABLE IX – FLEXIBLE CONTAINERS

PRODUCT	TYPE AND SIZE OF CONTAINER
Long Grain Milled Rice	2 lb. Polyethylene Bales

LOT NO.	LOT SIZE*	CONTRACT NO.
USDA FGIS Lot 1	12,000	4100020414-1

Name and Address of Applicant
Rice Mill
321 Rice Mill Rd.
Tiger Town, LA

INSPECTION STATUS OF LOT*: [X] ORIGINAL [ ] RESUBMITTED
*As stated by applicant.

INSPECTION POINT: Tiger Town, LA

CODES AND APPROXIMATE NO. OF CONTAINERS PER CODE* ADDITIONAL CODES SEE REVERSE

CB - 12000

SAMPLING PLAN USED	CODE	No. of Sample Units	CRITICAL AQL: 0.25 (If other specify) Ac	CRITICAL Re	MAJOR AQL: 1.5 (If other specify) Ac	MAJOR Re	TOTAL (Minor, Critical, and Major Defects) AQL: 6.5 (If other specify) Ac	TOTAL Re
[X] Normal	CB							
[ ] Tightened	First Sample	168	1	2	5	6	16	17
[ ] Reduced	Second Sample							
	Total Sample							

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
	Type or size of container or component parts not as specified	NONE PERMITTED		111	(d) NOT ADHERING TO BAG: 1. Exposing stitching	MAJOR	
1	CLOSURE NOT SEALED, CRIMPED, STITCHED, OR FITTED PROPERLY: (a) Heat processed primary container	CRITICAL		209	2. Not exposing stitching	Minor	
101	(b) Non-Heat processed primary container	MAJOR		210	(e) Improper placement	Minor	
201	(c) Other than primary container	Minor | |		112	PRODUCT SIFTING OR LEAKING: (a) Non-heat processed	MAJOR	
202	Dirty, stained, or smeared container	Minor		3	(b) Heat processed	CRITICAL	
203	Unmelted gels in plastic	Minor		4	FLEXIBLE POP-TOP: (a) Poor seal (wrinkle, entrapped matter, etc.) reducing intact seal to less than 1/16-inch	CRITICAL	
204	TORN OR CUT CONTAINER OR ABRASION (NON-LEAKER): (a) Materially affecting appearance but not usability	Minor		212	(b) Short pull tab (materially affecting usability)	Minor	
				113	(c) Missing pull tab	MAJOR	
102	(b) Materially affecting usability	MAJOR | |		213	(d) Materially affecting usability	Minor	
2	Moldy area	CRITICAL		214	Missing component (straw, etc.)	Minor	
103	Individual packages sticking together or to shipping case (tear when separated)	MAJOR			TWO PART CONTAINER (POLY LINED BOX OR BAG IN BOX):		
104	Not fully covering product	MAJOR |		215	(a) Outer case torn	Minor	
205	WET OR DAMP (EXCLUDING ICE PACKS): (a) Materially affecting appearance but not usability	Minor		5	(b) POLY LINER: 1. Missing	CRITICAL	
105	(b) Materially affecting usability	MAJOR		114	2. Improper closure	MAJOR	
106	OVER WRAP (WHEN REQUIRED) (a) Missing	MAJOR		216	Missing "zip lock" (re-sealable containers)	Minor	
206	(b) Loose, not sealed, or closed	Minor		115	Loss of vacuum (in vacuum-packed)	MAJOR	
206	(c) Improperly applied	Minor		217	PRE-FORMED CONTAINERS: (a) Dented or crushed area	Minor	
107	SEALING TAPE, STRAPPING, OR ADHESIVES (WHEN REQUIRED): (a) Missing	MAJOR		218	(b) Deformed container	Minor	
208	(b) Improperly placed, applied, torn, or wrinkled	Minor		116	Missing re-sealable cap	MAJOR	
108	TAPE OVER BOTTTOM AND TOP CLOSURES (WHEN REQUIRED): (a) Not covering stitching	MAJOR		6	Inner or outer safety seal - missing, torn, poor seal	CRITICAL	
109	(b) Torn (exposing stitching)	MAJOR		118	(b) Bulging ends more than ½" beyond lip	MAJOR	
110	(c) Wrinkled (exposing stitching)	MAJOR		117	Air bubble in plastic	MAJOR	

FORM AD-3066 (09-13)

REPRODUCE LOCALLY. Include form number and revision date on all reproductions

THERMOSTABLIZED PRODUCTS (INCLUDES BUT NOT LIMITED TO TUBES, POUCHES, ETC.):

Defect No.	Type of Defect	1st Sample	2nd Sample	Defect No.	Type of Defect	1st Sample	2nd Sample
7	FOLDOVER WRINKLE IN SEAL AREA (THERMOSTABLIZED POUCHES): (a) Extends through all plies across seal area or reduces seal less than 1/16-inch	CRITICAL		12	Blister (in seal) reducing intact seal to less than 1/16-inch	CRITICAL	
219	(b) Does not extend through all plies and effective seal is 1/16-inch or greater	Minor		13	Compressed seal (overheated to bubble or expose inner layer) reducing intact seal to less than 1/16-inch	CRITICAL	
8	Incomplete seal (thermostabilized pouches)	CRITICAL		222	Stringy seal (excessive plastic threads showing at edge of seal area	Minor	
9	Non-bonding seal (thermostabilized pouches)	CRITICAL		14	Contaminated seal (entrapped matter) reducing intact seal to less than 1/16-inch	CRITICAL	
10	LAMINATE SEPERATION IN BODY OF POUCH OR IN SEAL WITHIN 1/16-INCH OF FOOD PRODUCT EDGE: (a) If food contact layer is exposed	CRITICAL		15	Seal creep (product in pouch "creeping into seal) reducing intact seal to less than 1/16-inch	CRITICAL	
118	(b) If food contact surface is exposed after manipulation or laminate separation expands after manipulation	MAJOR		16	Misaligned or crooked seal reducing intact seal to less than 1/16-inch	CRITICAL	
220	(c) If lamination separation is limited to isolated spots that do not propagate with manipulation or is outer ply separation in seal within 1/16-inch of food product edge of seals.	Minor		223	Seal formed greater than 1-inch from edge of pouch (unclosed edge flaps)	Minor	
221	Flex cracks (cracks in foil layer only)	Minor		224	Waffling (embossing on surface from retort rack; not scorable unless severe)	Minor	
11	Swollen container	CRITICAL		225	Poor or missing tear notch (when required)	Minor	
	TABLE X – UNITIZING (PLASTIC OR OTHER TYPE OF CASING/UNITIZING)						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing tray (when required)	MAJOR		203	Off-center wrap (does not overlap both ends	Minor	
103	Missing shrink wrap (when required)	MAJOR		OTHER (Specify)			
201	Loose or improperly applied wrap	Minor					
	TABLE XII – LABEL, MARKING, OR CODE						
101	Not specified method	MAJOR		202	Torn or mutilated	Minor	
102	Missing (when required)	MAJOR		203	Text illegible or incomplete	Minor	
103	Text illegible or incomplete (military purchases)	MAJOR		204	In wrong location	Minor	
104	Incorrect	MAJOR		OTHER (Specify)			
201	Loose or improperly applied	Minor					

	Minor	Major	Critical	Total
First sample	2	3	0	5
Second sample				
Grand total				

ACTION TAKEN BASED ON FIRST SAMPLE

☒ LOT ACCEPTED ☐ LOT REJECTED ☐ SECOND SAMPLE

ACTION TAKEN ON SECOND SAMPLE (If required)

☐ LOT ACCEPTED ☐ LOT REJECTED

DATE INSPECTED: 7-1-2020

SIGNATURE OF INSPECTOR (Print and Sign Name): Mike DuRiz

ADDITIONAL CODES

REMARKS

FORM AD-3066 (09-13) (REVERSE)

Reset Form

In the above worksheet example of the **Single Sampling Plan**, the results of the Sample Selection of the primary containers indicate 2 Minor Defects and 3-Major Defects. According to the AQL limits above, the lot will be accepted on the basis that Major, Critical and Total Defects do not exceed the Acceptable limits for AQL criteria for COFC.

ATTACHMENT 4:
TABLES FOR INSPECTION LEVELS AND PLANS

NORMAL

TABLE I—SINGLE SAMPLING PLANS FOR NORMAL CONDITION OF CONTAINER INSPECTION

Code	Lot size ranges—Number of containers in lot	Type of Plan	Acceptable quality levels												
			Origin Inspection						Other Than Origin Inspection						
			Sample size	0.25		1.5		6.5		0.25		2.5		10.0	
				Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CA	6,000 or less	Single	84	0	1	3	4	9	10	0	1	4	5	13	14
CB	6,001–12,000	Single	168	1	2	5	6	16	17	1	2	7	8	23	24
CC	12,001–36,000	Single	315	2	3	8	9	28	29	2	3	13	14	41	42
CD	Over 36,000	Single	500	3	4	12	13	42	43	3	4	18	19	62	63
CE		Single	800	4	5	18	19	64	65	4	5	27	28	95	96

Ac = Acceptance number.
Re = Rejection number.

Table I-A--Double Sampling Plans for
Normal Condition of Container Inspection

Code	Lot size --ranges Number of containers in lot	Type of Plan	Sample Size		Acceptable quality levels											
					Origin Inspection						Other Than Origin Inspection					
					0.25		1.5		6.5		0.25		2.5		10.0	
					Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CA	6,000 or less---	Double-----	1st--------	36	(*)	(*)	0	4	2	7	(*)	(*)	0	4	3	9
			2d---------	60												
			Total------	96	(*)	(*)	3	4	10	11	(*)	(*)	4	5	15	16
CB	6,001-12,000----	Double------	1st--------	120	0	2	2	6	10	14	0	2	3	7	14	19
			2d---------	60												
			Total------	180	1	2	5	6	17	18	1	2	8	9	25	26
CC	12,001-36,000---	Double------	1st--------	168	0	3	2	7	12	18	0	3	5	10	19	26
			2d---------	180												
			Total------	348	2	3	9	10	31	32	2	3	14	15	45	46
CD	Over 36,000-----	Double------	1st--------	228	0	3	3	9	15	24	0	3	5	11	23	34
			2d---------	288												
			Total------	516	3	4	12	13	43	44	3	4	19	20	64	65

(*) = Reject on one or more defects

TIGHTENED

TABLE II—SINGLE SAMPLING PLANS FOR TIGHTENED CONDITION OF CONTAINER INSPECTION

Code	Lot size ranges—Number of containers in lot	Type of Plan	Acceptable quality levels												
			Origin Inspection						Other Than Origin Inspection						
			Sample Size	0.25		1.5		6.5		0.25		2.5		10.0	
				Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CB	6,000 or less	Single	168	0	1	4	5	11	12	0	1	5	6	16	17
CC	6,001–12,000	Single	315	1	2	6	7	19	20	1	2	8	9	28	29
CD	12,001–36,000	Single	500	2	3	9	10	28	29	2	3	12	13	42	43
CE	Over 36,000	Single	800	3	4	13	14	42	43	3	4	18	19	64	65
CF		Single	1,250	4	5	19	20	63	64	4	5	26	27	96	97

Table II-A–Double Sampling Plans for
Tightened Condition of Container Inspection

Code	Lot size ranges -- Number of containers in lot	Type of Plan	Sample Size		Acceptable quality levels											
					Origin Inspection						Other Than Origin Inspection					
					0.25		1.5		6.5		0.25		2.5		10.0	
					Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CB	6,000 or less-------	Double---	1st-------	120	(*)	(*)	2	5	6	10	(*)	(*)	2	6	10	14
			2d--------	60												
			Total-----	180	(*)	(*)	4	5	12	13	(*)	(*)	5	6	17	18
CC	6,001-12,000-----	Double---	1st-------	168	0	2	1	5	7	13	0	2	2	7	12	18
			2d--------	180												
			Total-----	348	1	2	7	8	21	22	1	2	9	10	31	32
CD	12,001-36,000-----	Double---	1st-------	228	0	3	2	7	8	17	0	3	3	9	15	24
			2d--------	288												
			Total-----	516	2	3	9	10	29	30	2	3	12	13	43	44
CE	Over 36,000-----	Double---	1st-------	456	0	4	5	10	21	28	0	4	8	13	32	41
			2d--------	408												
			Total-----	864	3	4	14	15	44	45	3	4	19	20	69	70

(*) = Reject on one or more defects

REDUCED

TABLE III—SINGLE SAMPLING PLANS FOR REDUCED CONDITION OF CONTAINER INSPECTION

Code	Lot size ranges—Number of containers in lot	Type of Plan	Acceptable quality levels												
			Origin inspection							Other Than Origin Inspection					
			Sample Size	0.25		1.5		6.5		0.25		2.5		10.0	
				Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CAA	6,000 or less	Single	29	1	2	1	2	4	5	1	2	2	3	5	6
CA	6,001–36,000	Single	84	1	2	3	4	9	10	1	2	4	5	13	14
CB	Over 36,000	Single	168	1	2	5	6	16	17	1	2	7	8	23	24
CC		Single	315	2	3	8	9	28	29	2	3	13	14	41	42

Table III-A--Double Sampling Plans for Reduced Condition of Container Inspection

Code	Lot size ranges -- Number of containers in lot	Type of Plan	Sample Size		Acceptable quality levels											
					Origin Inspection						Other Than Origin Inspection					
					0.25		1.5		6.5		0.25		2.5		10.0	
					Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
CAA	6,000 or less	Double	1st	18	0	2	0	2	1	4	0	2	0	3	2	5
			2d	18												
			Total	36	1	2	1	2	5	6	1	2	2	3	6	7
CA	6,001-36,000	Double	1st	36	0	2	0	4	2	7	0	2	0	4	3	9
			2d	60												
			Total	96	1	2	3	4	10	11	1	2	4	5	15	16
CB	Over 36,000	Double	1st	120	0	2	2	6	10	14	0	2	3	7	14	19
			2d	60												
			Total	180	1	2	5	6	17	18	1	2	8	9	25	26

ATTACHMENT 5
RANDOM NUMBERS

Random Numbers					
659156	034646	425055	010152	471312	479957
339770	290314	882310	900136	808662	029405
652044	207095	557383	209444	005589	652115
611444	708280	902471	456209	867789	111985
110968	687516	617250	234214	665892	523446
111915	611507	624434	913875	645892	523443
031763	601487	607081	055478	938287	603723
312603	487608	508546	696647	750773	803659
910928	632377	687231	699795	593444	254968
708789	468824	505992	089389	844746	641044
977532	858191	837708	528063	651814	493198
154913	000563	361080	840178	474332	782525
712659	006378	146925	689428	695586	981411
974906	082998	126328	656166	237092	098055
815580	373563	282399	521379	864980	783019
406945	320181	469445	085552	888670	856524
024917	961097	295247	724030	569060	701093
479160	840407	238605	698412	758672	429641
366848	524205	121358	296023	746741	658875
718939	753183	857051	023170	970834	529912
172506	823446	420751	945808	095292	788706
147017	197887	676053	407507	317664	523339
758053	896357	123844	178871	061284	126141
055691	907814	127083	224626	064547	118183
886394	285272	564562	259292	050288	516333
198537	119943	099727	626665	313260	956242
909340	461582	268809	564682	660389	495991
734114	695511	711673	934654	741440	577086
837743	347749	329985	779050	580398	953156
192991	714852	382392	331828	514719	396086
678301	169027	348318	966446	349957	219455
510366	268175	916299	129340	623209	972180
576601	153946	531371	193021	153068	862977
531854	201051	624313	197608	507127	687524
313452	847637	433267	029847	306942	433778
935693	246704	072701	314715	990109	599242

Random Numbers					
220263	923131	103841	501740	033904	448129
182199	559087	473263	437440	993213	804412
020073	367236	278179	623975	641953	247844
388061	458061	335694	334583	677684	562455
523659	223003	751716	479298	967099	218435
185725	294664	139472	905566	836680	541922
443459	084450	029116	478545	529271	578744
803529	612472	648763	320273	888245	578715
268571	269342	332049	404283	530621	023923
590482	091185	559806	328155	873070	073638
162143	877403	715811	024770	713007	370581
770488	104891	512963	815067	173726	059667

Random Numbers					
117765	906701	425055	010152	471312	479957
136075	775006	882310	900136	808662	029405
314872	503938	557383	209444	005589	652115
619896	875875	902471	456209	867789	111985
024860	226692	617250	234214	665892	523446
982363	025912	624434	913875	645892	523443
031763	601487	607081	055478	938287	603723
312603	487608	508546	696647	750773	803659
910928	632377	687231	699795	593444	254968
708789	468824	505992	089389	844746	641044
977532	858191	837708	528063	651814	493198
154913	000563	361080	840178	474332	782525
712659	006378	146925	689428	695586	981411
974906	082998	126328	656166	237092	098055
815580	373563	282399	521379	864980	783019
406945	320181	469445	085552	888670	856524
024917	961097	295247	724030	569060	701093
479160	840407	238605	698412	758672	429641
366848	524205	121358	296023	746741	658875
718939	753183	857051	023170	970834	529912
172506	823446	420751	945808	095292	788706
147017	197887	676053	407507	317664	523339
758053	896357	123844	178871	061284	126141
055691	907814	127083	224626	064547	118183

Random Numbers					
886394	285272	564562	259292	050288	516333
198537	119943	099727	626665	313260	956242
909340	461582	268809	564682	660389	495991
734114	695511	711673	934654	741440	577086
837743	347749	329985	779050	580398	953156
192991	714852	382392	331828	514719	396086
678301	169027	348318	966446	349957	219455
510366	268175	916299	129340	623209	972180
576601	153946	531371	193021	153068	862977
531854	201051	624313	197608	507127	687524
313452	847637	433267	029847	306942	433778
935693	246704	072701	314715	990109	599242
220263	923131	103841	501740	033904	448129
182199	559087	473263	437440	993213	804412
020073	367236	278179	623975	641953	247844
388061	458061	335694	334583	677684	562455
523659	223003	751716	479298	967099	218435
185725	294664	139472	905566	836680	541922
443459	084450	029116	478545	529271	578744
803529	612472	648763	320273	888245	578715
268571	269342	332049	404283	530621	023923
590482	091185	559806	328155	873070	073638
162143	877403	715811	024770	713007	370581
770488	104891	512963	815067	173726	059667

CHAPTER 11:
REVISION HISTORY

CONTENTS

Change No. 5: **August 20, 2020**

The Rice Inspection Handbook was revised to incorporate policy and procedural changes throughout the entire handbook, since its initial date of publication, as well as re-formatting and editorial updates to maintain in compliance with *FGIS Administrative Directive 3010.2*, "Policies, Procedures, and Guidance Issuance."

For all substantive revisions, updated hyperlinks were embedded within the text to link directly to both internal and external content wherever possible. Explicit reference was made to the following FGIS Directives:

- *FGIS Directive 9070.6*, "Reporting Violations of the U.S. Grain Standards Act and the Agricultural Marketing Act of 1946"
- *FGIS Directive 9070.5*, "Grain Handling Practices"
- *FGIS Directive 9060.2*, "Implementation of the FGIS-FDA Memorandum of Understanding"
- *FGIS Directive 9170.14*, "FGIS Rolling Stock Fall Protections"
- *FGIS Directive 4735.2*, "Uniform and Identity Apparel and Dress Code Policy"
- *FGIS Directive 9180.41*, "Sacked Grain"
- *FGIS Directive 9020.1*, "Exemptions and Waivers of Official Inspection and Class X Weighing Requirements"

Additionally, acronyms and organizational details were updated to reflect accurate administrative structure and associated program information (e.g., reference to the Grain Inspection Packers and Stockyards Administration (GIPSA) was replaced by the Federal Grain Inspection Service (FGIS)).

Change No. 4: **June 19, 2014**

Chapter 3, Rough Rice; Chapter 4, Brown Rice for Processing; and Chapter 5, Milled Rice, were revised to update the definition of moisture, moisture portion, delete the reference to "Motomco" moisture meter, and reference the procedures for performing a moisture determination using the GAC2500- UGMA and Perten AM 5200-A moisture meters in the Moisture Handbook.

Incorporated Visual Aid: Chalky Kernels (VRI R-8.0), and clarified the procedure for chalky kernel determination.

Change No. 3: **May 1, 1997**

This revision clarified, improved, and updated the entire Rice Inspection Handbook, and corrected for inaccuracies.

Change No. 2: **August 15, 1995**

This revision clarified and improved the procedures for testing rice for total oil and free fatty acid, and updates section 5.45, “Equipment and Chemicals for Total Oil and Free Fatty Acid Analysis.”

Change No. 1: **July 1, 1994**

The Rice Inspection Handbook was revised to: (1) update and simplify the sampling, inspection, and certification procedures; (2) incorporate procedures for grading glutinous (sweet) and aromatic rice; (3) include new procedures for performing quantitative or milling analyses; (4) clarify the application of the narrow margin rule; and (5) establish combined-lot inspection procedures.

APPENDIX 1
OFFICIAL COMMERCIAL INSPECTION SERVICES

CONTENTS

1. PURPOSE

This appendix establishes the policies and procedures for requesting, performing, certifying, and monitoring official commercial inspection services (OCIS) of rice performed under the Agricultural Marketing Act of 1946, as amended (AMA).

2. GENERAL INFORMATION

a. Official commercial inspection services, like other official services, provide for the inspection of rice in a lot or submitted sample, by official personnel, using approved and check tested equipment. Unlike other services, applicants for this service may also request that sampling and inspection procedures be modified, certain equipment be used, file samples not be maintained, and certificates not be issued.

b. There are two types of official commercial inspection services: (1) official commercial sample-lot inspection services and (2) official commercial submitted sample inspection services.

(1) Official Commercial Sample-Lot. Official commercial sample-lot inspection services consist of official personnel sampling identified lots of rice, and analyzing the lots for grade, official factors, official criteria, or any combination thereof, according to the Official U.S. Standards for Rice, this appendix, other FGIS instructions, and the OCIS Agreement.

(2) Official Commercial Submitted Sample. Official commercial submitted sample inspection services consist of an applicant, or their agent, submitting rice samples to an FGIS Field Office or Cooperator to analyze for grade, official factors, official criteria, or any combination thereof, according to the Official U.S. Standards for Rice, this appendix, other FGIS instructions, and the OCIS Agreement.

Note: As used in this Appendix, official personnel refers to any authorized Department employee or person licensed by FGIS to perform all or specified functions under the AMA.

c. Official commercial inspection services are not available for the inspection of export rice, or for phytosanitary inspections.

3. INSPECTION PLAN (OCIS AGREEMENT)

a. The proposed inspection plan *must be presented to* the FGIS Field Office or Cooperator *in writing*.

b. The inspection plan must describe:

(1) Location for the inspection(s);

(2) Type of inspection (lot or submitted) – may include one or more lots;

(3) Type(s) of rice

(4) Procedures and methods for sampling, if applicable;

(5) Factor(s) and/or criteria to be anaylzed;

(6) Procedures and methods for determining factor/criteria results;

(7) If file sample(s) will be retained – if yes, retention time; and

(8) How the results will be reported (certificate, pan ticket, spreadsheet).

For Example: RL Rice Company requests official commercial sample-lot inspections on all trucklots of Rough Rice delivered to Mill X from May 1, 2018, to May 1, 2019. Each trucklot must be sampled with the mill's mechanical truck probe in four randomly selected locations. Each trucklot sample must be inspected for milling yield, damaged by heat (stain), and heat damaged kernels. Sample will be divided into 162-gram work portion using a boerner divider. Work portion will then be milled using a #2 McGill Miller.

Inspector will then determine the following factors on the Total Rice after milling:

(1) Kernels damaged by heat (stain) - determine count;

(2) Heat damaged kernels - determine count; and

(3) Milling yield - determine by assessing the number of whole kernels captured in pan after handshaking the Total Rice twice using a #12 plate. (No hand adjustments to whole or broken kernels).

All determinations will be performed in an unofficial inspection environment.

Note: Do not maintain file samples or issue certificates. Provide results via spreadsheet at the end of each day. Notify Ricky Rice, RL Rice Company manager, if heat or stain is present in any lot.

c. FGIS Field Office or Cooperator managers must review each new request for official commercial inspection service and determine if the requested modifications in sampling and/or inspection procedures are reasonable and proper. Although FGIS Field Office and Cooperator are not restricted by State law, managers should ensure that commercial equipment meets minimum State and local specifications and tolerances.

(1) Both the FGIS field office and the cooperator manager (when applicable) must approve the inspection plan, in writing, prior to providing the requested official commercial inspection services.

(2) The inspection plan becomes the *OCIS Agreement* once it has been approved and has been signed by the applicant, the Field Office manager and the cooperator manager when applicable. The OCIS Agreement is only valid for the Field Office/Cooperator and the applicant/location(s) named in the approved agreement.

(3) All approved *OCIS Agreements* must be kept on file at the Field Office and the cooperator's office (when applicable).

(4) Copies of approved *OCIS Agreements* must be provided to QACD.

(5) Copies of approved *OCIS Agreements* must be provided to interested parties upon request.

4. REQUESTS FOR SERVICE, WORK RECORDS, AND CERTIFICATES

a. Requests for Service According to OCIS Agreement. Any interested person may request an original, retest, appeal, or Board appeal official commercial inspection service, as applicable under the AMA.

(1) Requests must be filed, in writing, with the FGIS Field Office or Cooperator that is responsible for providing the requested service.

(a) For original inspection, and retest requests, applicants for service may use any form that provides all necessary information.

(b) For Appeal and Board Appeal inspection requests, applicants for service must use FGIS-907, "Application for Inspection and Weighing Services." All cooperator Appeal Inspections must be performed at the supervising Field Office. All Board Appeals must be performed by the FGIS Board of Appeals and Review.

b. Work Records. FGIS Field Office or Cooperator must complete and maintain a detailed work record for each official commercial inspection performed.

(1) FGIS Field Office or Cooperator may use any form or format that suits their needs and is approved by the FGIS field office manager who is responsible for the area in which the rice is located (e.g., standard or special pan tickets, inspection logs, letterhead paper, or electronic (computer) records).

(2) The information shown on the work records must:

(a) Be printed or written legibly in English;

(b) Show the date, specified service point, identification of the lot or sample, and the results of the inspection; and

(c) Include the name or initials of the official inspection personnel who are responsible for the accuracy of the inspection results.

(3) If official certificates are not issued, the FGIS Field Office or Cooperator that performed the inspection must maintain the original completed work record, and provide a copy to the applicant for service and interested party upon request. The FGIS Field Office or Cooperator that performed the inspection must maintain the original copy of each work record.

c. File Samples.

(1) FGIS Field Office or Cooperator is not required to maintain file samples unless requested by the applicant for service or an interested party or when deemed necessary by FGIS.

(2) When requested or otherwise deemed necessary, FGIS Field Office or Cooperator must:

(a) Maintain file samples of sufficient size for the minimum retention period specified by the applicant or as specified in *FGIS Directive 9170.13*, "Uniform File Sample Retention System."

(b) Retain file samples in a manner that will preserve the representativeness of the sample from the time they are obtained until they are discarded.

d. Certificates.

(1) FGIS Field Office or Cooperator is not required to issue official certificates unless requested by the applicant for service or an interested party, or when deemed necessary by FGIS.

(2) When requested or otherwise deemed necessary, FGIS Field Office or Cooperator must issue certificates in accordance with the requirements in sections 868.70 – 868.75 of the regulations under the AMA and the guidance listed in Chapter 6, Certification, of this handbook.

(3) Official commercial sample-lot inspection certificates must:

(a) On FGIS 993-1, show the captions "Official Commercial Commodity Inspection" and "Official Green Certificate," immediately below the caption "Agricultural Marketing Act of 1946";

(b) Include a statement, if requested by the applicant for inspection or another interested party, describing the use of any non-FGIS approved sampling equipment, or special sampling or inspection procedures that were agreed to by the applicant for inspection and the FGIS Field Office or Cooperator (e.g., “The sample was drawn from four randomly selected locations in the lot, using an mechanical truck probe” or “The Milling Yield percent was determined using a #2 McGill miller ”); and

(c) Any other information and statements of fact as provided by FGIS instructions or approved by the appropriate FGIS field office manager.

(4) Official commercial submitted sample inspection certificates must:

(a) On FGIS 994-1, show the captions “Official Commercial Commodity Submitted Sample Inspection” and “Official Blue Certificate,” immediately below the caption “Agricultural Marketing Act of 1946”;

(b) Include a statement, if requested by the applicant for inspection or another interested party, describing the use of any special inspection procedures that were agreed to by the applicant for inspection and the FGIS Field Office or Cooperator (e.g., “The number of heat damaged kernels was determined on the Total Rice after milling 162 grams of rough rice.”); and

(c) Any other information and statements of fact as provided by FGIS instructions or approved by the appropriate FGIS field office manager.

Note: An OCIS certificate created by third party provider software must be approved by FGISonline in advance of an official agency using such certificate to ensure conformance with FGIS requirements.

5. SAMPLING AND INSPECTION

a. Sampling Requirements. (Applicable to official commercial sample-lot inspections only.) Samples must be obtained:

(1) By official personnel

(2) Using an FGIS-approved sampling device, or an open-throat probe, a truck tailgate sampler, or a mechanical truck probe (core or gravity-fill type only); and

(3) According to the sampling procedures in Chapter 2, Sampling, of this handbook, or as agreed to by the applicant for inspection and the FGIS Field Office or Cooperator, provided that such procedures are reasonable and proper.(e.g., An applicant may ask that only two probe samples be drawn, at random, from each truck lot, but the applicant may not direct that samples be taken from particular areas in the lot.)

Note: The same type of equipment and procedures used for obtaining the sample used for the original inspection must be used for obtaining a sample for any subsequent reinspection, retest, or appeal inspection.

b. Inspection Requirements. Rice must be inspected:

(1) By official personnel.

(2) Using FGIS-approved inspection equipment, or commercial equipment. Commercial equipment includes devices that are approved or allowed by local or state weights and measures jurisdictions as “legal for trade.” Much of the FGIS official equipment meets stricter tolerances or design requirements than commercial equipment; however, commercial equipment may be considered for official commercial inspection services.

(3) According to the inspection procedures in this Handbook or as agreed to by the applicant for inspection and the official service provider, provided that such procedures are reasonable and proper. (e.g., An applicant may ask that the percent of damaged kernels be determined only if, in the inspector’s judgment, the sample or lot contains 1.5 percent or more of damaged kernels. Otherwise, the inspector should indicate “less than 1.5 percent” on the work record for percent of damaged kernels.)

Note: The same procedures used for performing the original inspection shall be used for performing any subsequent reinspection, appeal inspection, or Board appeal inspection.

c. "Other Criteria" Test Requirements. "Other criteria" tests (e.g., TOFFA, enrichment and fortification testing) must be performed:

(1) By official personnel ;

(2) Using FGIS-approved equipment and calibrations; and

(3) According to the test procedures in the appropriate FGIS handbooks or directives.

6. FEES

a. Fees assessed for official commercial inspection services must be reasonable and nondiscriminatory.

(1) FGIS field offices must charge according to published fees.

(2) Cooperators must either charge the fees shown in their approved fee schedule or charge a negotiated fee. If a negotiated fee is charged, the Cooperator must:

(a) Use their approved fee schedule as a basis for the fee; and

(b) Include a statement in their approved fee schedule that official commercial inspection service is available, upon request, and fees for this service will be negotiated on a case-by-case basis.

7. MONITORING

FGIS Field Office or Cooperator quality assurance specialists must monitor the grading accuracy of official personnel who perform official commercial inspection services, using any methods deemed appropriate (e.g., over-the-shoulder supervision, referee samples, and separation monitoring).

ATTACHMENT 1:
[EXAMPLE] OFFICIAL COMMERCIAL LOT INSPECTION CERTIFICATE

UNITED STATES DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE
AGRICULTURAL MARKETING ACT OF 1946

OFFICIAL COMMERCIAL COMMODITY INSPECTION ***ORIGINAL***

OFFICIAL GREEN CERTIFICATE

EXAMPLE ONLY – NOT FOR OFFICIAL USE

LEVEL OF INSPECTION:	ISSUED AT:	DATE OF SERVICE:
Original	STUTTGART, AR	March 6, 2019
IDENTIFICATION:	**LOCATION:**	**QUANTITY:** (this is NOT a weight certificate)
ABC 1234	Mill City, AR	1 Trucklot
TYPE OF MOVEMENT:	**DATE SAMPLED:**	**METHOD OF SAMPLING:**
Out	March 6, 2019	Probe

COMMERCIAL

GRADE AND COMMODITY: U.S. No. 1 Long Grain Rough Rice
Milling Yield 55% - 70%

RESULTS:

Heat-Damaged Kernels 0
Moisture 11.5 %
Damaged By Heat 0

Objectionable Seeds 0
Total Seeds And Heat-Damaged Kernels 0

REMARKS:

Quantity: Bulk

Condition of commodity: Good

This rice does not contain live insects.

EXAMPLE ONLY – NOT FOR OFFICIAL USE

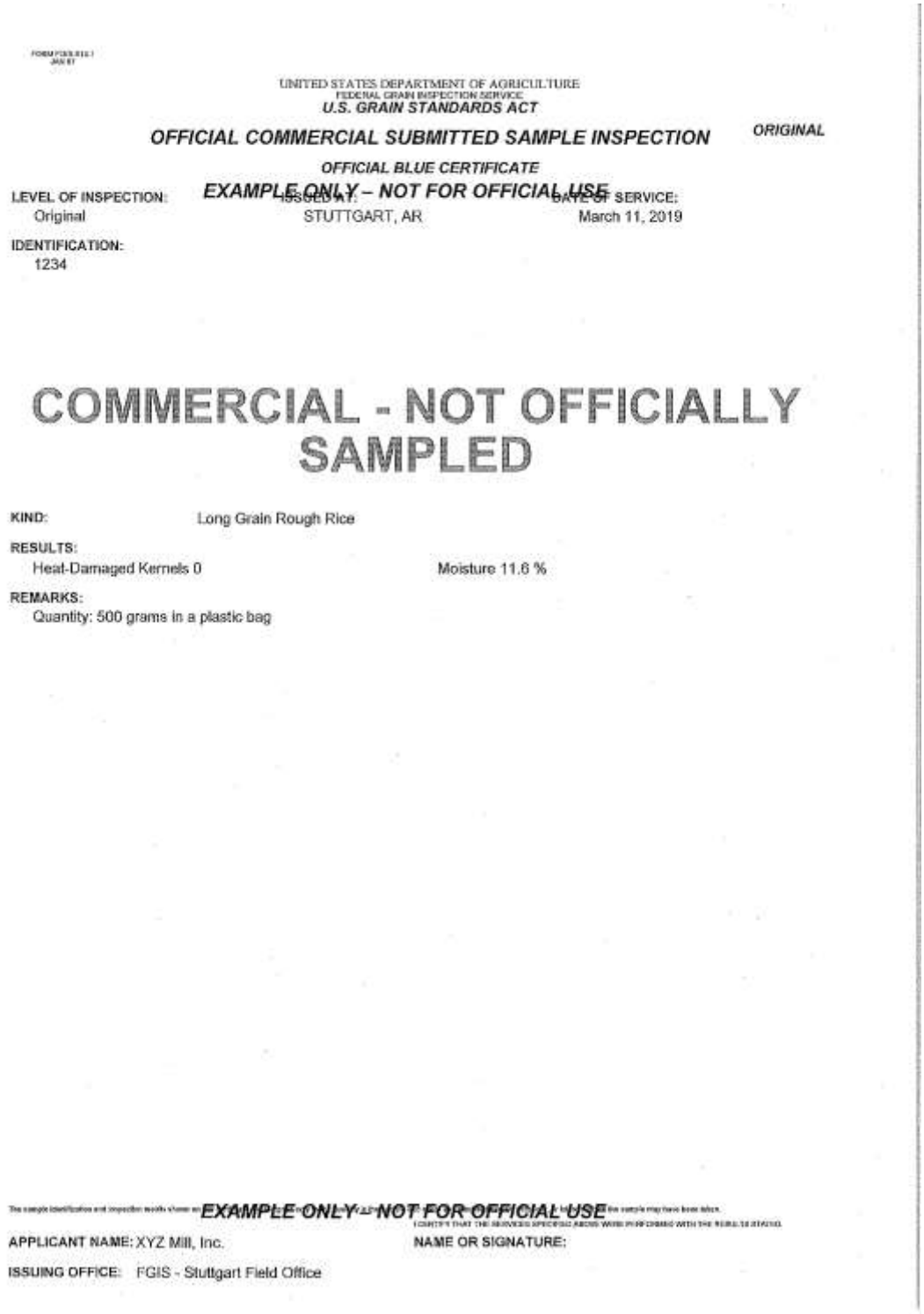
I CERTIFY THAT THE SERVICES SPECIFIED ABOVE WERE PERFORMED WITH THE RESULTS STATED

APPLICANT NAME: XYZ Mill, Inc.

NAME OR SIGNATURE:

ISSUING OFFICE: FGIS - Stuttgart Field Office

ATTACHMENT 2:
[EXAMPLE] OFFICIAL COMMERCIAL SUBMITTED LOT INSPECTION CERTIFICATE



UNITED STATES DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE
U.S. GRAIN STANDARDS ACT

OFFICIAL COMMERCIAL SUBMITTED SAMPLE INSPECTION ***ORIGINAL***

OFFICIAL BLUE CERTIFICATE

EXAMPLE ONLY – NOT FOR OFFICIAL USE

LEVEL OF INSPECTION: Original

ISSUED AT: STUTTGART, AR

DATE OF SERVICE: March 11, 2019

IDENTIFICATION: 1234

COMMERCIAL - NOT OFFICIALLY SAMPLED

KIND: Long Grain Rough Rice

RESULTS:
Heat-Damaged Kernels 0 Moisture 11.6 %

REMARKS:
Quantity: 500 grams in a plastic bag

EXAMPLE ONLY – NOT FOR OFFICIAL USE

APPLICANT NAME: XYZ Mill, Inc.

NAME OR SIGNATURE:

ISSUING OFFICE: FGIS - Stuttgart Field Office

APPENDIX 2
ROUGH RICE INSPECTIONS FOR CHICAGO BOARD OF TRADE (CBOT)

CONTENTS

1. SCOPE

This appendix is only applicable to “CBOT Specifications for Rough Rice,” as requested by the applicant.

2. SPECIFICATIONS

CBOT contracts include quality specifications based on U.S. Rice Standards. These quality specifications are unique, as they include additional factors and factors determined on portion sizes that are different than FGIS established procedures. These inspection specifications must be requested at the time of inspection and include:

a. U.S. No. 2 or Better Long Grain Rough Rice with the same established standards promulgated by the USDA.

b. No Heat-Damaged Kernels, as defined by Visual Aid: Heat Damage (VRI R-2.0) are permitted in a 500-gram sample.

c. No “Stained” (Damaged by Heat) kernels, as defined by Visual Aid: Damaged by Heat (Stain) (VRI R-2.1) are permitted in a 500 gram sample.

d. A maximum of 75 “lightly discolored kernels,” Lightly Stained (not damaged), as defined by Visual Aid: Lightly Stained (VRI R-2.2) are permitted in a 500 gram sample.

e. All Rough Rice shall be of a southern origin or such other origin as the exchange may approve and have a milling yield not less than 48% - 65%.

3. PROCEDURE

a. Follow normal rough rice milling procedures and grade according to the Rough Rice chapter of this handbook.

b. In addition to determining the required grade determining factors in the representative 500-gram portion, also determine the number of Kernels Damaged by Heat (Stain) and Lightly Stained Kernels.

For reference, see Visual Aid: Damaged by Heat (Stain) (VRI R-2.1) and Visual Aid: Lightly Stained (VRI R-2.2).

c. Since these determinations are not according to FGIS procedures, they must be recorded in the "REMARKS" section of the work record.

Example: DHT - 12/500g
LS – 47/500g

4. CERTIFICATION

CBOT specifications that require results not based on U.S. Rice standards and/or FGIS procedures, (Kernels Damaged by Heat in 500 grams and Lightly Stained kernels), must be shown in the "REMARKS" section of the certificate.

a. When the factors, Heat Damaged Kernels and Kernels Damaged by Heat (Stain) are requested by count in 500 grams, show the following statement in the "REMARKS" section of the certificate:

> "This rice contains (count) Heat-Damaged Kernels and (count) stained kernels in (amount) grams. Stained is defined as being Kernels Damaged by Heat."

b. When the factor Lightly Stained kernels is requested by count in 500 grams, the following statement will be shown in the "REMARKS" section of the certificate

> "This rice contains (count) Lightly Stained kernels in 500 grams. Lightly Stained kernels are not considered as damaged kernels and are not included in the damaged results."

APPENDIX 3
UNIFORMITY TOLERANCE TABLES

CONTENTS

1. INTRODUCTION

Because of sampling, equipment, and interpretive variations, grades or other contract specifications of subsequent supervision inspections may be different than those of original inspections although the true quality and condition have not changed. When there is no actual change, a change in grade or other contract specifications may be due to the sampling, equipment, or interpretive variations. Such variations are measurable and predictable. Therefore, it can be determined statistically that the results of an original inspection are correct when the results of a subsequent supervision inspection are within the expected range of prescribed tolerances.

Tolerances have been determined and are to be used for supervision of factors.

Note: For supervision purposes when the same separations are reviewed, the results should be the same.

2. TOLERANCE TABLES INDEX

ROUGH RICE INDEX

BROWN RICE FOR PROCESSING INDEX

MILLED RICE INDEX

3. TOLERANCE TABLES (1-3)

TABLE 1 (Percent +/-)		
	Portion of Original Sample	**New Sample**
Total Milling Yield - RR	**2.0**	**2.5**
Total Milling Yield - BR	**1.0**	**1.5**
Whole Kernels - RR	**2.5**	**3.0**
Whole Kernels - BR	**1.5**	**2.0**

TABLE 2 (Percent +/-)		
	Portion of Original Sample	**New Sample**
Moisture	**0.45**	**0.55**

TABLE 3 (Percent +/-)		
	Portion of Original Sample	**New Sample**
Long Gain Rice (51 kernels/gram)	**2.3**	**2.8**
Medium Grain Rice (46 kernels/gram)	**2.4**	**2.9**
Short Grain Rice (42 kernels/gram)	**2.5**	**3.0**

4. TOLERANCE TABLE 4

TABLE 4
(NUMBER IN 500 GRAMS)

Original Inspection Results	Portion of Original Sample	New Sample		Original Inspection Results	Portion of Original Sample	New Sample
0	0 - 3	0 - 5		26	15 - 39	13 - 41
1	0 - 5	0 - 7		27	16 - 41	14 - 43
2	0 - 7	0 - 9		28	17 - 42	15 - 44
3	0 - 9	0 - 11		29	18 - 43	16 - 45
4	0 - 11	0 - 13		30	18 - 44	16 - 46
5	1 - 12	0 - 14		31	19 - 46	17 - 48
6	1 - 14	0 - 16		32	20 - 47	18 - 49
7	2 - 15	0 - 17		33	21 - 48	19 - 50
8	2 - 16	0 - 18		34	22 - 49	19 - 51
9	3 - 18	1 - 20		35	22 - 50	20 - 52
10	3 - 19	1 - 21		36	23 - 52	21 - 53
11	4 - 20	2 - 22		37	24 - 53	22 - 54
12	5 - 22	3 - 24		38	25 - 54	23 - 56
13	5 - 23	4 - 25		39	26 - 55	24 - 57
14	6 - 24	4 - 26		40	26 - 56	24 - 58
15	7 - 26	5 - 28		41	27 - 58	25 - 50
16	8 - 27	6 - 29		42	28 - 59	26 - 61

17	**8 - 28**	**6 - 30**
18	**9 - 29**	**7 - 31**
19	**10 - 31**	**8 - 33**
20	**11 - 32**	**9 - 34**
21	**11 - 33**	**9 - 35**
22	**12 - 35**	**10 - 37**
23	**13 - 36**	**11 - 38**
24	**14 - 37**	**12 - 39**
25	**14- 38**	**12 - 40**

43	**29 - 60**	**27 - 62**
44	**30 - 61**	**28 - 63**
45	**30 - 62**	**28 - 64**
46	**31 - 63**	**29 - 65**
47	**32 - 65**	**30 - 67**
48	**33 - 66**	**31 - 68**
49	**34 - 67**	**32 - 69**
50	**35 - 68**	**33 - 70**

TABLE 4
(NUMBER IN 500 GRAMS)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
51	35 - 69	33 - 71	76	57 - 98	55 - 100
52	36 - 70	33 - 72	77	58 - 99	56 - 101
53	37 - 72	35 - 74	78	59 - 100	57 - 102
54	38 - 73	36 - 75	79	59 - 101	57 - 103
55	39 - 74	37 - 76	80	60 - 102	58 - 104
56	40 - 75	38 - 77	81	61 - 103	59 - 106
57	40 - 76	38 - 78	82	62 - 105	60 - 107
58	41 - 77	39 - 79	83	63 - 106	61 - 108
59	42 - 78	40 - 80	84	64 - 107	62 - 109
60	43 - 80	41 - 82	85	65 - 108	63 - 110
61	44 - 81	42 - 83	86	66 - 109	64 - 111
62	45 - 82	43 - 84	87	66 - 110	65 - 112
63	46 - 83	44 - 85	88	67 - 111	65 - 113
64	46 - 84	44 - 86	89	68 - 113	66 - 115
65	47 - 85	45 - 87	90	69 - 114	67 - 116
66	48 - 86	46 - 88	91	70 - 115	68 - 117
67	49 - 88	47 - 90	92	71 - 116	69 - 118

68	**50 - 89**	**48 - 91**	**93**	**72 - 117**	**70 - 119**
69	**51 - 90**	**49 - 92**	**94**	**73 - 118**	**71 - 120**
70	**52 - 91**	**50 - 93**	**95**	**73 - 119**	**71 - 121**
71	**53 - 92**	**51 - 94**	**96**	**74 - 120**	**72 - 122**
72	**53 - 93**	**51 - 95**	**97**	**75 - 122**	**73 - 124**
73	**54 - 94**	**52 - 96**	**98**	**76 - 123**	**74 - 125**
74	**55 - 96**	**53 - 98**	**99**	**77 - 124**	**75 - 126**
75	**56 - 97**	**54 - 99**	**100**	**78 - 125**	**76 - 127**

TABLE 4
(NUMBER IN 500 GRAMS)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
101	79 - 126	77 - 128	126	101 - 154	99 - 156
102	80 - 127	78 - 129	127	102 - 155	100 - 157
103	80 - 128	79 - 130	128	103 - 156	101 - 158
104	81 - 129	79 - 131	129	104 - 157	102 - 159
105	82 - 130	80 - 132	130	105 - 158	103 - 160
106	83 - 131	81 - 133	131	106 - 159	104 - 161
107	84 - 132	82 - 134	132	107 - 160	105 - 162
108	85 - 134	83 - 136	133	107 - 161	105 - 163
109	86 - 135	84 - 137	134	108 - 163	106 - 165
110	87 - 136	85 - 138	135	109 - 164	107 - 166
111	88 - 131	86 - 139	136	110 - 165	108 - 167
112	88 - 138	86 - 140	137	111 - 156	109 - 168
113	89 - 139	87 - 141	138	112 - 167	110 - 169
114	90 - 140	88 - 142	139	113 - 168	111 - 170
115	91 - 142	89 - 144	140	114 - 169	112 - 171
116	92 - 143	90 - 145	141	114 - 170	112 - 172
117	93 - 144	91 - 146	142	115 - 171	113 - 173

118	**94 - 145**	**92 - 147**	**143**	**116 - 172**	**114 - 174**
119	**95 - 146**	**93 - 148**	**144**	**117 - 173**	**115 - 175**
120	**96 - 147**	**94 - 149**	**145**	**118 - 175**	**116 - 177**
121	**96 - 148**	**94 - 150**	**146**	**119 - 176**	**117 - 178**
122	**97 - 149**	**95 - 151**	**147**	**120 - 177**	**118 - 179**
123	**98 - 150**	**96 - 152**	**148**	**121 - 178**	**119 - 180**
124	**99 - 152**	**97 - 154**	**149**	**122 - 119**	**120 - 181**
125	**100 - 153**	**98 - 155**	**150**	**123 - 180**	**121 - 182**

TABLE 4
(NUMBER IN 500 GRAMS)

Original Inspection Results	Portion of Original Sample	New Sample
151	123 - 181	121 - 183
152	124 - 182	122 - 184
153	125 - 183	123 - 185
154	126 - 184	124 - 186
155	127 - 185	125 - 187
156	128 - 187	126 - 189
157	129 - 188	127 - 190
158	130 - 189	128 - 191
159	131 - 190	129 - 192
160	132 - 191	130 - 193
161	133 - 192	131 - 194
162	133 - 193	131 - 195
163	134 - 194	132 - 196
164	135 - 195	133 - 197
165	136 - 197	134 - 199
166	137 - 198	136 - 200
167	138 - 199	136 - 201

Original Inspection Results	Portion of Original Sample	New Sample
176	146 - 208	144 - 210
177	147 - 210	145 - 212
178	148 - 211	146 - 213
179	149 - 212	147 - 214
180	150 - 213	148 - 215
181	151 - 214	149 - 216
182	152 - 215	150 - 217
183	153 - 216	151 - 218
184	154 - 217	152- 219
185	155 - 218	153 - 220
186	155 - 219	153 - 221
187	156 - 220	154 - 222
188	157 - 221	155 - 223
189	158 - 223	156 - 224
190	159 - 224	157 - 226
191	160 - 225	158 - 227
192	161 - 226	159 - 228

168	**139 - 200**	**137 - 202**
169	**140 - 201**	**138 - 203**
170	**141 - 202**	**139 - 204**
171	**142 - 203**	**140 - 205**
172	**143 - 204**	**141 - 205**
173	**144 - 205**	**142 - 201**
174	**144 - 206**	**142 - 208**
175	**145 - 207**	**143 - 209**

193	**162 - 227**	**160 - 229**
194	**163 - 228**	**161 - 230**
195	**164 - 229**	**162 - 231**
196	**164 - 230**	**162 - 232**
197	**165 - 231**	**163 - 233**
198	**166 - 232**	**164 - 234**
199	**166 - 233**	**164 - 235**
200	**167 - 234**	**165 - 236**

5. TOLERANCE TABLE 5

TABLE 5
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample
0.0	0.0 - 0.2	0.0 - 0.4
0.1	0.0 - 0.4	0.0 - 0.6
0.2	0.0 - 0.5	0.0 - 0.7
0.3	0.0 - 0.7	0.0 - 0.9
0.4	0.1 - 0.8	0.0 - 1.0
0.5	0.2 - 0.9	0.0 - 1.1
0.6	0.2 - 1.1	0.0 - 1.3
0.7	0.3 - 1.2	0.1 - 1.4
0.8	0.4 - 1.3	0.2 - 1.5
0.9	0.5 - 1.4	0.3 - 1.6
1.0	0.5 - 1.6	0.3 - 1.8
1.1	0.6 - 1.7	0.9 - 2.2
1.2	0.7 - 1.8	0.5 - 2.0
1.3	0.8 - 1.9	0.6 - 2.1
1.4	0.9 - 2.0	0.7 - 2.2
1.5	0.9 - 2.2	0.7 - 2.4
1.6	1.0 - 2.3	0.8 - 2.5
1.7	1.1 - 2.4	0.9 - 2.6
1.8	1.2 - 2.5	1.0 - 2.7
1.9	1.3 - 2.6	1.1 - 2.8

2.0	**1.4 - 2.7**	**1.2 - 2.9**
2.1	**1.4 - 2.9**	**1.2 - 3.1**
2.2	**1.5 - 3.0**	**1.3 - 3.2**
2.3	**1.6 - 3.1**	**1.4 - 3.3**
2.4	**1.7 - 3.2**	**1.5 - 3.4**
2.5	**1.8 - 3.3**	**1.6 - 3.5**
2.6	**1.9 - 3.4**	**1.7 - 3.6**
2.7	**2.0 - 3.5**	**1.8 - 3.7**
2.8	**2.0 - 3.7**	**1.8 - 3.9**
2.9	**2.1 - 3.8**	**1.9 - 4.0**

6. TOLERANCE TABLE 6

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample		Original Inspection Results	Portion of Original Sample	New Sample
0.0	0.0 - 0.3	0.0 - 0.5		2.6	1.6 - 3.8	1.4 - 4.0
0.1	0.0 - 0.5	0.0 - 0.7		2.7	1.7 - 4.0	1.5 - 4.2
0.2	0.0 - 0.7	0.0 - 0.9		2.8	1.7 - 4.1	1.5 - 4.3
0.3	0.0 - 0.9	0.0 - 1.1		2.9	1.8 - 4.2	1.6 - 4.4
0.4	0.0 - 1.0	0.0 - 1.2		3.0	1.9 - 4.3	1.7 - 4.5
0.5	0.1 - 1.2	0.0 - 1.4		3.1	2.0 - 4.4	1.8 - 4.6
0.6	0.1 - 1.3	0.0 - 1.5		3.2	2.1 - 4.5	1.9 - 4.7
0.7	0.2 - 1.5	0.0 - 1.7		3.3	2.1 - 4.7	1.9 - 4.9
0.8	0.2 - 1.6	0.0 - 1.8		3.4	2.2 - 4.8	2.0 - 5.0
0.9	0.3 - 1.7	0.1 - 1.9		3.5	2.3 - 4.9	2.1 - 5.1
1.0	0.4 - 1.9	0.2 - 2.1		3.6	2.4 - 5.0	2.2 - 5.2
1.1	0.4 - 2.0	0.2 - 2.2		3.7	2.5 - 5.1	2.3 - 5.3
1.2	0.5 - 2.1	0.3 - 2.3		3.8	2.6 - 5.2	2.4 - 5.4
1.3	0.6 - 2.2	0.4 - 2.4		3.9	2.6 - 5.4	2.4 - 5.6
1.4	0.7 - 2.4	0.5 - 2.6		4.0	2.7 - 5.5	2.5 - 5.7
1.5	0.7 - 2.5	0.5 - 2.7		4.1	2.8 - 5.6	2.6 - 5.8
1.6	0.8 - 2.6	0.6 - 2.8		4.2	2.9 - 5.7	2.7 - 5.9

1.7	**0.9 - 2.7**	**0.7 - 2.9**		**4.3**	**3.0 - 5.8**	**2.8 - 6.0**
1.8	**1.0 - 2.9**	**0.8 - 3.1**		**4.4**	**3.1 - 5.9**	**2.9 - 6.1**
1.9	**1.0 - 3.0**	**0.8 - 3.2**		**4.5**	**3.2 - 6.1**	**3.0 - 6.3**
2.0	**1.1 - 3.1**	**0.9 - 3.3**		**4.6**	**3.2 - 6.2**	**3.0 - 6.4**
2.1	**1.2 - 3.2**	**1.0 - 3.4**		**4.7**	**3.3 - 6.3**	**3.1 - 6.5**
2.2	**1.3 - 3.4**	**1.1 - 3.6**		**4.8**	**3.4 - 6.4**	**3.2 - 6.6**
2.3	**1.3 - 3.5**	**1.1 - 3.7**		**4.9**	**3.5 - 6.5**	**3.3 - 6.7**
2.4	**1.4 - 3.6**	**1.2 - 3.8**		**5.0**	**3.6 - 6.6**	**3.4 - 6.8**
2.5	**1.5 - 3.7**	**1.3 - 3.9**				

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
5.1	3.7 - 6.7	3.5 - 6.9	7.6	5.9 - 9.5	5.7 - 9.7
5.2	3.8 - 6.8	3.6 - 7.0	7.7	6.0 - 9.6	5.8 - 9.8
5.3	3.8 - 7.0	3.6 - 7.2	7.8	6.0 - 9.7	5.8 - 9.9
5.4	3.9 - 7.1	3.7 - 7.3	7.9	6.1 - 9.9	5.9 - 10.1
5.5	4.0 - 7.2	3.8 - 7.4	8.0	6.2 - 10.0	6.0 - 10.2
5.6	4.1 - 7.2	3.9 - 7.5	8.1	6.3 - 10.1	6.1 - 10.2
5.7	4.2 - 7.3	4.0 - 7.6	8.2	6.4 - 10.2	6.2 - 10.3
5.8	4.3 - 7.5	4.1 - 7.7	8.3	6.5 - 10.3	6.3 - 10.4
5.9	4.4 - 7.6	4.2 - 7.8	8.4	6.6 - 10.4	6.4 - 10.6
6.0	4.5 - 7.7	4.3 - 7.9	8.5	6.7 - 10.5	6.5 - 10.7
6.1	4.5 - 7.9	4.3 - 8.1	8.6	6.8 - 10.6	6.6 - 10.8
6.2	4.6 - 8.0	4.4 - 8.2	8.7	6.9 - 10.7	6.7 - 10.9
6.3	4.7 - 8.1	4.5 - 8.3	8.8	6.9 - 10.8	6.7 - 11.0
6.4	4.8 - 8.2	4.6 - 8.4	8.9	7.0 - 10.9	6.8 - 11.1
6.5	4.9 - 8.3	4.7 - 8.5	9.0	7.1 - 11.1	6.9 - 11.3
6.6	5.0 - 8.4	4.8 - 8.6	9.1	7.2 - 11.2	7.0 - 11.4
6.7	5.1 - 8.5	4.9 - 8.7	9.2	7.3 - 11.3	7.1 - 11.5

6.8	**5.2 - 8.6**	**5.0 - 8.8**	**9.3**	**7.4 - 11.4**	**7.2 - 11.6**
6.9	**5.2 - 8.7**	**5.0 - 8.9**	**9.4**	**7.5 - 11.5**	**7.3 - 11.7**
7.0	**5.3 - 8.9**	**5.1 - 9.1**	**9.5**	**7.6 - 11.6**	**7.4 - 11.8**
7.1	**5.4 - 9.0**	**5.2 - 9.2**	**9.6**	**7.7 - 11.7**	**7.5 - 11.9**
7.2	**5.5 - 9.1**	**5.3 - 9.3**	**9.7**	**7.8 - 11.8**	**7.6 - 12.0**
7.3	**5.6 - 9.2**	**5.4 - 9.4**	**9.8**	**7.9 - 11.9**	**7.7 - 12.1**
7.4	**5.7 - 9.3**	**5.5 - 9.5**	**9.9**	**7.9 - 12.0**	**7.7 - 12.2**
7.5	**5.8 - 9.4**	**5.6 - 9.6**	**10.0**	**8.0 - 12.1**	**7.8 - 12.3**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
10.1	8.1 - 12.3	7.9 - 12.5	12.6	10.4 - 15.0	10.2 - 15.2
10.2	8.2 - 12.4	8.0 - 12.6	12.7	10.5 - 15.1	10.3 - 15.3
10.3	8.3 - 12.5	8.1 - 12.7	12.8	10.6 - 15.2	10.4 - 15.4
10.4	8.4 - 12.6	8.2 - 12.8	12.9	10.7 - 15.3	10.5 - 15.5
10.5	8.5 - 12.7	8.3 - 12.9	13.0	10.8 - 15.4	10.6 - 15.6
10.6	8.6 - 12.8	8.4 - 13.0	13.1	10.9 - 15.5	10.7 - 15.7
10.7	8.7 - 12.9	8.5 - 13.1	13.2	11.0 - 15.6	10.8 - 15.8
10.8	8.8 - 13.0	8.6 - 13.2	13.3	11.1 - 15.7	10.9 - 15.9
10.9	8.9 - 13.1	8.7 - 13.3	13.4	11.2 - 15.8	11.0 - 16.0
11.0	8.9 - 13.2	8.7 - 13.4	13.5	11.3 - 15.9	11.1 - 16.1
11.1	9.0 - 13.3	8.8 - 13.5	13.6	11.3 - 16.0	11.1 - 16.2
11.2	9.1 - 13.4	8.9 - 13.6	13.7	11.4 - 16.1	11.2 - 16.3
11.3	9.2 - 13.6	9.0 - 13.8	13.8	11.5 - 16.2	11.3 - 16.4
11.4	9.3 - 13.7	9.1 - 13.9	13.9	11.6 - 16.3	11.4 - 16.5
11.5	9.4 - 13.8	9.2 - 14.0	14.0	11.7 - 16.4	11.5 - 16.6
11.6	9.5 - 13.9	9.3 - 14.1	14.1	11.8 - 16.6	11.6 - 16.8
11.7	9.6 - 14.0	9.4 - 14.2	14.2	11.9 - 16.7	11.7 - 16.9

11.8	**9.7 - 14.1**	**9.5 - 14.3**	**14.3**	**12.0 - 16.8**	**11.8 - 17.0**
11.9	**9.8 - 14.2**	**9.6 - 14.4**	**14.4**	**12.1 - 16.9**	**11.9 - 17.1**
12.0	**9.9 - 14.3**	**9.7 - 14.5**	**14.5**	**12.2 - 17.0**	**12.0 - 17.2**
12.1	**10.0 - 14.4**	**9.8 - 14.6**	**14.6**	**12.3 - 17.1**	**12.1 - 17.3**
12.2	**10.0 - 14.5**	**9.8 - 14.7**	**14.7**	**12.4 - 17.2**	**12.2 - 17.4**
12.3	**10.1 - 14.6**	**9.9 - 14.8**	**14.8**	**12.5 - 17.3**	**12.3 - 17.5**
12.4	**10.2 - 14.7**	**10.0 - 14.9**	**14.9**	**12.6 - 17.4**	**12.4 - 17.6**
12.5	**10.3 - 14.8**	**10.1 - 15.0**	**15.0**	**12.6 - 17.5**	**12.4 - 17.7**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
15.1	12.7 - 17.6	12.5 - 17.8	17.6	15.1 - 20.3	14.9 - 20.5
15.2	12.8 - 17.7	12.6 - 17.9	17.7	15.2 - 20.4	15.0 - 20.6
15.3	12.9 - 17.8	12.7 - 18.0	17.8	15.3 - 20.5	15.1 - 20.7
15.4	13.0 - 17.9	12.8 - 18.1	17.9	15.4 - 20.6	15.2 - 20.8
15.5	13.0 - 18.0	12.9 - 18.2	18.0	15.5 - 20.7	15.3 - 20.9
15.6	13.2 - 18.1	13.0 - 18.3	18.1	15.6 - 20.8	15.4 - 21.0
15.7	13.3 - 18.3	13.1 - 18.5	18.2	15.6 - 20.9	15.4 - 21.1
15.8	13.4 - 18.4	13.2 - 18.6	18.3	15.7 - 21.0	15.5 - 21.2
15.9	13.5 - 18.5	13.3 - 18.7	18.4	15.8 - 21.1	15.6 - 21.3
16.0	13.6 - 18.6	13.4 - 18.8	18.5	15.9 - 21.2	15.7 - 21.4
16.1	13.7 - 18.7	13.5 - 18.9	18.6	16.0 - 21.3	15.8 - 21.5
16.2	13.8 - 18.8	13.6 - 19.0	18.7	16.1 - 21.4	15.9 - 21.6
16.3	13.9 - 18.9	13.7 - 19.1	18.8	16.2 - 21.5	16.0 - 21.7
16.4	14.0 - 19.0	13.8 - 19.2	18.9	16.3 - 21.6	16.1 - 21.8
16.5	14.0 - 19.1	13.8 - 19.3	19.0	16.4 - 21.7	16.2 - 21.9
16.6	14.1 - 19.2	13.9 - 19.4	19.1	16.5 - 21.8	16.3 - 22.0
16.7	14.2 - 19.3	14.0 - 19.5	19.2	16.6 - 21.9	16.4 - 22.1

16.8	**14.3 - 19.4**	**14.1 - 19.6**		**19.3**	**16.7 - 22.0**	**16.5 - 22.2**
16.9	**14.4 - 19.5**	**14.2 - 19.7**		**19.4**	**16.8 - 22.2**	**16.6 - 22.4**
17.0	**14.5 - 19.6**	**14.3 - 19.8**		**19.5**	**16.9 - 22.3**	**16.7 - 22.5**
17.1	**14.6 - 19.7**	**14.4 - 19.9**		**19.6**	**17.0 - 22.4**	**16.8 - 22.6**
17.2	**14.7 - 19.8**	**14.5 - 20.0**		**19.7**	**17.1 - 22.5**	**16.9 - 22.7**
17.3	**14.8 - 19.9**	**14.6 - 20.1**		**19.8**	**17.2 - 22.6**	**17.0 - 22.8**
17.4	**14.9 - 20.0**	**14.7 - 20.2**		**19.9**	**17.3 - 22.7**	**17.1 - 22.9**
17.5	**15.0 - 20.2**	**14.8 - 20.4**		**20.0**	**17.4 - 22.8**	**17.2 - 23.0**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
20.1	17.4 - 22.9	17.2 - 23.1	22.6	19.8 - 25.5	19.6 - 25.7
20.2	17.5 - 23.0	17.3 - 23.2	22.7	19.9 - 25.6	19.7 - 25.8
20.3	17.6 - 23.1	17.4 - 23.3	22.8	20.0 - 25.7	19.8 - 25.9
20.4	17.7 - 23.2	17.5 - 23.4	22.9	20.1 - 25.8	19.9 - 26.0
20.5	17.8 - 23.3	17.6 - 23.5	23.0	20.2 - 25.9	20.0 - 26.1
20.6	18.0 - 23.4	17.7 - 23.6	23.1	20.3 - 26.0	20.1 - 26.2
20.7	18.0 - 23.5	17.8 - 23.7	23.2	20.4 - 26.1	20.2 - 26.3
20.8	18.1 - 23.6	17.9 - 23.8	23.3	20.5 - 26.2	20.3 - 26.4
20.9	18.2 - 23.7	18.0 - 23.9	23.4	20.6 - 26.3	20.4 - 26.5
21.0	18.3 - 23.8	18.1 - 24.0	23.5	20.7 - 26.4	20.5 - 26.6
21.1	18.4 - 23.9	18.2 - 24.1	23.6	20.8 - 26.5	20.6 - 26.7
21.2	18.5 - 24.0	18.3 - 24.2	23.7	20.9 - 26.6	20.7 - 26.8
21.3	18.6 - 24.1	18.4 - 24.3	23.8	21.0 - 26.7	20.8 - 26.9
21.4	18.7 - 24.2	18.5 - 24.4	23.9	21.1 - 26.8	20.9 - 27.0
21.5	18.8 - 24.3	18.6 - 24.5	24.0	21.2 - 26.9	21.0 - 27.1
21.6	18.9 - 24.5	18.7 - 24.7	24.1	21.3 - 27.1	21.1 - 27.3
21.7	19.0 - 24.6	18.8 - 24.8	24.2	21.4 - 27.2	21.2 - 27.4

21.8	**19.1 - 24.7**	**18.9 - 24.9**	**24.3**	**21.4 - 27.3**	**21.2 - 27.5**
21.9	**19.2 - 24.8**	**19.0 - 25.0**	**24.4**	**21.5 - 27.4**	**21.3 - 27.6**
22.0	**19.3 - 24.9**	**19.1 - 25.1**	**24.5**	**21.6 - 27.5**	**21.4 - 27.7**
22.1	**19.3 - 25.0**	**19.1 - 25.2**	**24.6**	**21.7 - 27.6**	**21.5 - 27.8**
22.2	**19.4 - 25.1**	**19.2 - 25.3**	**24.7**	**21.8 - 27.7**	**21.6 - 27.9**
22.3	**19.5 - 25.2**	**19.3 - 25.4**	**24.8**	**21.9 - 27.8**	**21.7 - 28.0**
22.4	**19.6 - 25.3**	**19.4 - 25.5**	**24.9**	**22.0 - 27.9**	**21.8 - 28.1**
22.5	**19.7 - 25.4**	**19.5 - 25.6**	**25.0**	**22.1 - 28.0**	**21.9 - 28.2**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
25.1	22.2 - 28.1	22.0 - 28.3	27.6	24.6 - 30.7	23.9 - 30.9
25.2	22.3 - 28.2	22.1 - 28.4	27.7	24.7 - 30.8	24.0 - 31.0
25.3	22.4 - 28.3	22.2 - 28.5	27.8	24.8 - 30.9	24.1 - 31.1
25.4	22.5 - 28.4	22.3 - 28.6	27.9	24.9 - 31.0	24.2 - 31.2
25.5	22.6 - 28.5	22.4 - 28.7	28.0	25.0 - 31.1	24.3 - 31.3
25.6	22.7 - 28.6	22.5 - 28.8	28.1	25.1 - 31.2	24.9 - 31.4
25.7	22.8 - 28.7	22.6 - 28.9	28.2	25.2 - 31.3	25.0 - 31.5
25.8	22.9 - 28.8	22.7 - 29.0	28.3	25.3 - 31.4	25.1 - 31.6
25.9	23.0 - 28.9	22.8 - 29.1	28.4	25.4 - 31.5	25.2 - 31.7
26.0	23.1 - 29.0	22.9 - 29.2	28.5	25.5 - 31.6	25.3 - 31.8
26.1	23.2 - 29.1	23.0 - 29.3	28.6	25.6 - 31.7	25.4 - 31.9
26.2	23.3 - 29.2	23.1 - 29.4	28.7	25.7 - 31.8	25.5 - 32.0
26.3	23.4 - 29.3	23.2 - 29.5	28.8	25.8 - 31.9	25.6 - 32.1
26.4	23.5 - 29.4	23.3 - 29.6	28.9	25.9 - 32.0	25.7 - 32.2
26.5	23.6 - 29.5	23.4 - 29.7	29.0	26.0 - 32.1	25.8 - 32.3
26.6	23.7 - 29.6	23.5 - 29.8	29.1	26.1 - 32.2	25.9 - 32.4
26.7	23.8 - 29.7	23.6 - 29.9	29.2	26.2 - 32.3	26.0 - 32.5

26.8	**23.9 - 29.8**	**23.7 - 30.0**	**29.3**	**26.3 - 32.4**	**26.1 - 32.6**
26.9	**23.9 - 29.9**	**23.7 - 30.1**	**29.4**	**26.4 - 32.5**	**26.2 - 32.7**
27.0	**24.0 - 30.1**	**23.8 - 30.3**	**29.5**	**26.5 - 32.6**	**26.3 - 32.8**
27.1	**24.1 - 30.2**	**20.6 - 30.4**	**29.6**	**26.6 - 32.7**	**26.4 - 32.9**
27.2	**24.2 - 30.3**	**20.7 - 30.5**	**29.7**	**26.6 - 32.8**	**26.4 - 33.0**
27.3	**24.3 - 30.4**	**20.8 - 30.6**	**29.8**	**26.7 - 32.9**	**26.5 - 33.1**
27.4	**24.4 - 30.5**	**20.9 - 30.7**	**29.9**	**26.8 - 33.0**	**26.6 - 33.2**
27.5	**24.5 - 30.6**	**21.0 - 30.8**	**30.0**	**26.9 - 33.1**	**26.7 - 33.3**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
30.1	27.0 - 33.2	26.8 - 33.4	32.6	29.5 - 35.8V	29.3 - 36.0
30.2	27.1 - 33.3	26.9 - 33.5	32.7	29.6 - 35.9	29.4 - 36.1
30.3	27.2 - 33.4	27.0 - 33.6	32.8	29.7 - 36.0	29.5 - 36.2
30.4	27.3 - 33.5	27.1 - 33.7	32.9	29.8 - 36.1	29.6 - 36.3
30.5	27.4 - 33.6	27.2 - 33.8	33.0	29.9 - 36.2	29.7 - 36.4
30.6	27.5 - 33.7	27.3 - 33.9	33.1	29.9 - 36.3	29.7 - 36.5
30.7	27.6 - 33.9	27.4 - 34.1	33.2	30.0 - 36.4	29.8 - 36.6
30.8	27.7 - 34.0	27.5 - 34.2	33.3	30.1 - 36.5	29.9 - 36.7
30.9	27.8 - 34.1	27.6 - 34.3	33.4	30.2 - 36.6	30.0 - 36.8
31.0	27.9 - 34.2	27.7 - 34.4	33.5	30.3 - 36.7	30.1 - 36.9
31.1	28.0 - 34.3	27.8 - 34.5	33.6	30.4 - 36.8	30.2 - 37.0
31.2	28.1 - 34.4	27.9 - 34.6	33.7	30.5 - 36.9	30.3 - 37.1
31.3	28.2 - 34.5	28.0 - 34.7	33.8	30.6 - 37.0	30.4 - 37.2
31.4	28.3 - 34.6	28.1 - 34.8	33.9	30.7 - 37.1	30.5 - 37.3
31.5	28.4 - 34.7	28.2 - 34.9	34.0	30.8 - 37.2	30.6 - 37.4
31.6	28.5 - 34.8	28.3 - 35.0	34.1	30.9 - 37.3	30.7 - 37.5
31.7	28.6 - 34.9	28.4 - 35.1	34.2	31.0 - 37.4	30.8 - 37.6

31.8	**28.7 - 35.0**	**28.5 - 35.2**		**34.3**	**31.1 - 37.5**	**30.9 - 37.7**
31.9	**28.8 - 35.1**	**28.6 - 35.3**		**34.4**	**31.2 - 37.6**	**31.0 - 37.8**
32.0	**28.9 - 35.2**	**28.7 - 35.4**		**34.5**	**31.3 - 37.7**	**31.1 - 37.9**
32.1	**29.0 - 35.3**	**28.8 - 35.5**		**34.6**	**31.4 - 37.8**	**31.2 - 38.0**
32.2	**29.1 - 35.4**	**28.9 - 35.6**		**34.7**	**31.5 - 37.9**	**31.3 - 38.1**
32.3	**29.2 - 35.5**	**29.0 - 35.7**		**34.8**	**31.6 - 38.0**	**31.4 - 38.2**
32.4	**29.3 - 35.6**	**29.1 - 35.8**		**34.9**	**31.7 - 38.1**	**31.5 - 38.3**
32.5	**29.4 - 35.7**	**29.2 - 35.9**		**35.0**	**31.8 - 38.2**	**31.6 - 38.4**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
35.1	31.9 - 38.3	31.7 - 38.5	37.6	34.3 - 40.9	34.1 - 41.1
35.2	32.0 - 38.4	31.8 - 38.6	37.7	34.4 - 41.0	34.2 - 41.2
35.3	32.1 - 38.5	31.9 - 38.7	37.8	34.5 - 41.1	34.4 - 41.3
35.4	32.2 - 38.6	32.0 - 38.8	37.9	34.6 - 41.2	34.4 - 41.4
35.5	32.3 - 38.7	32.1 - 38.9	38.0	34.7 - 41.3	34.5 - 41.5
35.6	32.4 - 38.8	32.2 - 39.0	38.1	34.8 - 41.4	34.6 - 41.6
35.7	32.5 - 38.9	32.3 - 39.1	38.2	34.9 - 41.5	34.7 - 41.7
35.8	32.6 - 39.0	32.4 - 39.2	38.3	35.0 - 41.6	34.8 - 41.8
35.9	32.7 - 39.1	32.5 - 39.3	38.4	35.1 - 41.7	34.9 - 41.9
36.0	32.8 - 39.3	32.6 - 39.5	38.5	35.2 - 41.8	35.0 - 42.0
36.1	32.9 - 39.4	32.7 - 39.6	38.6	35.3 - 41.9	35.1 - 42.1
36.2	33.0 - 39.5	32.8 - 39.7	38.7	35.4 - 42.0	35.2 - 42.2
36.3	33.1 - 39.6	32.9 - 39.8	38.8	35.5 - 42.1	35.3 - 42.3
36.4	33.2 - 39.7	33.0 - 39.9	38.9	35.6 - 42.2	35.4 - 43.4
36.5	33.3 - 39.8	33.1 - 40.0	39.0	35.7 - 42.3	35.5 - 43.5
36.6	33.4 - 39.9	33.2 - 40.1	39.1	35.8 - 42.4	35.6 - 42.6
36.7	33.5 - 40.0	33.3 - 40.2	39.2	35.9 - 42.5	35.7 - 42.7

36.8	**33.6 - 40.1**	**33.4 - 40.3**	**39.3**	**36.0 - 42.6**	**35.8 - 42.8**
36.9	**33.7 - 40.2**	**33.5 - 40.4**	**39.4**	**36.1 - 42.7**	**35.9 - 42.9**
37.0	**33.7 - 40.3**	**33.5 - 40.5**	**39.5**	**36.2 - 42.8**	**36.0 - 43.0**
37.1	**33.8 - 40.4**	**33.6 - 40.6**	**39.6**	**36.3 - 42.9**	**36.1 - 43.1**
37.2	**33.9 - 40.5**	**33.7 - 40.7**	**39.7**	**36.4 - 43.0**	**36.2 - 43.2**
37.3	**34.0 - 40.6**	**33.8 - 40.8**	**39.8**	**36.5 - 43.1**	**36.3 - 43.3**
37.4	**34.1 - 40.7**	**33.9 - 40.9**	**39.9**	**36.6 - 43.2**	**36.4 - 43.4**
37.5	**34.2 - 40.8**	**34.0 - 41.0**	**40.0**	**36.7 - 43.3**	**36.5 - 43.5**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
40.1	36.8 - 43.4	36.6 - 43.6	42.6	39.2 - 45.9	39.0 - 46.1
40.2	36.9 - 43.5	36.7 - 43.7	42.7	39.3 - 46.0	39.1 - 46.2
40.3	37.0 - 43.6	36.8 - 43.8	42.8	39.4 - 46.1	39.2 - 46.3
40.4	37.1 - 43.7	36.9 - 43.9	42.9	39.5 - 46.2	39.3 - 46.4
40.5	37.2 - 43.8	37.0 - 44.0	43.0	39.6 - 46.3	39.4 - 46.5
40.6	37.3 - 43.9	37.1 - 44.1	43.1	39.7 - 46.4	39.5 - 46.6
40.7	37.4 - 44.0	37.2 - 44.2	43.2	39.8 - 46.5	39.6 - 46.7
40.8	37.5 - 44.1	37.3 - 44.3	43.3	39.9 - 46.6	39.7 - 46.8
40.9	37.6 - 44.2	37.4 - 44.4	43.4	40.0 - 46.7	39.8 - 46.9
41.0	37.7 - 44.3	37.5 - 44.5	43.5	40.1 - 46.8	39.9 - 47.0
41.0	37.8 - 44.4	37.6 - 44.6	43.6	40.2 - 46.9	40.0 - 47.1
41.2	37.9 - 44.5	37.7 - 44.7	43.7	40.3 - 47.0	40.1 - 47.2
41.3	38.0 - 45.6	37.8 - 44.8	43.8	40.4 - 47.1	40.2 - 47.3
41.4	38.1 - 45.7	37.9 - 44.9	43.9	40.5 - 47.2	40.3 - 47.4
41.5	38.2 - 45.8	38.0 - 45.0	44.0	40.6 - 47.3	40.4 - 47.5
41.6	38.3 - 44.9	38.1 - 45.1	44.1	40.7 - 47.4	40.5 - 47.6
41.7	38.4 - 45.0	38.2 - 45.2	44.2	40.8 - 47.5	40.6 - 47.7

41.8	**38.4 - 45.1**	**38.3 - 45.3**	**44.3**	**40.9 - 47.6**	**40.7 - 47.8**
41.9	**38.5 - 45.2**	**38.4 - 45.4**	**44.4**	**41.0 - 47.7**	**40.8 - 47.9**
42.0	**38.6 - 45.3**	**38.5 - 45.5**	**44.5**	**41.1 - 47.8**	**40.9 - 48.0**
42.1	**38.7 - 45.4**	**38.5 - 45.6**	**44.6**	**41.2 - 47.9**	**41.0 - 48.1**
42.2	**38.8 - 45.5**	**38.6 - 45.7**	**44.7**	**41.3 - 48.0**	**41.1 - 48.2**
42.3	**38.9 - 45.6**	**38.7 - 45.8**	**44.8**	**41.4 - 48.1**	**41.2 - 48.3**
42.4	**39.0 - 45.7**	**38.8 - 45.9**	**44.9**	**41.5 - 48.2**	**41.3 - 48.4**
42.5	**39.1 - 45.8**	**38.9 - 46.0**	**45.0**	**41.6 - 48.3**	**41.4 - 48.5**

TABLE 6
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
45.1	41.7 - 48.4	41.5 - 48.6	47.6	44.2 - 51.0	44.0 - 51.2
45.2	41.7 - 48.4	41.5 - 48.6	47.7	44.3 - 51.1	44.1 - 51.3
45.3	41.9 - 48.7	41.7 - 48.9	47.8	44.4 - 51.2	44.2 - 51.4
45.4	42.0 - 48.8	41.8 - 49.0	47.9	44.5 - 51.3	44.3 - 51.5
45.5	42.1 - 48.9	41.9 - 49.1	48.0	44.6 - 51.4	44.4 - 51.6
45.6	42.2 - 49.0	42.0 - 49.2	48.1	44.7 - 51.5	44.5 - 51.7
45.7	42.3 - 49.1	42.1 - 49.3	48.2	44.8 - 51.6	44.6 - 51.8
45.8	42.4 - 49.2	42.2 - 49.4	48.3	44.9 - 51.7	44.7 - 51.9
45.9	42.5 - 49.3	42.3 - 49.5	48.4	45.0 - 51.8	44.8 - 52.0
46.0	42.6 - 49.4	42.4 - 49.6	48.5	45.1 - 51.9	44.9 - 52.1
46.1	42.7 - 49.5	42.5 - 49.7	48.6	45.2 - 52.0	45.0 - 52.2
46.2	42.8 - 49.6	42.6 - 49.8	48.7	45.3 - 52.1	45.1 - 52.2
46.3	42.9 - 49.7	42.7 - 49.8	48.8	45.4 - 52.2	45.2 - 52.4
46.4	43.0 - 49.8	42.8 - 50.0	48.9	45.5 - 52.3	45.3 - 52.5
46.5	43.1 - 49.9	42.9 - 50.1	49.0	45.6 - 52.4	45.4 - 52.6
46.6	43.2 - 50.0	43.0 - 50.2	49.1	45.7 - 52.2	45.5 - 52.7
46.7	43.3 - 50.1	43.1 - 50.3	49.2	45.8 - 52.6	45.6 - 52.8

46.8	**43.4 - 50.2**	**43.2 - 50.4**	**49.3**	**45.9 - 52.7**	**45.7 - 52.9**
46.9	**43.5 - 50.3**	**43.3 - 50.5**	**49.4**	**46.0 - 52.8**	**45.8 - 53.0**
47.0	**43.6 - 50.4**	**43.4 - 50.6**	**49.5**	**46.1 - 52.9**	**45.9 - 53.1**
47.1	**43.7 - 50.5**	**43.5 - 50.7**	**49.6**	**46.2 - 53.0**	**46.0 - 53.2**
47.2	**43.8 - 50.6**	**43.6 - 50.8**	**49.7**	**46.3 - 53.1**	**46.1 - 53.3**
47.3	**43.9 - 50.7**	**43.7 - 50.9**	**49.8**	**46.4 - 53.2**	**46.2 - 53.4**
47.4	**44.0 - 50.8**	**43.8 - 51.0**	**49.9**	**46.5 - 53.3**	**46.3 - 53.5**
47.5	**44.1 - 50.9**	**43.9 - 51.1**	**50.0**	**46.6 - 53.4**	**46.4 - 53.6**

7. TOLERANCE TABLE 7

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample
0.0	0.0 - 0.2	0.0 - 0.5
0.1	0.0 - 0.4	0.0 - 0.7
0.2	0.1 - 0.6	0.0 - 0.9
0.3	0.1 - 0.7	0.0 - 1.0
0.4	0.2 - 0.8	0.0 - 1.1
0.5	0.2 - 1.0	0.0 - 1.3
0.6	0.3 - 1.1	0.0 - 1.4
0.7	0.4 - 1.2	0.1 - 1.5
0.8	0.5 - 1.4	0.2 - 1.7
0.9	0.5 - 1.5	0.2 - 1.8
1.0	0.6 - 1.6	0.3 - 1.9
1.1	0.7 - 1.7	0.4 - 2.0
1.2	0.8 - 1.9	0.5 - 2.2
1.3	0.8 - 2.0	0.5 - 2.3
1.4	0.9 - 2.1	0.6 - 2.4
1.5	1.0 - 2.2	0.7 - 2.5
1.6	1.1 - 2.3	0.8 - 2.6
2.6	1.9 - 3.5	1.6 - 3.8
2.7	2.0 - 3.6	1.7 - 3.9
2.8	2.1 - 3.7	1.8 - 4.0
2.9	2.2 - 3.9	1.9 - 4.2
3.0	2.2 - 4.0	1.9 - 4.3
3.1	2.3 - 4.1	2.0 - 4.4
3.2	2.4 - 4.2	2.1 - 4.5
3.3	2.5 - 4.3	2.2 - 4.6
3.4	2.6 - 4.4	2.3 - 4.7
3.5	2.7 - 4.5	2.4 - 4.8
3.6	2.8 - 4.6	2.5 - 4.9
3.7	2.9 - 4.8	2.6 - 5.1
3.8	2.9 - 4.9	2.6 - 5.2
3.9	3.0 - 5.0	2.7 - 5.3
4.0	3.1 - 5.1	2.8 - 5.4
4.1	3.2 - 5.2	2.9 - 5.5
4.2	3.3 - 5.3	3.0 - 5.6

1.7	**1.2 - 2.5**	**0.9 - 2.8**
1.8	**1.2 - 2.6**	**0.9 - 2.9**
1.9	**1.3 - 2.7**	**1.0 - 3.0**
2.0	**1.4 - 2.8**	**1.1 - 3.1**
2.1	**1.5 - 2.9**	**1.2 - 3.2**
2.2	**1.6 - 3.0**	**1.3 - 3.3**
2.3	**1.6 - 3.2**	**1.3 - 3.5**
2.4	**1.7 - 3.3**	**1.4 - 3.6**
2.5	**1.8 - 3.4**	**1.5 - 3.7**

4.3	**3.4 - 5.4**	**3.1 - 5.7**
4.4	**3.5 - 5.5**	**3.2 - 5.8**
4.5	**3.6 - 5.6**	**3.3 - 5.9**
4.6	**3.6 - 5.8**	**3.3 - 6.1**
4.7	**3.7 - 5.9**	**3.4 - 6.2**
4.8	**3.8 - 6.0**	**3.5 - 6.3**
4.9	**3.9 - 6.1**	**3.6 - 6.4**
5.0	**4.0 - 6.2**	**3.7 - 6.5**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
5.1	4.1 - 6.3	3.8 - 6.6	7.6	6.4 - 9.0	6.1 - 9.3
5.2	4.2 - 6.4	3.9 - 6.7	7.7	6.5 - 9.1	6.2 - 9.4
5.3	4.3 - 6.5	4.0 - 6.8	7.8	6.5 - 9.2	6.2 - 9.5
5.4	4.4 - 6.6	4.1 - 6.9	7.9	6.6 - 9.4	6.3 - 9.7
5.5	4.5 - 6.8	4.2 - 7.1	8.0	6.7 - 9.5	6.4 - 9.8
5.6	4.5 - 6.9	4.2 - 7.2	8.1	6.8 - 9.6	6.5 - 9.9
5.7	4.6 - 7.0	4.3 - 7.3	8.2	6.9 - 9.7	6.6 - 10.0
5.8	4.7 - 7.1	4.4 - 7.4	8.3	7.0 - 9.8	6.7 - 10.1
5.9	4.8 - 7.2	4.5 - 7.5	8.4	7.1 - 9.9	6.8 - 10.2
6.0	4.9 - 7.3	4.6 - 7.6	8.5	7.2 - 10.0	6.9 - 10.3
6.1	5.0 - 7.4	4.7 - 7.7	8.6	7.3 - 10.1	7.0 - 10.4
6.2	5.1 - 7.5	4.8 - 7.8	8.7	7.4 - 10.2	7.1 - 10.5
6.3	5.2 - 7.6	4.9 - 7.9	8.8	7.5 - 10.3	7.2 - 10.6
6.4	5.3 - 7.7	5.0 - 8.0	8.9	7.6 - 10.4	7.3 - 10.7
6.5	5.4 - 7.8	5.1 - 8.1	9.0	7.7 - 10.5	7.4 - 10.8
6.6	5.5 - 8.0	5.2 - 8.3	9.1	7.8 - 10.6	7.5 - 10.9
6.7	5.5 - 8.1	5.2 - 8.4	9.2	7.8 - 10.8	7.5 - 11.1

6.8	**5.6 - 8.2**	**5.3 - 8.5**	**9.3**	**7.9 - 10.9**	**7.6 - 11.2**
6.9	**5.7 - 8.3**	**5.4 - 8.6**	**9.4**	**8.0 - 11.0**	**7.7 - 11.3**
7.0	**5.8 - 8.4**	**5.5 - 8.7**	**9.5**	**8.1 - 11.1**	**7.8 - 11.4**
7.1	**5.9 - 8.5**	**5.6 - 8.8**	**9.6**	**8.2 - 11.2**	**7.9 - 11.5**
7.2	**6.0 - 8.6**	**5.7 - 8.9**	**9.7**	**8.3 - 11.3**	**8.0 - 11.6**
7.3	**6.1 - 8.7**	**5.8 - 9.0**	**9.8**	**8.4 - 11.4**	**8.1 - 11.7**
7.4	**6.2 - 8.8**	**5.9 - 9.1**	**9.9**	**8.5 - 11.5**	**8.2 - 11.8**
7.5	**6.3 - 8.9**	**6.0 - 9.2**	**10.0**	**8.6 - 11.6**	**8.3 - 11.9**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
10.1	8.7 - 11.7	8.4 - 12.0	12.6	11.0 - 14.4	10.7 - 14.7
10.2	8.8 - 11.8	8.5 - 12.1	12.7	11.1 - 14.5	10.8 - 14.8
10.3	8.9 - 11.9	8.6 - 12.2	12.8	11.2 - 14.6	10.9 - 14.9
10.4	9.0 - 12.0	8.7 - 12.3	12.9	11.3 - 14.7	11.0 - 15.0
10.5	9.1 - 12.1	8.8 - 12.4	13.0	11.4 - 14.8	11.1 - 15.1
10.6	9.1 - 12.2	8.8 - 12.5	13.1	11.5 - 14.9	11.2 - 15.2
10.7	9.2 - 12.4	8.9 - 12.7	13.2	11.6 - 15.0	11.3 - 15.3
10.8	9.3 - 12.5	9.0 - 12.8	13.3	11.7 - 15.1	11.4 - 15.4
10.9	9.4 - 12.6	9.1 - 12.9	13.4	11.8 - 15.2	11.5 - 15.5
11.0	9.5 - 12.7	9.2 - 13.0	13.5	11.9 - 15.3	11.6 - 15.6
11.1	9.6 - 12.8	9.3 - 13.1	13.6	12.0 - 15.4	11.7 - 15.7
11.2	9.7 - 12.9	9.4 - 13.2	13.7	12.1 - 15.5	11.8 - 15.8
11.3	9.8 - 13.0	9.5 - 13.3	13.8	12.2 - 15.6	11.9 - 15.9
11.4	9.9 - 13.1	9.6 - 13.4	13.9	12.3 - 15.7	12.0 - 16.0
11.5	10.0 - 13.2	9.7 - 13.5	14.0	12.3 - 15.8	12.0 - 16.1
11.6	10.1 - 13.3	9.8 - 13.6	14.1	12.4 - 15.9	12.1 - 16.2
11.7	10.2 - 13.4	9.9 - 13.7	14.2	12.5 - 16.0	12.2 - 16.3

11.8	**10.3 - 13.5**	**10.0 - 13.8**	**14.3**	**12.6 - 16.2**	**12.3 - 16.5**
11.9	**10.4 - 13.6**	**10.1 - 13.9**	**14.4**	**12.7 - 16.3**	**12.4 - 16.6**
12.0	**10.5 - 13.7**	**10.2 - 14.0**	**14.5**	**12.8 - 16.4**	**12.5 - 16.7**
12.1	**10.6 - 13.8**	**10.3 - 14.1**	**14.6**	**12.9 - 16.5**	**12.6 - 16.8**
12.2	**10.6 - 13.9**	**10.3 - 14.2**	**14.7**	**13.0 - 16.6**	**12.7 - 16.9**
12.3	**10.7 - 14.0**	**10.4 - 14.3**	**14.8**	**13.1 - 16.7**	**12.8 - 17.0**
12.4	**10.8 - 14.2**	**10.5 - 14.5**	**14.9**	**13.2 - 16.8**	**12.9 - 17.1**
12.5	**10.9 - 14.3**	**10.6 - 14.6**	**15.0**	**13.3 - 16.9**	**13.0 - 17.2**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
15.1	13.4 - 17.0	13.1 - 17.3	17.6	15.8 - 19.6	15.5 - 19.9
15.2	13.5 - 17.1	13.2 - 17.4	17.7	15.9 - 19.7	15.6 - 20.0
15.3	13.6 - 17.2	13.2 - 17.5	17.8	16.0 - 19.8	15.7 - 20.1
15.4	13.7 - 17.3	13.4 - 17.6	17.9	16.1 - 19.9	15.8 - 20.2
15.5	13.8 - 17.4	13.5 - 17.7	18.0	16.2 - 20.0	15.9 - 20.3
15.6	13.9 - 17.5	13.6 - 17.8	18.1	16.3 - 20.1	16.0 - 20.4
15.7	14.0 - 17.6	13.7 - 17.9	18.2	16.3 - 20.2	16.0 - 20.5
15.8	14.1 - 17.7	13.8 - 18.0	18.3	16.4 - 20.3	16.1 - 20.6
15.9	14.2 - 17.8	13.9 - 18.1	18.4	16.5 - 20.4	16.2 - 20.7
16.0	14.2 - 17.9	13.9 - 18.2	18.5	16.6 - 20.5	16.3 - 20.8
16.1	14.3 - 18.0	14.0 - 18.3	18.6	16.7 - 20.6	16.4 - 20.9
16.2	14.4 - 18.1	14.1 - 18.4	18.7	16.8 - 20.7	16.5 - 21.0
16.3	14.5 - 18.2	14.2 - 18.5	18.8	16.9 - 20.8	16.6 - 21.1
16.4	14.6 - 18.3	14.3 - 18.6	18.9	17.0 - 21.0	16.7 - 21.3
16.5	14.7 - 18.5	14.4 - 18.8	19.0	17.1 - 21.1	16.8 - 21.4
16.6	14.8 - 18.6	14.5 - 18.9	19.1	17.2 - 21.2	16.9 - 21.5
16.7	14.9 - 18.7	14.6 - 19.0	19.2	17.3 - 21.3	17.0 - 21.6

16.8	**15.0 - 18.8**	**14.7 - 19.1**		**19.3**	**17.4 - 21.4**	**17.1 - 21.7**
16.9	**15.1 - 18.9**	**14.8 - 19.2**		**19.4**	**17.5 - 21.5**	**17.2 - 21.8**
17.0	**15.2 - 19.0**	**14.9 - 19.3**		**19.5**	**17.6 - 21.6**	**17.3 - 21.9**
17.1	**15.3 - 19.1**	**15.0 - 19.4**		**19.6**	**17.7 - 21.7**	**17.4 - 22.0**
17.2	**15.4 - 19.2**	**15.1 - 19.5**		**19.7**	**17.8 - 21.8**	**17.5 - 22.1**
17.3	**15.5 - 19.3**	**15.2 - 19.6**		**19.8**	**17.9 - 21.9**	**17.6 - 22.2**
17.4	**15.6 - 19.4**	**15.3 - 19.7**		**19.9**	**18.0 - 22.0**	**17.7 - 22.3**
17.5	**15.7 - 19.5**	**15.4 - 19.8**		**20.0**	**18.1 - 22.1**	**17.8 - 23.4**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample
20.1	18.2 - 22.2	17.9 - 22.5
20.2	18.3 - 22.3	18.0 - 22.6
20.3	18.4 - 22.4	18.1 - 22.7
20.4	18.5 - 22.5	18.2 - 22.8
20.5	18.6 - 22.6	18.3 - 22.9
20.6	18.6 - 22.7	18.3 - 23.0
20.7	18.7 - 22.8	18.4 - 23.1
20.8	18.8 - 22.9	18.5 - 23.2
20.9	18.9 - 23.0	18.6 - 23.3
21.0	19.0 - 23.1	18.7 - 23.4
21.1	19.1 - 23.2	18.8 - 23.5
21.2	19.2 - 23.3	18.9 - 23.6
21.3	19.3 - 23.4	19.0 - 23.7
21.4	19.4 - 23.5	19.1 - 23.8
21.5	19.5 - 23.6	19.2 - 23.9
21.6	19.6 - 23.7	19.3 - 24.0
21.7	19.7 - 23.9	19.4 - 24.2

Original Inspection Results	Portion of Original Sample	New Sample
22.6	20.6 - 24.8	20.3 - 25.1
22.7	20.7 - 24.9	20.4 - 25.2
22.8	20.8 - 25.0	20.5 - 25.3
22.9	20.9 - 25.1	20.6 - 25.4
23.0	21.0 - 25.2	20.7 - 25.5
23.1	21.1 - 25.3	20.8 - 25.6
23.2	21.2 - 25.4	20.9 - 25.7
23.3	21.3 - 25.5	21.0 - 25.8
23.4	21.4 - 25.6	21.1 - 25.9
23.5	21.4 - 25.7	21.1 - 26.0
23.6	21.5 - 25.8	21.2 - 26.1
23.7	21.6 - 25.9	21.3 - 26.2
23.8	21.7 - 26.0	21.4 - 26.3
23.9	21.8 - 26.1	21.5 - 26.4
24.0	21.9 - 26.2	21.6 - 26.5
24.1	22.0 - 26.3	21.7 - 26.6
24.2	22.1 - 26.4	21.8 - 26.7

21.8	**19.8 - 24.0**	**19.5 - 24.3**
21.9	**19.9 - 24.1**	**19.6 - 24.4**
22.0	**12.0 - 24.2**	**19.7 - 24.5**
22.1	**20.1 - 24.3**	**19.8 - 24.6**
22.2	**20.2 - 24.4**	**19.9 - 24.7**
22.3	**20.3 - 24.5**	**20.0 - 24.8**
22.4	**20.4 - 24.6**	**20.1 - 24.9**
22.5	**20.5 - 24.7**	**20.2 - 25.0**

24.3	**22.2 - 26.5**	**21.9 - 26.8**
24.4	**22.3 - 26.6**	**22.0 - 26.9**
24.5	**22.4 - 26.7**	**22.1 - 27.0**
24.6	**22.5 - 26.8**	**22.2 - 27.1**
24.7	**22.6 - 26.9**	**22.3 - 27.2**
24.8	**22.7 - 27.0**	**22.4 - 27.3**
24.9	**22.8 - 27.1**	**22.5 - 27.4**
25.0	**22.9 - 27.3**	**22.6 - 27.6**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
25.1	23.0 - 27.4	22.7 - 27.7	27.6	25.4 - 29.9	25.1 - 30.2
25.2	23.1 - 27.5	22.8 - 27.8	27.7	25.5 - 30.0	25.2 - 30.3
25.3	23.2 - 27.6	22.9 - 27.9	27.8	25.6 - 30.1	25.3 - 30.4
25.4	23.3 - 27.7	23.0 - 28.0	27.9	25.7 - 30.2	25.4 - 30.5
25.5	23.4 - 27.8	23.1 - 28.1	28.0	25.8 - 30.3	25.5 - 30.6
25.6	23.5 - 27.9	23.2 - 28.2	28.1	25.9 - 30.4	25.6 - 30.7
25.7	23.6 - 28.0	23.3 - 28.3	28.2	26.0 - 30.5	25.7 - 30.8
25.8	23.7 - 28.1	23.4 - 28.4	28.3	26.1 - 30.6	25.8 - 30.9
25.9	23.8 - 28.2	23.5 - 28.5	28.4	26.2 - 30.7	25.9 - 31.0
26.0	23.9 - 28.3	23.6 - 28.6	28.5	26.3 - 30.8	26.0 - 31.1
26.1	24.0 - 28.4	23.7 - 28.7	28.6	26.4 - 30.9	26.1 - 31.2
26.2	24.1 - 28.5	23.8 - 28.8	28.7	26.5 - 31.1	26.2 - 31.3
26.3	24.2 - 28.6	23.9 - 28.9	28.8	26.6 - 31.1	26.3 - 31.4
26.4	24.3 - 28.7	24.0 - 29.0	28.9	26.7 - 31.2	26.4 - 31.5
26.5	24.4 - 28.8	24.1 - 29.1	29.0	26.8 - 31.3	26.5 - 31.6
26.6	24.5 - 28.9	24.2 - 29.2	29.1	26.9 - 31.4	26.6 - 31.7
26.7	24.5 - 29.0	24.2 - 29.3	29.2	27.0 - 31.6	26.7 - 31.9

26.8	**24.6 - 29.1**	**24.2 - 29.4**		**29.3**	**27.1 - 31.7**	**26.8 - 32.0**
26.9	**24.7 - 29.2**	**24.4 - 29.5**		**29.4**	**27.2 - 31.8**	**26.9 - 32.1**
27.0	**24.8 - 29.3**	**24.5 - 29.6**		**29.5**	**27.3 - 31.9**	**27.0 - 32.2**
27.1	**24.9 - 29.4**	**24.6 - 29.7**		**29.6**	**27.4 - 32.0**	**27.1 - 32.3**
27.2	**25.0 - 29.5**	**24.7 - 29.8**		**29.7**	**27.5 - 32.1**	**27.2 - 32.4**
27.3	**25.1 - 29.6**	**24.8 - 29.9**		**29.8**	**27.6 - 32.2**	**27.3 - 32.5**
27.4	**25.2 - 29.7**	**24.9 - 30.0**		**29.9**	**27.7 - 32.3**	**27.4 - 32.6**
27.5	**25.3 - 29.8**	**25.0 - 30.1**		**30.0**	**27.8 - 32.4**	**27.5 - 32.7**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
30.1	27.9 - 32.5	27.6 - 32.8	32.7	30.4 - 35.1	30.1 - 35.4
30.2	28.0 - 32.6	27.7 - 32.9	32.8	30.5 - 35.2	30.2 - 35.5
30.3	28.1 - 32.7	27.8 - 33.0	32.9	30.6 - 35.3	30.3 - 35.6
30.4	28.2 - 32.8	27.9 - 33.1	33.0	30.7 - 35.4	30.4 - 35.7
30.5	28.3 - 32.9	28.0 - 33.2	33.1	30.8 - 35.5	30.5 - 35.8
30.6	28.3 - 33.0	28.0 - 33.3	33.2	30.9 - 35.6	30.6 - 35.9
30.7	28.4 - 33.1	28.1 - 33.4	33.3	31.0 - 35.7	30.7 - 36.0
30.8	28.5 - 33.2	28.2 - 33.5	33.4	31.1 - 35.8	30.8 - 36.1
30.9	28.6 - 33.3	28.3 - 33.6	33.5	31.2 - 35.9	30.9 - 36.2
31.0	28.7 - 33.4	28.4 - 33.7	33.6	31.3 - 36.0	31.0 - 36.3
31.1	28.8 - 33.5	28.5 - 33.8	33.7	31.4 - 36.1	31.1 - 36.4
31.2	28.9 - 33.6	28.6 - 33.9	33.8	31.5 - 36.2	31.2 - 36.5
31.3	29.0 - 33.7	28.7 - 34.70	33.9	31.6 - 36.3	31.3 - 36.6
31.4	29.1 - 33.8	28.8 - 34.1	34.0	31.7 - 36.4	31.4 - 36.7
31.5	29.2 - 33.9	28.9 - 34.2	34.1	31.8 - 36.5	31.5 - 36.8
31.6	29.3 - 34.0	29.0 - 34.3	34.2	31.9 - 36.6	31.6 - 36.9
31.7	29.4 - 34.1	29.1 - 34.4	34.3	32.0 - 36.7	31.7 - 37.0

31.8	**29.5 - 34.2**	**29.2 - 34.5**	**34.4**	**32.1 - 36.8**	**31.8 - 37.1**
31.9	**29.6 - 34.3**	**29.3 - 34.6**	**34.5**	**32.2 - 36.9**	**31.9 - 37.2**
32.0	**29.7 - 34.4**	**29.4 - 34.7**	**34.6**	**32.3 - 37.0**	**32.0 - 37.3**
32.1	**29.8 - 34.5**	**29.5 - 34.8**	**34.7**	**32.4 - 37.1**	**32.1 - 37.4**
32.2	**29.9 - 34.6**	**29.6 - 34.9**	**34.8**	**32.5 - 37.2**	**32.2 - 37.5**
32.3	**30.0 - 34.7**	**29.7 - 35.0**	**34.9**	**32.6 - 37.3**	**32.3 - 37.6**
32.4	**30.1 - 34.8**	**29.8 - 35.1**	**35.0**	**32.7 - 37.4**	**32.4 - 37.7**
32.5	**30.2 - 34.9**	**29.9 - 35.2**	**35.1**	**32.8 - 37.5**	**32.5 - 37.8**
32.6	**30.3 - 35.0**	**30.0 - 35.3**	**35.2**	**32.8 - 37.6**	**32.5 - 37.9**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
35.3	32.9 - 37.7	32.6 - 38.0	37.9	35.5 - 40.4	35.2 - 40.7
35.4	33.0 - 37.8	32.7 - 38.1	38.0	35.6 - 40.6	35.3 - 40.8
35.5	33.1 - 37.9	32.8 - 38.2	38.1	35.7 - 40.6	35.4 - 40.9
35.6	33.2 - 38.1	32.9 - 38.4	38.2	35.8 - 40.7	35.5 - 41.0
35.7	33.3 - 38.2	33.0 - 38.5	38.3	35.9 - 40.8	35.6 - 41.1
35.8	33.4 - 38.3	33.1 - 38.6	38.4	36.0 - 40.9	35.7 - 41.2
35.9	33.5 - 38.4	33.2 - 38.7	38.5	36.1 - 41.0	35.8 - 41.3
36.0	33.6 - 38.5	33.3 - 38.8	38.6	36.2 - 41.1	35.9 - 41.4
36.1	33.7 - 38.6	33.4 - 38.9	38.7	36.3 - 41.2	36.0 - 41.5
36.2	33.8 - 38.7	33.5 - 39.0	38.8	36.4 - 41.3	36.1 - 41.6
36.3	33.9 - 38.8	33.6 - 39.1	38.9	36.5 - 41.4	36.2 - 41.7
36.4	34.0 - 38.9	33.7 - 39.2	39.0	36.6 - 41.5	36.3 - 41.8
36.5	34.1 - 39.0	33.8 - 39.3	39.1	36.7 - 41.6	36.4 - 41.9
36.6	34.2 - 39.1	33.9 - 39.4	39.2	36.8 - 41.7	36.5 - 42.0
36.7	34.3 - 39.2	34.0 - 39.5	39.3	36.9 - 41.8	36.6 - 42.1
36.8	34.5 - 39.3	34.1 - 39.6	39.4	37.0 - 41.9	36.7 - 42.2
36.9	34.5 - 39.4	34.2 - 39.7	39.5	37.1 - 42.0	36.8 - 42.3

37.0	**34.6 - 39.5**	**34.3 - 39.8**	**39.6**	**37.2 - 42.1**	**36.9 - 42.4**
37.1	**34.7 - 39.6**	**34.4 - 39.9**	**39.7**	**37.3 - 42.2**	**37.0 - 42.5**
37.2	**34.8 - 39.7**	**34.5 - 40.0**	**39.8**	**37.4 - 42.3**	**37.1 - 42.6**
37.3	**34.9 - 39.8**	**34.6 - 40.1**	**39.9**	**37.5 - 42.4**	**37.2 - 42.7**
37.4	**35.0 - 39.9**	**34.7 - 40.2**	**40.0**	**37.6 - 42.5**	**37.3 - 42.8**
37.5	**35.1 - 40.0**	**34.8 - 40.3**	**40.1**	**37.7 - 42.6**	**37.4 - 42.9**
37.6	**35.2 - 40.1**	**34.9 - 40.4**	**40.2**	**37.8 - 42.7**	**37.5 - 43.0**
37.7	**35.3 - 40.2**	**35.0 - 40.5**	**40.3**	**37.9 - 42.8**	**37.6 - 43.1**
37.8	**35.4 - 40.3**	**35.1 - 40.6**	**40.4**	**38.0 - 42.9**	**37.7 - 43.2**

TABLE 7
(PERCENT +/-)

Original Inspection Results	Portion of Original Sample	New Sample	Original Inspection Results	Portion of Original Sample	New Sample
40.5	38.1 - 43.0	37.8 - 43.3	43.1	40.6 - 45.6	40.3 - 45.9
40.6	38.2 - 43.1	37.9 - 43.4	43.2	40.7 - 45.7	40.4 - 46.0
40.7	38.3 - 43.2	38.0 - 43.5	43.3	40.8 - 45.8	40.5 - 46.1
40.8	38.4 - 43.3	38.1 - 43.6	43.4	40.9 - 45.9	40.6 - 46.2
40.9	38.5 - 43.4	38.2 - 43.7	43.5	41.0 - 46.0	40.7 - 46.3
41.0	38.5 - 43.5	38.2 - 43.8	43.6	41.1 - 46.1	40.8 - 46.4
41.0	38.6 - 43.6	38.3 - 43.9	43.7	41.2 - 46.2	40.9 - 46.5
41.2	38.7 - 43.7	38.4 - 44.0	43.8	41.3 - 46.3	41.0 - 46.6
41.3	38.8 - 43.8	38.5 - 44.1	43.9	41.4 - 46.4	41.1 - 46.7
41.4	38.9 - 43.9	38.6 - 44.2	44.0	41.5 - 46.5	41.2 - 46.8
41.5	39.0 - 44.0	38.7 - 44.3	44.1	41.6 - 46.6	41.3 - 46.9
41.6	39.1 - 44.1	38.8 - 44.4	44.2	41.7 - 46.7	41.4 - 47.0
41.7	39.2 - 44.2	38.9 - 44.5	44.3	41.8 - 46.8	41.5 - 47.1
41.8	39.3 - 44.3	39.0 - 44.7	44.4	41.9 - 46.9	41.6 - 47.2
41.9	39.4 - 44.4	39.1 - 44.7	44.5	42.0 - 47.0	41.7 - 47.3
42.0	39.5 - 44.5	39.2 - 44.8	44.6	42.1 - 47.1	41.8 - 47.4
42.1	39.6 - 44.6	39.3 - 44.9	44.7	42.2 - 47.2	41.9 - 47.5

42.2	**39.7 - 44.7**	**39.4 - 45.0**
42.3	**39.8 - 44.8**	**39.5 - 45.1**
42.4	**39.9 - 44.9**	**39.6 - 45.2**
42.5	**40.0 - 45.0**	**39.7 - 45.3**
42.6	**40.1 - 45.1**	**39.8 - 45.4**
42.7	**40.2 - 45.2**	**39.9 - 45.5**
42.8	**40.3 - 45.3**	**40.0 - 45.6**
42.9	**40.4 - 45.4**	**40.1 - 45.7**
43.0	**40.5 - 45.5**	**40.2 - 45.8**

44.8	**42.3 - 47.3**	**42.0 - 47.6**
44.9	**42.4 - 47.4**	**42.1 - 47.7**
45.0	**42.5 - 47.5**	**42.2 - 47.8**
45.1	**42.6 - 47.6**	**42.3 - 47.9**
45.2 - 54.8	**+/- 2.5**	**+/- 2.5**