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Bean Inspection Handbook

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Program Handbook

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Foreword

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

The information contained in this handbook is applicable to official bean 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 which has an interagency agreement, a State Agency or other entity which has an agreement with FGIS to conduct commodity inspection services under the AMA. Persons interested in obtaining official services may call or write 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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1.1 INTRODUCTION

The inspection of beans is a service provided under the United States Agricultural Marketing Act (AMA) of 1946. Service is provided, by either a Federal Grain Inspection Service (FGIS) field office, or a designated cooperator upon request and depending upon the location and type of inspection requested, an agency or department of the Federal Government which has an interagency agreement, a State Agency or other entity which has an agreement with the FGIS to conduct commodity inspection services under the AMA.

1.2 DEFINITIONS

Appeal Inspection. An applicant requested FGIS review inspection of an original inspection service.

Board Appeal Inspection. An applicant requested FGIS Board of Appeals and Review (BAR) review inspection of an original or appeal inspection service results for grade or grading factors.

Carrier. A truck, trailer, truck/trailer combination, railcar, barge, ship, or other container used to transport bulk, sacked, or packaged beans.

Certification. The process of issuing an official certificate that indicates the quality of a lot or sample of beans 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 containers loaded aboard, observing the condition of the containers being loaded aboard, sealing the carrier if practicable, and certifying the results.

Checkweighing. The process of weighing a selected number of containers from a 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.

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

Cooperator. An agency or department of the Federal Government, State Agency, or other entity which has an agreement with the Service to conduct commodity inspection services under the Agricultural Marketing Act of 1946, as amended.

File Sample. The extra, unworked portion of approximately 1,400 grams or more cut from the representative sample that may be used in conjunction with the work sample when needed.

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

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

Not Standardized Commodity. A lot/sample offered for inspection that does not meet the definition for beans, peas, or lentils (e.g., lupins).

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 Act.

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

Original Inspection. An initial inspection of a lot or sample.

Reinspection. Not available for Beans.

Representative Portion. A specified quantity of beans divided out from the representative sample by means of an FGIS approved device.

Representative Sample (as a whole). A sample of approximately 2,500-3,000 grams drawn from a lot by official inspection personnel using approved procedures and sampling devices.

Retest Inspection. A review inspection, using the same laboratory procedures, of an original inspection for a nongrade factor(s); e.g., aflatoxin, or other chemical tests.

Review Inspection. All follow-up grade inspections available: appeal or board appeal.

Sampling. The process of drawing a representative sample from a lot of beans.

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 odor; suitable to store or carry beans; and certifying the results.

Submitted sample inspection. The process of grading or testing a sample (other than an official sample) submitted by an applicant and certifying the results.

Work Sample (as a whole). A representative portion of beans; approximately 1,000 – 1,050 grams, used to make determinations required for a particular class.

1.3 ABBREVIATIONS

The following abbreviations may be shown on work records:

ANFL	Animal Filth
BB	Broken Beans
BD	Badly Damaged
BLW	Blistered and Wrinkled
BWB	Blistered, Wrinkled, and Broken
CC	Checkcounting
CCKP	Contrasting Chickpeas
CCL	Contrasting Class
CCWB	Clean-Cut Weevil-Bored
CE	Condition Examination
CGB	Contrasting Garbanzo Beans
CHP	Choice Handpicked
CLO	Checkloading
COLR	Color
COFO	Commercially Objectionable Foreign Odor
CSC	Checked Seed Coats
CTB	Classes that Blend
CW	Checkweighing
DB	Damaged Beans
DDFM	Total Dockage, Defects & FM
DEF	Defects
DFFM	Total Defects and FM
DIRT	Dirt and Grime
DKG	Dockage
DLQ	Distinctly Low Quality
DW	Dead Weevils
FMT	Foreign Material Total
FSUB	Unknown Foreign Substance
GLAS	Broken Glass
HP	Handpicked
HTG	Heating
IWOF	Insect Webbing or Filth
KG	Kilogram(s)
LB	Pound(s)
LGANX	Large Animal Excreta
LW	Live Weevils
M	Moisture
MF	Metal Fragments
MOLD	Mold Damage
MUST	Musty
NSC	Not Standardized Commodity
NWS	Not Well Screened
OBF	Observing of Fumigation
OBL	Observing Loading
ODI	Other Dead Insects
ODOR	Odor
OLI	Other Live Insects
OMD	Other Material in Dockage
PHP	Prime Handpicked
SBD	Small Beans in Dockage
SCR	Screenings
SDCT	Seed Count
SDKG	Splits in Dockage
SG	Sample Grade
SIZE	Seed Sizing
SND	Sound Beans
SOUR	Sour
SPL	Splits
SR	See Reverse
STON	Stones
STOW	Stowage Examination
SVSZ	Sieve Size
TBWD	Total Blistered, Wrinkled & Defects
TDEF	Total Defects
TDKG	Total Dockage
TDMG	Total Damage
TW	Test Weight
WVLY	Weevily
SUBST	U.S. Substandard

1.4 WORK RECORDS

Record the results of all tests and findings clearly and accurately on a laboratory ticket or similar form. This will be used as the source of the information reported on the inspection certificate. FGIS personnel must use form FGIS-933, "Bean Sample Ticket."

1.5 PRELIMINARY EXAMINATIONS

The sampler must: (1) observe the uniformity of the beans as to class, quality, and condition; (2) make the determination for "Heating, Infestation, and Odor," (3) draw the representative sample; and (4) report relevant information to the inspector.

The inspector must review the sampler's remarks/information. If the inspector suspects the sample is not representative, the inspector should consult the sampler and, if necessary, dismiss the inspection or arrange to obtain another sample.

1.6 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. For more information, refer to the Equipment Handbook.

1.7 ROUNDING

When certifying official results, use this procedure for rounding unless otherwise specified. A hand-held calculator or computer may be used to calculate results.

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 6.35 as 6.4 and 0.45 as 0.5). 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).

Record factor results to the specified percent stated in each section.

1.8 FILE SAMPLE RETENTION

a. General. To accomplish the mission of the agency, FGIS has established the policy of maintaining an effective record management program. Part of the official record system is the maintenance of file samples retained for reference or review purposes. For detailed procedures, refer to Directive 9170.13, "Uniform File Sample Retention System."

b. Use of File Sample. Official personnel must establish and maintain a file sample retention system in accordance with the regulations and applicable instructions. File samples may be used for:

(1) Monitoring purposes by official personnel.

(2) Supplementary completion of the original grade (e.g., infestation or odor).

(3) Review by interested persons.

(4) Appeals or Board appeals.

(5) Answering trade complaints.

(6) Training.

c. Sample Retention. Official personnel may, at their discretion, keep file samples for a period longer than required. The minimum retention periods (calendar days) are shown in Table 1.1.

TABLE 1.1 – FILE SAMPLE RETENTION

CARRIER	MINIMUM DAYS
Domestic	10
Export	60
Commodity Procurement	30
Submitted Samples	3

Note: When an agency file sample is either used to complete an appeal inspection or selected for monitoring, the monitoring office must maintain the sample for the applicable retention period.

d. Sample Size. File samples must be of sufficient size to accommodate subsequent examinations or analysis. Samples retained for grade should be approximately 1,400 grams or more. File samples larger than 1,400 grams may be retained if deemed necessary to provide subsequent inspection service.

e. Retention of Worked File Samples. File samples for graded commodities are maintained by the Official Service Provider (OSP) or FGIS field office that performed the original inspection. If a file sample retained by the OSP is used for an appeal or supervision inspection, the field office which performed the appeal or supervision inspection has the responsibility for retaining the file sample for the applicable time period.

f. File System. Official personnel must maintain a sample filing system that permits efficient retrieval of file samples and ensures adherence to required retention periods. Further, file samples must be protected against theft, manipulation, substitution, and unauthorized use.

Use large polyethylene bags, semi-rigid plastic containers, or metal containers to retain file samples. Use metal or semi-rigid plastic containers when samples contain an off odor.

g. Disposal Procedures. Official personnel must keep complete and accurate disposition records. After file samples have served their intended purpose, dispose of the sample in accordance with criteria outlined in Table 1.1 and applicable instructions as follows:

(1) Upon the applicant's request, return the file samples to the applicant.

(2) If the applicant does not request the return of the sample, it may be sold, donated, or destroyed.

(3) Samples containing noxious weed seeds or other material which might be harmful to human or animal life must not be sold, donated, or used for human food or animal feed. If the sample contains toxic substances (i.e., treated seed), dispose of the sample in accordance with applicable Federal, State, and local laws.

1.9 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 beans.

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

(c) The names and mailing addresses of interested persons.

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

(2) Copies of request forms may be obtained from any 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. Requests for services, other than submitted sample inspections, must be made with the cooperator or FGIS field office responsible for the area in which the service will be provided.

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

e. 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 Beans, there is no reinspection. The applicant, however, may request to bypass an Appeal Inspection and go directly to a Board Appeal.

For more information, refer to Directive 9170.15, "Review Inspections of Grains and Commodities."

1.10 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 make the appeal request 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 beans.

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

(c) Names and mailing addresses/email addresses of interested persons.

(d) 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 or with the BAR.

(3) Requests for appeal inspection services must be made before the beans have left the place where the inspection being appealed was performed and no later than the close of business on the second business day following the date of the inspection being appealed. However, the AMS FGIS Administrator may extend the time requirement, as deemed necessary.

(4) Copies of request forms may be obtained from any 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. Only an FGIS inspector can perform an appeal inspection.

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 inspection service.

f. The scope of an appeal inspection must be limited to the scope of the original inspection. If the request specifies a different scope, the request will be dismissed.

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 a file sample or 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 beans are found to be contaminated with filth or to contain a deleterious substance, including insect webbing or filth. (Clean-cut weevil-bored beans are not considered 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.

(1) Each appeal inspection certificate must clearly show the word "Appeal" and the following statement: "This certificate supersedes Certificate No. _____, dated _____."

(2) When the results for more than one kind of service are reported on the original certificate and not all the services are appealed, use the following statement: "(Type of service) results based on appeal inspection; all other results are those of the original inspection service."

(3) When the results of an appeal inspection are based on a file sample, the certificate must show the following statement: "Results based on file sample."

(4) The following statement must be shown on the appeal certificate: "The superseded certificate has not been surrendered and is no longer valid for commerce."

l. A request for an appeal inspection must be dismissed when:

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

(2) The condition of the beans have 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.

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

m. 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 the 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.

Applicants cannot request a Federal appeal or Board appeal on a new sample for insect webbing or filth because they are considered deleterious qualities (any substance considered an actionable defect by the Food and Drug Administration). Directive 9060.2, "Implementation of the FGIS-FDA Memorandum of Understanding."

Applicants can request a Federal appeal on a new sample for weevily/sample grade due to clean-cut weevil-bored because it is not considered deleterious. A Board appeal must be done/based on the official file sample.

Applicants can request a Federal appeal or Board appeal on an unworked file sample for weevily/sample grade due to insect webbing or filth or clean-cut weevil-bored but unless a material error was made, the designation "Sample Grade" will not be removed.

For more information, refer to Directive 9170.15, "Review Inspections of Grains and Commodities."

1.11 BOARD APPEAL INSPECTION SERVICES

a. Any interested person who is dissatisfied with the original or appeal inspection results may appeal to the BAR. However, if the initial appeal inspection is performed by the BAR, 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.

(4) Each Board appeal inspection certificate must clearly show the words “Board Appeal” and the following statement:

“This certificate supersedes Certificate No. _____, dated _____.”

(5) When the results for more than one kind of service are reported on the original or appeal certificate, use the following statement: “Grade results based on Board appeal inspection; all other results are those of the (original inspection and/or appeal inspection) service.”

(6) When the results of a Board appeal inspection are based on a file sample, the certificate must show the following statement: “Results based on file sample.”

(7) The following statement must be shown on the Board appeal certificate: “The superseded certificate has not been surrendered and is no longer valid for commerce.”

1.12 NEW ORIGINAL INSPECTIONS

a. When the identity of the lot has been lost and/or circumstances prevent 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 may not be performed on an identifiable bean lot which, 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 beans, carrier, or container is not lost. A new original inspection cannot be performed on the same identified lot of beans, 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, a “New 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.

1.13 REGISTERED TYPE SAMPLE INSPECTIONS

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

a. When a registered type sample inspection is requested, the applicant must:

(1) Submit a clearly identified bean sample for an inspection for quality or other criteria.

(a) The sample must not be less than 1,000 grams.

(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) Supply the necessary containers and labels for samples to be sent to prospective buyers or brokers.

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

(a) Identification of the type sample, i.e., California Pride Pintos-77.

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

b. Official personnel must:

(1) Perform a grade or factor-only quality inspection as specified by the applicant and approved by the FGIS field office or Federal-State manager.

(2) Issue a submitted sample inspection certificate.

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

(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 one 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.

(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 beans to the BAR, other FGIS field offices, or cooperator offices that have been requested to compare the quality of an identified lot of beans 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 (beans) 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 beans is compared against the type sample. State that the quality of the beans in the lot was either "equal to or better than" or "not equal to" the type sample.

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

1.14 ORIGIN INSPECTIONS

a. Applicants may request origin inspection certificates that show their beans are a product of the soil and industry of the United States.

b. When an origin inspection is requested, official personnel must:

(1) Request all relevant records from the applicant which may indicate the origin of the beans.

(2) Obtain a representative sample.

(3) Analyze the sample to verify that the beans compare favorably with types of beans known to be grown in the United States. The size, shape, and other characteristics should be considered in making this determination.

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

"The (beans) described herein and relevant records indicating the origin of these (beans) have been examined and 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 beans are a product of the soil and industry of the United States, but the representative sample appears to be of a type common to the United States, the following statement may be shown on a letterhead:

"Applicant states that these (beans) are a product of the soil and industry of the United States."

1.15 COMBINED-LOT INSPECTIONS

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

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

(1) The estimated quantity of beans that are to be certified as one lot.

(2) The contract grade, if applicable.

(3) The identity of the warehouse where the lot is stored, or the identity of each carrier into which the beans are being loaded or from which the beans are being unloaded.

(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. Beans that have been officially inspected and certified as two or more single lots may be recertified as a combined-lot if:

(1) The beans in each single lot were 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 beans in the single lots are of one grade and quality.

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

(6) The quality or condition of the beans meet uniformity requirements (Section 2.11, "Examination of Sample Portions") established by this handbook.

d. Official factor and official criteria information shown on a certificate for beans in a combined-lot must be based on the weighted or mathematical averages of the analysis of the sublots in the lot.

e. If beans in a combined-lot are offered for official inspection as they are being loaded aboard a carrier and the beans, or a portion of the beans, in a lot are found to be weevily, the applicant must be notified and must be given the option of:

(1) Removing the weevily beans from the lot; or

(2) Receiving a grade certificate with a sample grade designation indicating that the entire lot is weevily.

f. Samples obtained from beans officially inspected as a combined-lot must be examined for uniformity of quality (Section 2.11, "Examination of Sample Portions"). If the beans in the samples are found to be uniform in quality and the beans are loaded aboard or are unloaded from the carriers in a reasonably continuous operation (i.e., at least one lot or sublot must be loaded or unloaded during any 88-hour period), the beans 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 beans which are at rest in carriers or in a warehouse when the beans are offered for inspection.

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

h. Each official certificate for a combined-lot inspection service must show in the identification field:

(1) The identification for the "combined-lot" or (if multiple ID's), the ID "See Remarks-(carrier ID from original inspection with most recent service date)" with the identification of each carrier in the combined-lot in the "Remarks" section of the certificate.

(2) Any seal information for the carriers must be shown in the "Remarks" section of the certificate.

i. If a request for a combined-lot inspection service is filed after the beans have been officially inspected and certified as single lots, the combined-lot inspection certificate must show:

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

(2) A serial number, other than the serial numbers of the official inspection certificates that are to be superseded.

(3) The location of the beans, if at rest, or the name of the facility from which or into which the beans in the combined-lot were loaded or unloaded.

(4) A statement showing the approximate quantity of beans in the combined-lot.

(5) A completed statement showing the identification of any superseded certificates, "This certificate supersedes Certificate No ____, dated ____."

(6) The statement "The superseded certificate has not been surrendered and is no longer valid for commerce," shown in the “Remarks” section of the certificate.

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

k. Combined-lot inspection certificates must not be issued:

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

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

1.16 OTHERWISE GRADE INSPECTIONS

a. Any interested person may request information as to what the quality of beans in a lot/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/sample in the space provided for the grade designation.

(2) Show the grade determining factors and results of analysis in the factor information space.

Note: Quality Except for Statements cannot be applied for odor or deleterious qualities (any substance considered an actionable defect by the Food and Drug Administration). Directive 9060.2, “Implementation of the FGIS-FDA Memorandum of Understanding.”

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

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

Example: An application is received to inspect a bean lot which is supposed to be U.S. No. 1 Pinto Beans. The inspection results show that the beans grade U.S. Substandard because of 1.7 percent foreign material. The beans, except for the factor foreign material, are U.S. No. 1.

Grade Designation - U.S. Substandard Pinto Beans.

Remarks Statement - “U.S. No. 1 Pinto Beans except for foreign material.”

1.17 FACTOR ONLY INSPECTIONS

a. Any interested person may request a factor only inspection to be performed on any lot/sample of beans.

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: test weight, and specifications prescribed by Federal agencies, trade associations, and contracts.

Note: A factor only determination can be done on a portion size smaller than the prescribed portion if there are insufficient beans to use the prescribed portion size (e.g., damage or class).

c. When requested, official personnel must:

(1) Determine the factor results according to the procedures in this handbook or as approved in specific cases by FGIS Deputy Administrator.

(2) Show the factor results on the inspection certificate according to the procedures in the Certification Handbook.

(3) Show the class of the beans on the grade line of the certificate, i.e., "Pinto Beans."

1.18 WITHHOLDING AND WITHDRAWAL OF AMA INSPECTION SERVICES

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 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 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 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).

FGIS-907 "APPLICATION FOR INSPECTION AND WEIGHING SERVICES"

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)			2. Where are the services to be performed (check one)
◯ Original Inspection	◯ Reinspection	◯ Appeal Inspection	◯ United States
◯ Official Weighing	◯ Review of Weighing	◯ Board Appeal Inspection	◯ Canada
◯ Supervision of Weighing	◯ Retest		

3. Kind of Official Inspection Service Requested (check all that apply)			
◯ Official Sample Lot	◯ Submitted Sample	◯ Checkweigh	◯ Official Commercial
◯ Sampling	◯ Official Weighing	◯ Checkload	◯ Other Criteria (list in remarks)
◯ Stowage Examination	◯ Grade and Factor	◯ Checkcount	
◯ Condition	◯ Factors Only	◯ Supervision of Weighing	

4. Type of Grain/Commodity	5. Location of Grain/Commodity	6. Contract Number (if applicable)
7. Carrier or Other Identification	8. Quantity (specify in pounds, bushels, etc.)	9. Contract Grade (Factor or Specifications)
10. Number and Kind of Containers	11. Container Markings	12. Appeal Request ◯ File Sample ◯ New Sample
13. Name, Address and Telephone Number of Applicant (Firm Name)		14. Name and Address of Interested Party (agent, consignee)
13a. Applicant FGIS Account Number:		
15. Remarks		

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

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) This form also replaces FORM FGIS-908 and 955, which are obsolete.

25. Car Initials and Number or other Identification	26. Quantity (Cargos) or Marked Capacity Per Carlot or Part Carlot	27. Kind of Grain and Reason For Appeal [1] or Review	28. Requested Sample Basis (Check)		29. Date [2] of Original Service	30. Check if Original Certificate For The Service is Attached	31. Remarks
			Official File	New			
			○	○		○	
			○	○		○	
			○	○		○	
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[1] List factor(s) and/or other criteria in question. For requests filed in advance, show the scope of the inspection in question.

[2] Show only date of inspection being appealed or weighing service being reviewed.

The conduct of all services and the licensing of (inspecting/grading/sampling) personnel under the regulations governing such services shall be accomplished without discrimination as to race, color, religion, sex, national origin, age or handicap.

FORM FGIS-907 Reverse

Instructions for Completing FGIS 907 "Application for Inspection and Weighing Services."

a. 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 marking, 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 rice, enter "Bulk".

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

13. Enter the name and address of the applicants, 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.

b. Action by field office. Review 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. Viewable on customers' MyFGIS account at fgisonline.ams.usda.gov.

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

24. Enter any additional pertinent information.

c. 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, or S/S).

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, i.e., 6000, 100-lb cotton sacks. For a truckload or trailer load, show truckload, trailer load, part-truckload or part-trailer load 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 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.

CHAPTER 2:
SAMPLING

CONTENTS

TABLES

FIGURES

2.1 SAFETY

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

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 1910-1918). For more information, refer to the Grain Inspection Handbook 1, Sampling.

(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 (i.e., two-way radio for communication).

(3) Before sampling railcars, check to see if a fall protection assessment is required, in accordance with Directive 9170.14, "FGIS Rolling Stock Fall Protection." 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 U.S. Coast Guard approved Type I, II, III, or V PFD life vests when aboard barges, launch boats, or other vessels (midstream and 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, contain retro-reflective panels, and must not be of an inflatable type. If used at night, the vest must be equipped with a light and a whistle.

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 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. Beans are 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.

(4) Headache.

When these 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 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, 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 rail yard, notify your immediate supervisor, the yardmaster, or switch-crew foreman, and any other essential persons of your presence. Do not sample railcars in a rail yard alone unless you are being monitored by someone who is in a position to render aid if needed (i.e., 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 you 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 or is not placarded and a fumigant odor is detected, withhold the inspection (do not enter the car or sample the commodity) 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 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 or your supervisor. (Supervisors should also report such movement 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 or 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 sacks slipping (falling) from improperly stacked pallets and overhead conveyor belts.

2.2 REPRESENTATIVE SAMPLE

Obtaining a representative sample from a lot of beans is an essential part of the 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:

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

b. Obtained using FGIS-approved equipment as per FGIS Equipment Handbook.

c. Of the prescribed size (approximately 2,500-3,000 grams).

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

Note: Frequently, a sample drawn from one lot or portion of a lot is combined with another sample(s) to form a component, sublot, or combined-lot sample. Prior to combining such samples, the sampler must ensure that the samples are proportional, i.e., samples of like size represent like amounts of beans.

2.3 DETAILED WORK RECORD (SAMPLE TICKET)

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 the sample ticket. If the condition is not reported on the sample ticket, the lot could be inadvertently misgraded. For more information, refer to Grain Inspection Handbook I, Sampling.

Sample tickets must contain the following information:

a. Sampler's signature or initials.

b. Date the sample was obtained.

c. Location of the lot of beans at the time of sampling (i.e., Union Pacific Yard). If the city and/or state in which the sampling took place is not obvious, this must also be shown).

d. Full identification of the lot.

e. When applicable, information related to the condition of the carrier's storage area (e.g., truck, hopper car, container, or barge).

f. Type of movement (e.g., in, out, local, or export).

g. When applicable, the number and prefix of seals broken and applied.

h. Method of sampling.

i. When applicable, any information related to the condition of the carrier's stowage area.

j. Other pertinent information that may affect the grading or certification of the lot, such as the notation "Top ___ feet sampled. Bottom not sampled."

Note: Qualifying statements such as, "Bottom not sampled," are not allowed on export certificates. Therefore, the trier must reach the bottom of the export carrier.

The original or copy of the sample ticket must be retained for a minimum of 5 years.

2.4 CARRIER OR CONTAINER AND LOT IDENTIFICATION

a. Carrier, container, lot, and seal identification must be shown on lot inspection certificates when the inspection is performed.

(1) During the movement of the beans to or from a carrier or container and official personnel observed such movement and performed a stowage examination of the carrier or container prior to movement, or

(2) While the beans are at rest in a carrier or container.

b. Take care to ensure that the proper identification information is recorded.

c. 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 beans 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 must be identified as "B-1," and the remaining compartments or bays being numbered consecutively towards the car's non-brake end. 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.

(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 (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.

Example: 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.

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

2.5 LOT 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) When hazardous conditions exist, which could endanger the health of the sampler, consider the lot inaccessible and dismiss the service request. Dismissal of service must be performed in accordance with Section 868.23, "Dismissal of Request for Inspection Service." Hazardous conditions include, but are not limited to:

(a) The presence of unsafe levels of insecticide, fumigant, or other chemical odors.

(b) Uncontrolled rail yard switching.

(c) Ice on top of barges, railcars, and other carriers.

(d) Broken or unsecured ladders.

(e) Low hanging electrical wires.

(f) Improperly stacked pallets/danger of sack slippage (falling sacks).

(2) 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.

(3) When a "partial inspection" is requested, make notations on the sample ticket indicating the total number of containers in the lot, the number of containers that were accessible for sampling, and state "Partial Inspection" on the sample ticket.

Example: If there are 1,263 containers in a lot, but only 400 containers are accessible, the sampler's ticket should read: "Sample represents 400 containers only; balance of containers inaccessible for sampling; total containers in lot 1,263."

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

(1) The applicant or warehouse manager need not have every sack in the lot exposed and accessible for sampling unless requested to do so by the sampler. Unless the plant is currently under a Quality Improvement Program (QIP) in which every side of the pallet/slip sheet must be accessible.

(2) It is the sampler's prerogative to request any or all sacks 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 sacks mixed in a lot of clean sacks. These sacks may contain beans of lower quality.

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

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

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 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 is no longer considered representative if it is:

(1) Spilled, no matter how little is lost or how much could be recovered.

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

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 enclosing the sample bag in a mail bag secured by a seal, if warranted.

b. Lockboxes or other security containers may 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.

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

(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 EXAMINATION[1]

a. Official personnel must examine or survey bean plants for insanitary conditions when:

(1) Required by Federal law or purchase contract.

(2) Required by FGIS Program Directive.

(3) Requested by the applicant for official services.

(4) Deemed necessary by official personnel.

b. Insanitary conditions include those conditions that, in the opinion of official personnel, would render the beans unfit for human consumption but which may not be adequately reflected by the grade assigned to the beans. Insanitary conditions include, but are not limited to, the presence of:

(1) Vermin or insects.

(2) Toxic substances.

(3) Decayed animal or vegetable matter.

[1] 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, packaging, holding, transporting, and storage of beans. Establishments engaged only in the harvesting, storage, or distribution of beans prior to the beans being cleaned or otherwise processed for human consumption are not considered as "plants" for the purpose of this directive.

(4) Other filth.

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

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

d. If the plant is not approved as a result of the survey, official inspection services must be conditionally withheld pursuant to the procedures in Section 868.24, "Conditional Withholding of Service," the Sanitation and Food Defense Handbook, and Directive 9100.3, "Withholding and Withdrawal of AMA Inspection Services."

2.8 EXAMINATION OF FILLED CONTAINERS

a. Official personnel must examine filled containers to determine whether the beans 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, kraft (paper), polyethylene, 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 container markings on the sample ticket and in the "Remarks" section of the certificate.

2.9 CONTAINER MARKINGS INFORMATION

Most packaged beans have identifying marks on the containers. These marks are required to be shown on the inspection certificate if the marks indicate a different quality of beans than what is actually in the container. All other times, the markings 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 bean 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 in 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:

U.S. NO. 1 PINTO BEANS

PRODUCT OF U.S.A.

KC, INC.

CRITCHFIELD, KS

(4) Space permitting, such markings may be shown on the certificate as shown above but are usually shown with the word "over" in lower case letters between lines, or with slash marks indicating the end of each line of markings, as follows:

U.S. NO. 1 PINTO BEANS over PRODUCT OF U.S.A. over KC, INC. over

CRITCHFIELD, KS

Or

U.S. NO. 1 PINTO BEANS/PRODUCT OF U.S.A./KC, INC./CRITCHFIELD, KS

b. Non-uniform Markings.

(1) On some occasions, an identified bean 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.

(4) If the applicant furnished the count, the count will be shown in the quantity portion of the certificate and the statement "Vendor's Count" will be shown in detail in the "Remarks" section of the certificate.

Example: Quantity and Container:

Vendor's weight: 156,000 pound net estimated
Vendor's count: 1560/100 pound polypropylene bags

c. Non-uniform 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 sacks of each set of uniform markings contained within the overall lot; and such information may be shown in the "Remarks" section of the certificate.

Example: An identified warehouse lot consisting of ten separate cars (1,200 100-pound sacks 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 (in regard to markings) would be issued substantially as follows:

7,200 sacks marked: PINTO BEANS/Product of U.S.A./Wrenn Co./Grand Forks, ND/(Reverse) LARENCO MARQUES

4,800 sacks marked: PINTO BEANS/Product of U.S.A./Wrenn Inc./Grand Forks, ND/(Reverse) LARENCO MARQUES

d. Tag Markings. When containers are tagged with identifying markings, the tag information may be shown in the "Remarks" section of the certificate substantially as follows:

Tag Markings: EXPORT/PINTO BEANS/SOUTH AFRICA

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

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

Or

"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 bean companies, exporters, and shippers have registered trademarks (brand names) for commodities 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 sack substantially as follows:

(Eagle Brand) (Reverse) XYC/PINTO BEANS/SOUTH AFRICA

2.10 EXAMINATION OF CARRIERS (STOWAGE EXAMS)

a. When beans are to be sampled during loading, examine the carrier prior to loading (and when appropriate, the containers or sacks) for conditions that could adversely affect the quality of the beans. (Directive 9180.48, "Stowage Examinations.") Adverse conditions include, but are not limited to, the presence of:

(1) Live weevils or other injurious insects.

(2) Odors of previously transported cargoes.

(3) Water.

(4) Out-of-condition beans or other commodities.

(5) Decaying animal or vegetable matter.

(6) Protruding objects which may damage the containers.

(7) Holes in the carrier's roof, sides, or floor.

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

b. Record the results of the examination on a sample ticket, inspection log, general service or stowage examination 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 must be conditionally withheld pursuant to the procedures in Section 868.24, "Conditional Withholding of Service."

Note: When beans are sampled after loading, examine the accessible portions of the carrier and note any adverse conditions on the sample ticket and in the "Remarks" section of the certificate.

2.11 EXAMINATION OF SAMPLE PORTIONS

Compare each sample portion taken from a lot 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 beans, the remainder of the lot, and the entire lot. Keep the samples in separate containers and note on the respective sample tickets the estimated quantity of the lot represented by each sample.

2.12 SAMPLING CONTAINERS WAREHOUSES

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 (Table 2.1).

TABLE 2.1 – SAMPLING RATE

Containers[1] in lot	Sample Size	Containers in Lot	Sample Size	Containers in Lot	Sample Size
100 or less	10				
101 - 121	11	1,601 - 1,681	41	4,901 - 5,041	71
122 - 144	12	1,682 - 1,764	42	5,042 - 5,184	72
145 - 169	13	1,765 - 1,849	43	5,185 - 5,329	73
170 - 196	14	1,850 - 1,936	44	5,330 - 5,476	74
197 - 225	15	1,937 - 2,025	45	5,477 - 5,625	75
226 - 256	16	2,026 - 2,116	46	5,626 - 5,776	76
257 - 289	17	2,117 - 2,209	47	5,777 - 5,929	77
290 - 324	18	2,210 - 2,304	48	5,930 - 6,084	78
325 - 361	19	2,305 - 2,401	49	6,085 - 6,241	79
362 - 400	20	2,402 - 2,500	50	6,242 - 6,400	80
401 - 441	21	2,501 - 2,601	51	6,401 - 6,561	81
442 - 484	22	2,602 - 2,704	52	6,562 - 6,724	82
485 - 529	23	2,705 - 2,809	53	6,725 - 6,889	83
530 - 576	24	2,810 - 2,916	54	6,890 - 7,056	84
577 - 625	25	2,917 - 3,025	55	7,057 - 7,225	85
626 - 676	26	3,026 - 3,136	56	7,226 - 7,396	86
677 - 729	27	3,137 - 3,249	57	7,397 - 7,569	87
730 - 784	28	3,250 - 3,364	58	7,570 - 7,744	88
785 - 841	29	3,365 - 3,481	59	7,745 - 7,921	89
842 - 900	30	3,482 - 3,600	60	7,922 - 8,100	90
901 - 961	31	3,601 - 3,721	61	8,101 - 8,281	91
962 - 1,024	32	3,722 - 3,844	62	8,282 - 8,464	92
1,025 - 1,089	33	3,845 - 3,969	63	8,465 - 8,649	93
1,090 - 1,156	34	3,970 - 4,096	64	8,650 - 8,836	94
1,157 - 1,225	35	4,097 - 4,225	65	8,837 - 9,025	95
1,226 - 1,296	36	4,226 - 4,356	66	9,026 - 9,216	96
1,297 - 1,369	37	4,357 - 4,489	67	9,217 - 9,409	97
1,370 - 1,444	38	4,490 - 4,624	68	9,410 - 9,604	98
1,445 - 1,521	39	4,625 - 4,761	69	9,605 - 9,801	99
1,522 - 1,600	40	4,762 - 4,900	70	9,802 -10,000	100

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 each sublot separately.

b. Draw a sample from each selected container using an approved bean sack trier (List of Approved Equipment - Equipment Handbook) of sufficient length to reach the center of the container, a compartmented trier of sufficient length to reach the bottom of the container, or a ladle.

(1) When sampling beans in *large-sized containers* (22.25 kilograms/50 pounds or more), use a bean sack trier or a compartmented trier.

(2) For sampling beans in *medium-sized containers* (4.5 to 22.24 kilograms/10 to 49.9 pounds), use a bean sack trier.

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

c. Draw a sample with a sack trier as follows:

(1) Insert the trier into the sack.

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

(3) Examine the sample for uniformity (type/class, quality, and condition). If uniform, combine the sample with other samples of equal quality from the same lot.

Note: Close all trier holes made during sampling.

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

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

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

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

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

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

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

e. 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 sample ticket the number of whole/sealed containers remaining after sampling.

f. When sampling containers 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 proportionate intervals during the packing of the lot.

2.13 SAMPLING CONTAINERS OF BEANS IN CARRIERS

a. When an applicant requests the inspection of a lot of beans in containers that are already loaded into a railcar, truck, or other carrier, the containers are considered accessible for inspection when "wells" are dug at the location and depth indicated by the sampler.

Note: Labor and equipment for digging the necessary "wells" must be furnished by the applicant.

b. Select the containers for sampling as follows:

(1) Mentally divide the carrier into areas (A1, A2, D, B1, and B2) and sections (three sections for all areas but D: two sections for D). (Figure 2.1)

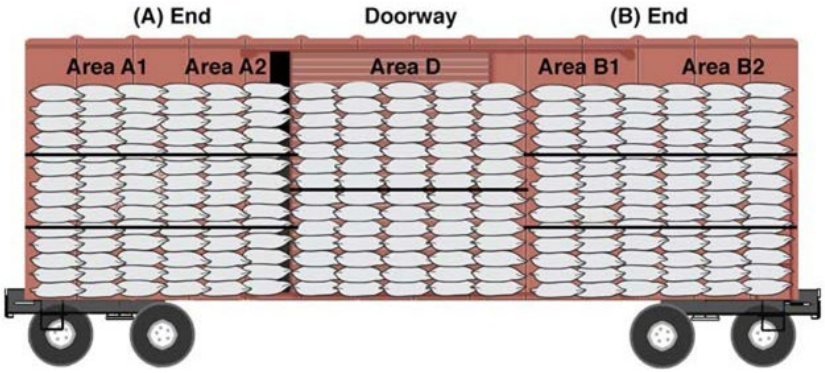

FIGURE 2.1 – SIDE VIEW - AREAS AND SECTIONS OF A BOXCAR

(2) Randomly select six bags from each of the areas identified as A1, A2, B1, and B2. Select ten bags from area D. If the car is not loaded uniformly (i.e., area D is loaded six bags high, while areas A and B are loaded twelve bags high), select more bags from the areas containing more bags and less from those containing less, but always select at least 34 bags total.

(3) Determine the locations where the wells must be dug so that the proper number of bags may be sampled from each section. (Whenever possible, limit the number of wells that must be dug to three, but dig the wells as deep as possible.) (Figure 2.2)

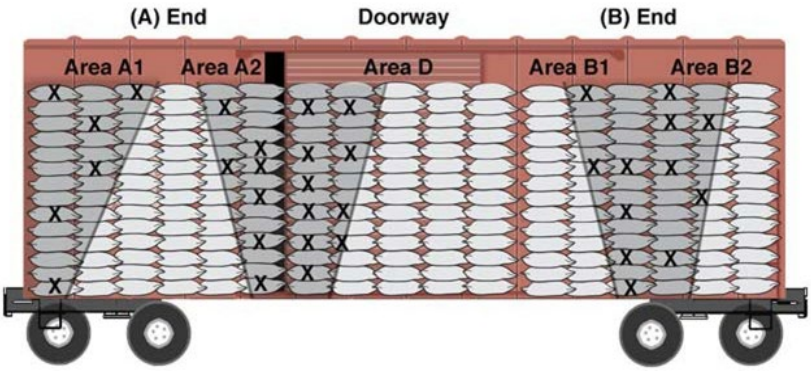

FIGURE 2.2 – SIDE VIEW OF A BOXCAR WITH THREE WELLS, SELECTED BAGS INDICATED BY X MARKS

(4) Randomly select the sacks to be sampled from the sacks removed when making a well and from the exposed bags forming the well sides. (Use of random number cards/tables is optional.)

(5) Draw the sample portions. It is very important that approximately the same amount of sample be taken from each sack.

2.14 SAMPLING BULK BEANS AT REST

a. Use an approved double-tubed compartmented trier/probe (List of Approved Equipment - Equipment Handbook) of sufficient length to reach the bottom of the carrier.

TABLE 2.2 – PROBES AND CARRIER TYPES

Carrier	Length of Trier/Probe	Compartments
Barge	12-foot	20
Hopper Car	10 or 12-foot	20
Box Car	6-foot	12
Truck	5 or 6-foot	11 or 12
Hopper Truck	6, 8, or 10-foot	12, 16, or 20
Other Containers/Carriers – use a double-tube compartmented trier that will reach the bottom of the container.		

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

(1) Visually examine the lot at rest in the carrier. Record any unusual conditions on the sample ticket.

(2) Spread your canvas and make sure that it and the trier are clean and dry.

(3) For each type of carrier, there is an established sampling pattern (pages 2-21 to 2-23). Probe the beans in the areas identified by the sampling pattern for the particular carrier.

Note: At the discretion of the official agency or field office manager, nonlicensed personnel may assist official personnel in obtaining samples, provided that: (1) all nonlicensed personnel are under the direct, physical supervision of official personnel at all times; (2) the ratio of official personnel to nonlicensed personnel is reasonable and practical; and (3) official personnel determine the general condition of the grain and whether additional samples are needed due to quality differences.

(4) Insert the trier at a 10-degree angle from the vertical, with the slots facing upward and completely closed.

(5) If the beans contain fine debris (e.g., dockage or fine foreign material) it is permissible to insert the trier with the slots facing downward to avoid “freezing” the probe. After the trier is inserted, turn the slots upward before opening. After the trier is fully inserted (*with the slots facing upward*), open the slots and move the trier up and down quickly in two, short motions.

(6) Close the slots very gently (until resistance is felt) so as not to damage the beans, grasp the trier by the outer tube, and withdraw it from the lot. Do not pull trier by handle.

(7) Empty the trier on the canvas and compare the beans from each depth of the trier 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 sample ticket.

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

“Top (depth reached) feet sampled, Bottom Not 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.

(1) Additional probes must be drawn in a balanced manner. For example, one compartment of a hopper car must not be probed twice unless the other compartments are also probed twice, regardless of the amount of beans in any one compartment or the amount of additional sample needed.

(2) The sampling patterns in this section must be used by all official inspection personnel when sampling beans 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.

(3) Sampling Pattern for Barges. Draw one probe sample from each opening in the direction of the arrowhead. Insert the probe in the center of the opening, approximately 7 feet from the side edge.

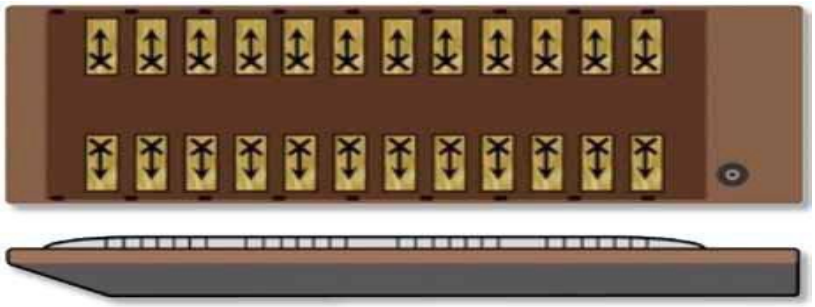

FIGURE 2.3 – FIBERGLASS HATCH TOP BARGE

(4) Sampling Pattern for Hopper Cars. Insert probe in the direction of the arrow at an approximately 10-degree angle, the probe may be inserted either in the center of each hopper or slightly off center in order to miss the cross beam.

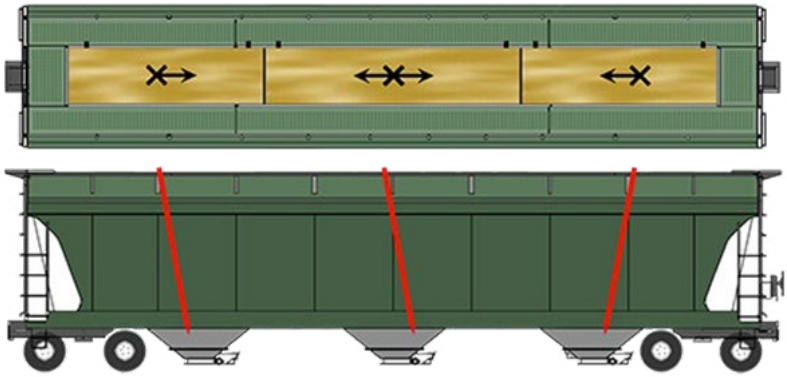

FIGURE 2.4 – 3-COMPARTMENT, TROUGH OR DOOR TYPE HOPPER CAR

(5) Sampling Pattern for Box Cars. Insert the probe at an approximately 10-degree angle in the direction of the arrows shown in the diagram. The probe pattern shown may also be used in reverse of the one shown.

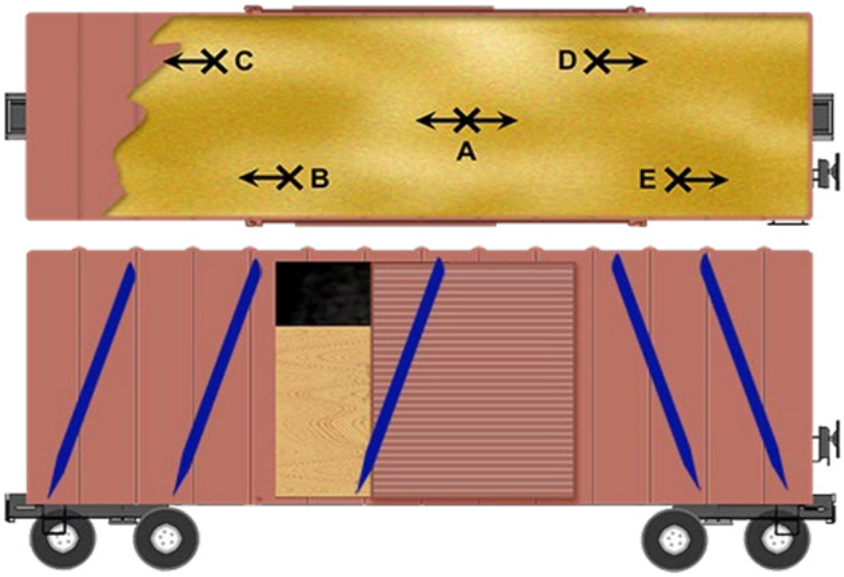

FIGURE 2.5 – BOXCAR

(6) Sampling Patterns for Trucks. Insert the probe at an approximately 10-degree angle in the direction of the arrows shown in the diagram. The probe pattern shown may also be used in reverse of the one shown.

(a) Flat-Bottom Trucks or Trailers Containing Beans More than 4 Feet Deep or Eight Filled Probe Compartments.

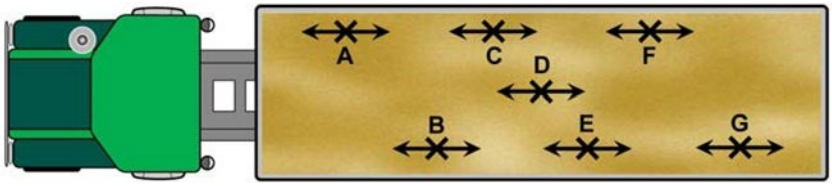

FIGURE 2.6 – FLAT-BOTTOM TRUCK OR TRAILER

(b) Flat-Bottom Trucks or Trailers Containing Beans Less than 4 Feet Deep or Fewer than Eight Filled Probe Compartments.

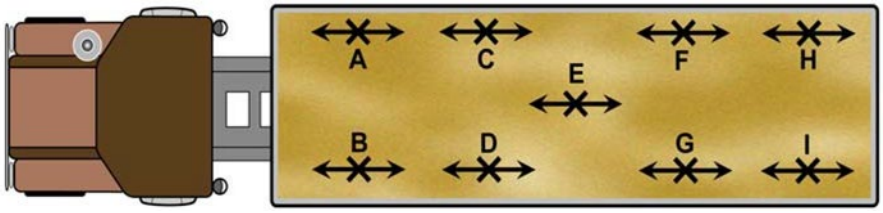

FIGURE 2.7 – FLAT-BOTTOM TRUCK AND TRAILER

(7) Sampling Pattern for Hopper-Bottom Containers, Trucks, and Trailers. Insert the probe at an approximately 10-degree angle in the direction of the arrows shown in the diagram.

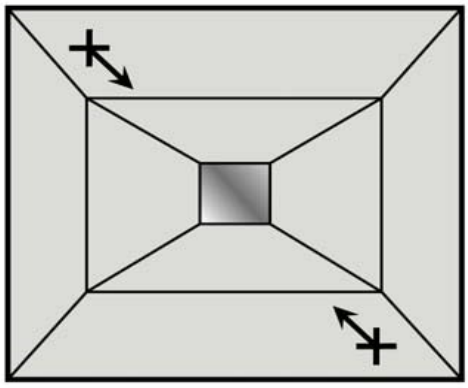

FIGURE 2.8 – ALUMINUM HOPPER-BOTTOM CONTAINER

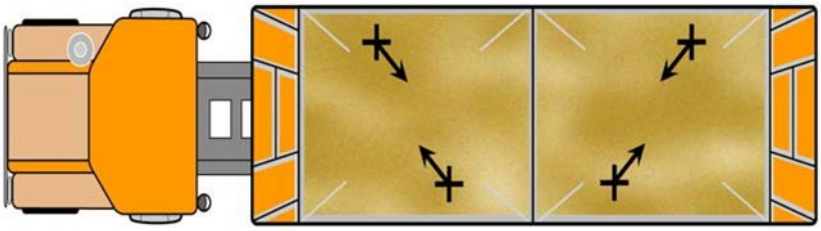

FIGURE 2.9 – HOPPER-BOTTOM TRUCK AND TRAILER

d. Sample bulk beans in tote bags (i.e., large flexible or rigid containers holding 500 - 3000 pounds of beans).

(1) For lots of 1 to 4 tote bags, draw a total of no less than five probe samples from the entire lot. Always draw the same number of probe samples from each bag.

(2) For lots of 5 to 9 tote bags, draw at least one probe sample from each bag. Always draw the same number of probe samples from each bag.

(3) For lots of 10 to 40 tote bags, draw no less than ten probe samples from the entire lot. Randomly select the bags to be probed, draw no more than one probe sample from each selected bag.

(4) For lots of 41 or more tote bags, draw one probe sample from at least 25 percent of the bags in the lot or ten probe samples from the entire lot, whichever is greater. Randomly select the bags to be probed, draw no more than one probe sample from each selected bag.

2.15 SAMPLING BULK BEANS DURING MOVEMENT

a. Diverter-Type Mechanical Sampler. FGIS tested and approved diverter-type mechanical samplers (D/T) may be used to sample bulk beans during movement. For testing and approval information, refer to the Mechanical Sampling Systems Handbook.

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

(2) For sampling beans as they are being placed in sacks 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 beans being loaded into bulk carriers, set the timer in accordance with prescribed procedures in the FGIS Mechanical Sampling Systems Handbook.

b. Pelican Sampler. FGIS-approved pelican samplers may be used to sample beans in a falling stream.

(1) To draw a sample using the pelican, first grasp the pelican's handle firmly. Then, swing the pelican completely through the stream in one continuous motion. This is known as taking a "cut."

(2) The following is the minimum number of "cuts" required:

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

Caution: Sampling a free-falling stream of beans with a pelican sampler can be dangerous. Ensure yourself of firm, nonskid footing. Retrieving lines may be attached to the handle of the pelican and the carrier. Do not tie retrieving lines to a person.

c. Ellis Cup. FGIS-approved Ellis cup samplers may be used for sampling beans moving on a conveyor belt.

FIGURE 2.10 – ELLIS CUP

(1) Draw a sample using the Ellis cup as follows:

(a) 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.

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

(c) 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 beans 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.

(2) The following is the minimum number of "sets" required:

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

Caution: Ensure that you have good footing to avoid falling onto the belt and that a U-shaped protective guardrail is installed not less than 2 ½ feet above each belt and secured to the floor.

CHAPTER 3:
INSPECTION

CONTENTS

TABLES

3.1 GENERAL ORDER OF PROCEDURES

The breakdown and inspection for Beans are listed below in the following chapter according to its general order. The order of procedure may slightly vary depending on the quality of the beans and the tests requested. More information is available on the Agricultural Marketing Service Website (AMS), in the U.S. Standards for Beans, and the Board of Appeals and Review (BAR) Questions and Answers.

If an approved mechanical shaker is unavailable, inspectors may handsieve the sample. When handsieving, hold the sieve level in both hands with elbows close to the side. In a steady motion, move the sieve from left to right approximately 10 inches and then return from right to left. Repeat this motion 20 times.

3.2 DEFINITIONS

Beans. Beans shall be dry threshed field and garden beans, whole, broken, and split, commonly used for edible purposes.

Beans shall be divided into classes as follows, each of which, except Mixed beans, may contain not more than 2.0 percent of beans of contrasting classes and not more than 15.0 percent of beans of other classes that blend:

Pea Beans (The type as grown in the Great Lakes region known also as Navy Beans). Seeds that are small, oval, quite plump, ends abruptly rounded, and white in color, through which shows numerous gray, vein-like markings over the entire surface.

Blackeye Beans (Cowpeas of the Blackeye variety). Cowpeas of the Browneye and Violeteye (Pinkeye) types shall also be considered as Blackeye beans. Seeds that are medium, slightly flattened, skin wrinkled, and white in color with large black, brown, or violet spots surrounding the eye.

Cranberry Beans (Known also as Speckled Cranberry and Horticultural Pole). Seeds that are medium large, very broad, oval, exceedingly plump, ends uniformly but abruptly rounded, and light buff in color, sparingly splashed and streaked with dark red over entire surface and marked with a moderate wide, deep, orange eye ring.

Yelloweye Beans. Seeds that are medium large to large, slightly less than 5/8 of an inch long, proportionately broad, plump, width 1/2 of the length, round at each end, straight at eye, and clear opaque white in color, outside the eye, with a large eye pattern that should cover about 1/4 the area.

Pinto Beans (Including the Mexican Pinto Type, but not the type known as Spotted Red Mexican). Seeds that are medium large, somewhat flattened, and light brown in color, tinted salmon with narrow curved streaks of darker brown or mahogany red.

Marrow Beans (Not including Red Marrow). Seeds that are rather large, short, quite plump, ovate, with fully rounded ends, and white in color.

Great Northern Beans. Seeds that are intermediate to large, rather lengthened in size and shape, and similar to, but smaller and flatter than white kidney beans, and white in color.

Small White Beans (The type as grown on the pacific coast, not including Tepary Beans). Seeds that are small, shape somewhat triangular, flattened, one end somewhat larger and broader than the other, both ends rounded but the small end more abruptly, and white in color.

Flat Small White Beans (The type as grown in northern Idaho). Seeds that are slightly larger than small white beans, but distinctly flattened in shape.

White Kidney Beans. Seeds that are large, oblong to kidney shaped, fairly plump to somewhat flattened, ends rounded, white to slightly creamy in color (especially about the eye), and distinctly veined.

Light Red Kidney Beans (Including the type grown on the pacific coast). Seeds that are medium to large, long, broad, somewhat kidney shaped, may be rather flattened, ends rounded and light to reddish brown in color.

Dark Red Kidney Beans. Seeds that are large, oblong to kidney shaped, somewhat flattened, ends rounded, eye small, flat, and dark red in color.

Small Red Beans (Known also as Red Mexican, California Red, and Idaho Red). Seeds that are small, very broad, oval, reddish purple in color over the entire surface, and marked with a very narrow, black eye ring.

Pink Beans. Seeds that are medium-sized, thin, and light salmon pink in color with rather obscure light brown eye ring.

Black Beans (Known also as Black Turtle Soup Beans). Seeds that are small, oval to rectangular in shape, and black in color with white eye.

Mung Beans. Seeds that are very small, oblong, blunt ends, olive green to dark green in color, and occasionally marbled with black, yellow, or brown. (Note: Chinese Red beans are "mung type" beans and are similar in shape but slightly larger and red in color.)

Chickpeas (Garbanzo Beans). Seeds that are medium large to very large, round and exceedingly plump slightly wrinkled skin, and white to light tan in color. Desi Chickpeas are normally a small round wrinkled bean with a light to dark brown color.

Miscellaneous Beans. Beans that are not otherwise classified in these standards shall be classified and designated according to the commonly accepted commercial name of such beans. Cowpeas of types other than Blackeye, Browneye, and Violeteye (Pinkeye) shall be considered as miscellaneous beans.

Large Lima Beans (Characteristic of the Large White Pole and Burpee Bush Lima Type). Seeds that are large, broad, oblong, fairly plump, ends rounded, and pale creamy white to greenish white in color.

Baby Lima Beans (Characteristic of Small White Lima beans of the Henderson Bush and similar types). Seeds that are small, short, broad, somewhat triangular, flattened, surface somewhat wrinkled, one end usually broader and more gradually rounded than the other, and pale creamy white in color.

Miscellaneous Lima Beans. Lima Beans that do not come within the classes Large Lima or Baby Lima shall be classified and designated according to their commonly accepted commercial name.

a. Florida Butter Speckled Lima Beans. Seeds that are small and similar in shape to Baby Lima beans, but are light buff blotched and irregularly spotted with reddish brown, deep maroon, or nearly black over one end and a portion of the sides, hilar and dorsal surfaces.

b. Fordhook Lima Beans. Seeds that are similar in size, shape, and color to Large Lima beans except that the seeds are very thick towards one end.

c. Jackson Wonder Lima Beans. Seeds that are similar in size and shape to Baby Lima beans but are reddish brown and covered with dark streaks on all sides.

d. Thorogreen Lima Beans. Seeds that are similar in size and shape to Baby Lima beans, but the seedcoats are mostly light green to slightly green in color. Thorogreen lima beans may not contain more than 20.0 percent white seeded beans, including Thorogreen lima beans that due to bleaching/aging have white seed coats.

Note: Thorogreen lima beans containing more than 20.0 percent of white seeds will be graded no higher than U.S. Substandard.

Mixed Beans. Mixed Beans shall be any mixture of beans not provided for in the classes listed above.

If a sample does not meet the definition of Beans, examine it further to determine if it is:

a. Another commodity or grain for which standards have been established; or

b. Not Standardized Commodity (NSC). No further analysis is necessary on a sample designated as NSC unless a specific factor test is requested. (i.e., lupins).

3.3 GRADES AND GRADE REQUIREMENTS

Beans are divided into 22 classes: Pea Beans, Blackeye Beans, Cranberry Beans, Yelloweye Beans, Pinto Beans, Marrow Beans, Great Northern Beans, Small White Beans, Flat Small White Beans, White Kidney Beans, Light Red Kidney Beans, Dark Red Kidney Beans, Small Red Beans, Pink Beans, Mung Beans, Miscellaneous Beans, Large Lima Beans, Baby Lima Beans, Miscellaneous Lima Beans, Chickpeas (Garbanzo Beans), and Mixed Beans. Each class is divided into U.S. numerical grades and U.S. Sample Grade (Tables 3.1-3.10).

Special grades are provided to emphasize special qualities or conditions affecting the value and are added to and made a part of the grade designation. They do not affect the numerical or sample grade designation.

The grades and grade requirements for all classes of beans, except Mixed beans, are shown in the United States Standards for Beans and in this chapter.

Note: A numerical grade can be applied for officially sampled lots if work portions weigh at least 900 grams. However, for submitted samples, a minimum of 450 grams is required to apply a numerical grade and submitted samples weighing less than 450 grams shall be restricted to a factor-only inspection.

Field-run beans (i.e., dry beans from which the dockage has not been removed) are usually inspected for factors only, without reference to grade. The factor designation for field-run beans would include the percentage of dockage and type of sieve used in making the determination; the percentage of total defects (including the percentage of splits, damaged beans, contrasting classes, and foreign material); and the percentage of moisture. Upon Applicant Request, an after-dockage grade statement and/or an estimated dockage breakdown may be included for field-run beans.

Except for Statements cannot be applied for odor or deleterious qualities (any substance considered an actionable defect by the Food and Drug Administration). Directive 9060.2, "Implementation of the FGIS-FDA Memorandum of Understanding."

Grade Mixed beans according to the grade requirements of the class of beans which predominates in the mixture. Disregard the factors of contrasting classes and classes that blend in mixed beans.

Certification. When beans are graded "U.S. Substandard," record the percent of sound beans to the nearest tenth percent, on the grade line of the certificate.

TABLE 3.1 – PEA BEANS

Grade	Maximum Limits of -						
				Foreign Material			
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Badly Damaged (percent)	Total (percent)	Stones (percent)	Contrasting Classes[2] (percent)	Classes that Blend[3] (percent)
U.S. Choice Handpicked	18.0	1.5	0.3	0.01	0.01	0.01	2.0
U.S. Prime Handpicked	18.0	3.0	0.3	0.01	0.01	0.01	2.0
U.S. No. 1	18.0	2.0	2.0	0.4	0.2	0.5	4.0
U.S. No. 2	18.0	3.0	3.0	0.8	0.4	1.0	4.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. Choice Handpicked through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 15.0 percent classes that blend are graded Mixed Beans

TABLE 3.2 – BLACKEYE BEANS

Grade	Maximum Limits of -						
				Foreign Material			
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Total Damaged (percent)	Total (percent)	Stones (percent)	Contrasting Classes[2] (percent)	Classes That Blend[3] (percent)
U.S. No. 1	**18.0**	**4.0**	**2.0**	**0.5**	**0.2**	**0.5**	**5.0**
U.S. No. 2	**18.0**	**6.0**	**4.0**	**1.0**	**0.4**	**1.0**	**10.0**
U.S. No. 3	**18.0**	**8.0**	**6.0**	**1.5**	**0.6**	**2.0**	**15.0**

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 15.0 percent classes that blend are graded Mixed Beans.

TABLE 3.3 – YELLOWEYE BEANS

Grade	Maximum Limits of -							
				Foreign Material				
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Total Damaged (percent)	Total (percent)	Stones (percent)	Contrasting Classes[2] (percent)	Classes that Blend[3] (percent)	In Addition to Classes that Blend, White Beans Similar in Size and Shape in the Class Yelloweye Beans
U.S. No. 1	18.0	4.0	2.0	0.5	0.2	0.5	5.0	5.0
U.S. No. 2	18.0	6.0	4.0	1.0	0.4	1.0	10.0	5.0
U.S. No. 3	18.0	8.0	6.0	1.5	0.6	2.0	15.0	--

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 15.0 percent classes that blend are graded Mixed Beans

TABLE 3.4 – CRANBERRY BEANS

Grade	Maximum Limits of -						
				Foreign Material			
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Total Damaged (percent)	Total (percent)	Stones (percent)	Contrasting Classes[2] (percent)	Classes that Blend (percent)
U.S. No. 1	18.0	4.0	2.0	0.5	0.2	0.5	5.0
U.S. No. 2	18.0	6.0	4.0	1.0	0.4	1.0	10.0
U.S. No. 3	18.0	8.0	6.0	1.5	0.6	2.0	15.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

TABLE 3.5 – PINTO BEANS

Grade	Maximum Limits of -						
				Foreign Material			
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Total Damaged (percent)	Total (percent)	Stones (percent)	Contrasting Classes[2] (percent)	Classes that Blend[3] (percent)
U.S. No. 1	18.0	3.0	3.0	0.5	0.2	0.5	5.0
U.S. No. 2	18.0	5.0	5.0	1.0	0.4	1.0	10.0
U.S. No. 3	18.0	7.0	7.0	1.5	0.6	2.0	15.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 15.0 percent classes that blend are graded Mixed Beans.

TABLE 3.6 – MARROW, GREAT NORTHERN, SMALL WHITE, FLAT SMALL WHITE, WHITE KIDNEY, LIGHT RED KIDNEY, DARK RED KIDNEY, SMALL RED, PINK, BLACK, AND MISCELLANEOUS BEANS

Grade	Maximum Limits of -						
				Foreign Material			
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Total Damaged (percent)	Total (percent)	Stones (percent)	Contrasting Classes[2] (percent)	Classes that Blend[3] (percent)
U.S. No. 1	18.0	2.0	2.0	0.5	0.2	0.5	5.0
U.S. No. 2	18.0	4.0	4.0	1.0	0.4	1.0	10.0
U.S. No. 3	18.0	6.0	6.0	1.5	0.6	2.0	15.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 15.0 percent classes that blend are graded Mixed Beans.

TABLE 3.7 – MUNG BEANS

Grade	Maximum Limits of -							
					Foreign Material			
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Total Damaged (percent)	Clean-Cut Weevil-Bored[2] (percent)	Total (percent)	Stones (percent)	Contrasting Classes[3] (percent)	Classes that Blend[4] (percent)
U.S. No. 1	18.0	2.0	2.0	0.1	0.5	0.2	0.5	5.0
U.S. No. 2	18.0	4.0	4.0	0.2	1.0	0.4	1.0	10.0
U.S. No. 3	18.0	6.0	6.0	0.5	1.5	0.6	2.0	15.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 0.5 percent clean-cut weevil-bored beans are graded U.S. Sample Grade.

[3] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[4] Beans with more than 15.0 percent classes that blend are graded Mixed Beans.

TABLE 3.8 – LARGE LIMA BEANS

Grade	Maximum Limits of -					
			Damaged Beans		Foreign Material	
	Moisture[1] (percent)	Total Blistered, Wrinkled, & Defects (DB, FM, CCL, & SPL) (percent)	Total (percent)	Badly Damaged (percent)	Total (percent)	Stones (percent)
U.S. No. 1	18.0	6.0	2.0	0.5	0.5	0.2
U.S. No. 2	18.0	9.0	3.0	1.0	1.0	0.3

Grade	Maximum Limits of -					
					Beans Through a Sieve	
	Contrasting Classes[2] (percent)	Splits (percent)	Brokens (percent)	Classes that Blend[3] (percent)	28/64" (percent)	24/64" (percent)
U.S. No. 1	0.5	3.0	5.0	5.0	25.0	5.0
U.S. No. 2	1.0	5.0	5.0	10.0	40.0	5.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 15.0 percent classes that blend are graded Mixed Beans.

TABLE 3.9 – BABY LIMA AND MISCELLANEOUS LIMA BEANS

Grade	Maximum Limits of -								
	Moisture[1] (percent)	Total Defects (DB, FM, & CCL) (percent)	Badly Damaged (percent)	Foreign Material		Contrasting Classes[2] (percent)	Blistered, Wrinkled, and/or Broken (percent)	Splits (percent)	Classes that Blend[3] (percent)
				Total (percent)	Stones (percent)				
U.S. No. 1	18.0	2.0	1.0	0.5	0.2	0.5	2.0	2.0	5.0
U.S. No. 2	18.0	4.0	1.5	1.0	0.3	1.0	4.0	4.0	10.0
U.S. No. 3	18.0	6.0	2.0	1.5	0.6	2.0	6.0	6.0	15.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 18.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 15.0 percent classes that blend are graded Mixed Beans.

TABLE 3.10 – CHICKPEAS (GARBANZO BEANS)

Grade	Maximum Limits of -						
				Foreign Material			
	Moisture[1] (percent)	Total Defects (DB, FM, CCL, & SPL) (percent)	Total Damaged (percent)	Total (percent)	Stones (percent)	Contrasting Classes[2] (percent)	Contrasting Chickpeas[3] (percent)
U.S. No. 1	14.0	2.0	2.0	0.5	0.2	0.5	1.0
U.S. No. 2	14.0	4.0	4.0	1.0	0.4	1.0	2.0
U.S. No. 3	14.0	6.0	6.0	1.5	0.6	2.0	>2.0

U.S. Substandard: U.S. Substandard shall be beans which do not meet the requirements for the grades U.S. No. 1 through U.S. No. 3 or U.S. Sample Grade. Beans which are not well screened shall also be U.S. Substandard, except for beans which meet the requirements for U.S. Sample Grade.

U.S. Sample Grade: U.S. Sample Grade shall be beans which are musty, sour, heating, materially weathered, or weevily; which have any commercially objectionable odor; which contain insect webbing or filth, animal filth, any unknown foreign substance, broken glass, or metal fragments; or which are otherwise of distinctly low quality.

[1] Beans with more than 14.0 percent moisture are graded High Moisture.

[2] Beans with more than 2.0 percent contrasting classes are graded Mixed Beans.

[3] Beans with more than 2.0 percent contrasting chickpeas must grade no higher than a U.S. No. 3.

3.4 SPECIAL GRADES

Special grades draw attention to unusual conditions in the beans and are made part of the grade designation. The special grades and special grade requirements of all classes of beans are shown in the United States Standards for Beans. Details for determining special grades are included in referenced sections. Definition and examples of the designations for special grades in beans are:

a. Choice Handpicked. Pea beans that are better in quality than U.S. No. 1 and Prime Handpicked. (Table 3.1)

Example: U.S. Choice Handpicked Pea Beans

b. Prime Handpicked. Pea beans that are generally better in quality than U.S. No. 1. (Table 3.1)

Example: U.S. Prime Handpicked Pea Beans

c. High Moisture. Beans that contain over 18.0 (14.0 for Chickpeas/Garbanzo Beans) percent moisture. (Section 3.15)

Example: U.S. No. 2 Pinto Beans, High Moisture

3.5 BASIS OF DETERMINATION

All determinations shall be upon the basis of the beans as a whole.

Note: When beans are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of beans, the lot must be sampled on the basis of two or more (approximately) equal-sized sublots of 10,000 containers or 1,000,000 pounds or less. Inspect each sublot separately.

When beans that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in class, quality, or condition, the beans in each portion shall be inspected separately.

3.6 DISTINCTLY LOW QUALITY

Beans that are obviously of inferior quality because they are in an unusual state or condition, and that cannot be graded properly by use of other grading factors provided in the standards.

Basis of Determination. Determine distinctly low quality (DLQ) on the basis of the lot as a whole, representative sample as a whole or, for field-run beans; the dockage-free sample as a whole.

a. Flood Damaged Beans. Beans materially affected by flooding are considered DLQ and certified as "U.S. Sample Grade". In addition, official personnel must report official identifiable lots that are DLQ to the district Food and Drug Administration (FDA) office as "actionable" in accordance with FGIS-PN-19-04, "Inspection of Flood Damaged Grain."

   The determination of DLQ is based on the appearance and condition of the lot or sample as a whole. Evaluate beans affected by flooding on a portion of approximately 400 grams with the use of the ILP – All Grains/Graded Commodities - Inspection of Flood Damaged Grain. If a sample does not meet the requirements for DLQ, but the beans are materially damaged (stained) by flooding, consider the beans as damaged and count toward the total percent of damage in the sample.

b. Large Animal Excreta (LGANX). Beans containing one or more large animal excreta (e.g., deer or elk pellet) are considered DLQ.

c. Large Debris. Beans containing two or more stones, pieces of glass, pieces of concrete, or other pieces of wreckage or debris which are visible to the sampler and too large to enter the sampling device are considered DLQ.

d. Other Unusual Conditions. Beans that are obviously affected by unusual conditions which adversely affect the quality of the beans and which cannot be graded properly by use of the grading factors specified or defined in the standards shall be considered as being of distinctly low quality.

Note: Beans containing 2 more castor beans are considered Sample Grade/DLQ.

Certification. When applicable, show the factor "DLQ" and the reason(s) why on the work record and "Results" section of the certificate, and grade the beans "U.S. Sample Grade."

For more information, refer to Directive 9060.2, "Implementation of the FGIS-FDA Memorandum of Understanding."

3.7 ANIMAL FILTH

Basis of Determination. Determine animal filth (ANFL) on the basis of the lot as a whole, the representative sample as a whole or, for field-run beans; the dockage-free sample as a whole.

Sufficient evidence of animal filth must be:

a. Two or more rodent or bird pellets in the lot as a whole or the work sample; or

b. One rodent or bird pellet in the work sample and one or more in the file sample; or

c. One or more deer or elk pellet(s) in the lot as a whole or the work sample.

Note: Deer or Elk pellet(s) are considered a DLQ factor and are determined after the removal of dockage.

Certification. When applicable, show the term "Animal filth", including count, on the work record and “Results” section of the certificate, and grade the beans "U.S. Sample Grade."

3.8 BROKEN GLASS

Basis of Determination. Determine broken glass (GLAS) on the basis of the lot as a whole, the representative sample as a whole or, for field-run beans; the dockage-free sample as a whole.

The presence of <u>any</u> broken glass (regardless of the size or amount) in lot as a whole, work sample, or sample as a whole is considered sufficient evidence of broken glass.

Certification. When applicable, show the term "Broken glass", including count, on the work record and “Results” section of the certificate, and grade the beans "U.S. Sample Grade."

3.9 METAL FRAGMENTS

Basis of Determination. Determine metal fragments (MF), such as metal filings or metal shavings, on the basis of the lot as a whole, the representative sample as a whole or, for field-run beans; the dockage-free sample as a whole.

Sufficient evidence of metal fragments must be:

a. Two or more metal fragments in the lot as a whole or the work sample; or

b. One metal fragment in the work sample and one or more in the file sample.

Certification. When applicable, show the term "Metal fragments", including count, on the work record and “Results” section of the certificate, and grade the beans "U.S. Sample Grade."

3.10 UNKNOWN FOREIGN SUBSTANCE

Basis of Determination. Determine unknown foreign substance (FSUB) on the basis of the lot as a whole, the representative sample as a whole or, for field-run beans; the dockage-free sample as a whole.

Sufficient evidence of unknown foreign substance must be:

a. The presence of two or more particles of an FSUB, including rock salt or other crystalline substances, or a commonly recognized harmful or toxic substance, including so-called "pink beans" (beans treated with mercury or panagin), in the lot as a whole or the work sample.

b. One particle of an unknown foreign substance or one treated bean in a work sample and any other particle or treated bean in the file sample.

Certification. When applicable, show the term "Unknown foreign substance", including count, on the work record and “Results” section of the certificate, and grade the beans "U.S. Sample Grade."

3.11 HEATING

Basis of Determination. Determine heating (HTG) on the basis of the lot as a whole.

Beans developing a high temperature from excessive respiration are considered heating. Heating beans, in its final stages, usually give off a sour or musty odor. Do not confuse beans that are heating with beans that are warm due to storage in bins, cars, or other containers during hot weather.

Certification. When applicable, show the term "Heating" on the work record and “Results” section of the certificate, and grade the beans "U.S. Sample Grade."

3.12 ODOR

Basis of Determination. Determine odor on the basis of the representative sample as a whole.

a. Off-odors (i.e., musty, sour, and commercially objectionable foreign odors) are usually detected at the time of sampling.

(1) If there is any question as to the odor when the sample is being taken, put part of the sample into an airtight container to preserve its condition for further examination in the laboratory.

(2) Return the portion to the sample before other tests are made.

b. A **musty** odor is any odor that is earthy, moldy, and ground-like. Do not confuse a burlap bag odor with a musty odor.

c. A **sour** odor is any odor that is rancid, sharp, or acrid.

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

Note: A sample with a light drier (cooked) odor is not considered an objectionable odor unless it creates a strong odor which resembles a moldy or basement odor, then the sample should be made "Musty" or the drier odor creates a smoke odor, that sample should be made "COFO".

Fumigant or insecticide odors are considered as commercially objectionable foreign odors if they linger and do not dissipate. When a sample of beans contains a fumigant or insecticide odor that prohibits a determination as to whether any other odor(s) exists, apply the following guidelines:

(1) Original Inspections. Allow the work portion to aerate in an open container for a period not to exceed 4 hours.

(2) Appeal and Board Appeal Inspections. Allow unworked file samples and new samples to aerate in an open container for a period not to exceed 4 hours. The 4-hour aeration requirement does not apply when the original work portion was aerated and retained as the final file.

(3) Final Action. Consider the sample as having a commercially objectionable foreign odor if the fumigant or insecticide odor persist based on the above criteria.

Certification. When beans are determined to be musty, sour, or have a commercially objectionable foreign odor, record the type of odor on the work record and "Results" section of the certificate, and grade the beans "U.S. Sample Grade."

3.13 TEST WEIGHT

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

Basis of Determination. Determine test weight (TW) on a representative portion of sufficient size to overflow the kettle, before the removal of dockage in field-run beans.

The procedures for performing the test weight determination are described in Grain Inspection Handbook, Book II.

Certification. Record test weight results on the work record and "Results" section of the certificate to the nearest tenth of a pound.

3.14 DOCKAGE

Dockage in field-run beans consist of small, underdeveloped dry beans, pieces of dry beans, and all matter other than dry beans which can be removed readily by the use of an FGIS-approved sieve.

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

Field-run beans (i.e., dry beans from which the dockage has not been removed) are usually inspected for factors only, without reference to grade. The factor designation for field-run beans would include the percentage of dockage and type of sieve used in making the determination: the percentage of total defects (including the percentage of splits, damaged beans, contrasting classes, and foreign material) and the percentage of moisture. Upon Applicant Request, an after dockage grade statement and/or an estimated dockage breakdown may be included for field-run beans.

Quality Except for Statements cannot be applied for odor or deleterious qualities (any substance considered an actionable defect by the Food and Drug Administration). Directive 9060.2, "Implementation of the FGIS-FDA Memorandum of Understanding."

Basis of Determination. Determine dockage (DKG) on a representative portion of approximately 1,000 grams of field-run beans.

Remove the dockage from the beans by sieving the representative portion with the appropriate size sieve. For Mixed dry beans, use the sieve prescribed for the class of beans that predominates the mixture.

Note: If official personnel determine that the prescribed sieve removes too many small, fully developed beans (not screenings), the Field Office/Federal-State manager may allow the use of a slightly smaller sieve. Furthermore, if they determine that the prescribed sieve allows too many underdeveloped beans to remain with the "clean" beans, they may elect to use a slightly larger sieve.

TABLE 3.11 – PRESCRIBED DOCKAGE SIEVES

Classes	Sieves
Very Small-size Dry Beans.....	8/64" round-hole
Small-size Dry Beans	9/64" x 3/4" slotted-hole
Medium-size Dry Beans	10/64" x 3/4" slotted-hole
Large-size Dry Beans	11/64" x 3/4" slotted-hole
Large Garbanzo Beans	18/64" round-hole
Small Garbanzo Beans	16/64" round-hole
Miscellaneous Dry Beans	Use appropriate size sieve

a. Nest the appropriate sieve on top of a bottom pan.

b. Place the sieve in a mechanical grain shaker so that the slotted perforations are parallel to the motion of the shaker and set the timer to 20.

c. Put one-third of the representative portion in the center of the sieve and actuate the shaker.

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 sieve as dockage. Pick out large material, such as stems and pods with/without beans inside, from the beans remaining on top of the sieve and add it to the dockage. Do not remove the beans from the pods.

Note: Mud lumps or stones that are too large to pass through the sieve used in making the DKG determination should be handpicked from the beans and added to the DKG. Mud lumps or stones that are approximately the size and shape of beans, should be considered foreign material.

f. Remove the dockage from the remainder of the representative portion in the same manner.

Certification. Record the percent of dockage, with the sieve size used in the determination, on the work record and "Results" section of the certificate to the nearest tenth percent.

Upon applicant request, determine a DKG breakdown by estimating the percent of small beans (SBD), split (SDKG) beans, and other material (OMD) that comprise the dockage.

a. The breakdown of dockage is **estimated** using hand sieves.

Note: Handpicking the material through or over sieves is not required when the breakdown is estimated.

b. Record the percent of small beans, split beans, and other material on the work record and "Results" section of the certificate to the nearest tenth percent and show the statement "Estimated using hand sieves".

3.15 MOISTURE

Definition. *Water content in beans as determined by an approved device according to procedures prescribed in FGIS instructions.*

Basis of Determination. Determine moisture on a representative portion of approximately 650 grams of beans. Determine moisture after the removal of dockage for field-run beans.

The procedures for performing a moisture determination using a FGIS approved moisture instrument utilizing the calibrations of the predominate type of bean are described in the Moisture Handbook and the Directive 9180.61, "Official Moisture Calibration for Unified Grain Moisture Algorithm (UGMA) Compatible Meter."

Certification. Record the percent of moisture on the work record and "Results" section of the certificate to the nearest tenth percent. If the moisture content exceeds 18.0 (14.0 for Chickpeas/Garbanzo Beans) percent, apply the special grade "High Moisture" on the grade line of the certificate in accordance with Section 3.4, "Special Grades."

Note: To determine the moisture content of Miscellaneous beans, use the moisture channel for the class of beans most similar in size and shape to the Miscellaneous beans in question. For Mung and Adzuki beans, use the Pea bean channel, Fava beans, use the Baby Lima bean channel and Myacoba beans, use the Yellow-eye bean channel.

3.16 INSECT INFESTATION (WEEVILY)

Note: Live Weevils (LW) include pea weevils, coffee bean weevils, broad nosed grain weevils, rice weevils, granary weevils, maize weevils, and lesser grain borers. Other live insects (OLI) include beetles, moths, meal worms, and other insects injurious to stored beans. Insect larvae are considered the same as adult insects. Dead insects do not apply.

To further define OLI refer to the Stored-Grain Insect Reference. Images of insects may also be viewed on the AMS website.

Basis of Determination. Determine weevily (WVLY) on the basis of the work sample, representative sample as a whole, and the lot as a whole. For insect tolerances, refer to Table 3.12.

TABLE 3.12 – INSECT INFESTATION

Samples meeting or exceeding any one of these tolerances are weevily:* ***2 LW, or 2 OLI, or 2 CCWB, or 1 LW + 1 OLI, or 1 LW/OLI + 1 CCWB***	
1,000-gram representative sample[1] (+ file sample if needed)	**Lot as a Whole (Stationary)**
Submitted Samples Probed Lots D/T Sampled Land Carriers	Probed Lots (at time of sampling)

[1] Examine work portion and file sample if necessary. Do not examine file sample if work portion is insect free.

* CCWB in blackeye beans does not apply in the designation of weevily. Mung beans must have more than 0.5 percent CCWB to be considered weevily.

Key: LW = Live Weevil, OLI = Other Live Insects injurious to stored grain, CCWB = Clean-Cut Weevil-Bored

Note: Clean-cut weevil-bored beans are not considered "Weevily" or a sample grade factor in blackeye beans. However clean-cut are still considered damage if found in the damage portion.

If less than 1,000 grams is available for submit samples, the presence of one clean-cut weevil-bored bean in a 500-gram representative portion is considered sufficient evidence that the beans are weevily.

The presence of weevils in a warehouse should not be considered an indication of infestation unless weevils are also found inside bags or containers of beans.

Certification. When applicable, show "Weevily" on the work record and "Results" section of the certificate and grade the beans "U.S. Sample Grade."

3.17 MATERIALLY WEATHERED BEANS

Basis of Determination. Determine materially weathered on the basis of the work sample as a whole

Weathering is caused by exposure of the beans to adverse weather conditions, such as prolonged rains or snow.

Materially weathered beans are badly discolored, often with severely cracked or rough seed coats.

Certification. When applicable, show the term "Materially weathered" on the work record and “Results” section of the certificate, and grade the beans "U.S. Sample Grade."

3.18 WELL SCREENED/NOT WELL SCREENED

Definition. *Well screened, as applied to the general appearance of beans, shall mean that the beans are uniform in size and are practically free from such small, shriveled, undeveloped beans, splits, broken beans, large beans, and foreign material that can be removed readily by the ordinary process of milling or screening through the proper use of sieves.*

Basis of Determination. Determine well screened on the basis of the work sample as a whole, before the removal of defects and FM.

The term "well screened," as applied to the general appearance of beans, generally describes the practical limits of uniformity in size.

Absolute uniformity in size is neither necessary nor practicable.

Any beans which meet the requirements for grades U.S. Choice Handpicked, U.S. Prime Handpicked, U.S. Nos. 1, 2, or 3 on account of foreign material and stones may generally be considered as being well screened. However, when the foreign material is of a character that could have been readily screened out (i.e., particularly fine inert material such as sand and pulverized mud lumps), the beans may be considered as not well screened when the sample contains more than 0.20 percent.

Basis of Determination. Determine not well screened (NWS) on the basis of the work sample as a whole, before the removal of defects and FM.

The presence of shriveled, undersized, immature or underdeveloped beans gives an uneven appearance and indicates that the beans have not been submitted to the ordinary cleaning and screening operation.

Mixtures of more than 5.0 percent of very small, shrunken, or undersized reclaimed beans of any class, with other normal-sized beans of the class, will cause the mixture to be considered as NWS when such mixtures obviously are of such character that the quality is not properly reflected in the numerical grade.

After the determination of not well screened, recombine the work sample before determining the remaining grading factors.

Certification. When applicable, show the term "Not Well Screened" on the work record and “Results” section of the certificate, and grade the beans no higher than "U.S. Substandard."

3.19 SIZE

A 28/64 sieve shall be a metal sieve 0.0619-inch thick perforated with round holes 0.4675 (28/64) inch in diameter which are 19/62 inch from center to center. The perforations of each row shall be staggered in relation to the adjacent row.

A 24/64 sieve shall be a metal sieve 0.0619-inch thick perforated with round holes 0.6750 (24/64) inch in diameter which are 17/62 inch from center to center. The perforations of each row shall be staggered in relation to the adjacent row.

Note: This factor is applicable to the class Large Lima beans only.

Basis of Determination. Determine size on a representative portion of approximately 500 grams, before the removal of defects and foreign material.

a. Nest a 28/64 sieve and a 24/64 sieve in a bottom pan (28/64 sieve on top).

b. Place the sieves in the mechanical shaker and set the timer to 20.

c. Put the representative portion in the center of the sieve and actuate the shaker.

Certification. Record the percent of beans that passed through the 28/64 sieve and the percent of beans that passed through the 24/64 sieve on the work record and “Results” section of the certificate to the nearest tenth percent.

3.20 INSECT WEBBING OR FILTH

Basis of Determination. Determine insect webbing or filth (IWOF) on the basis of the work sample, representative sample as a whole, and the lot as a whole.

Sufficient evidence of insect webbing or filth must be:

a. **For Blackeye Beans only**:

(1) More than 0.10 percent IWOF in a work sample.

(2) Work sample contains any IWOF but less than 0.11 percent IWOF, examine the file sample. If File sample contains less than 0.11 percent IWOF, sample is not considered Sample Grade. If File sample contains 0.11 percent or more IWOF, consider Sample Grade.

b. **For all other beans:**

(1) The presence of two or more beans containing IWOF (refuse, excreta, or dead insects or larvae, including house flies) in a work sample. (VRI – Bean - 7.0 Insect Webbing or Filth)

(2) One bean containing IWOF in the work sample and any bean containing IWOF in the file sample.

(3) Two or more dead insects in a work portion is considered sufficient evidence of IWOF.

Certification. When applicable, show the term "Insect webbing or filth", including count (or percent to the nearest hundredth for blackeyes only), on the work record and “Results” section of the certificate, and grade the beans "U.S. Sample Grade."

Note: If less than 1,000 grams is available for submit samples, the presence of one bean containing IWOF (or more than 0.05 percent for blackeye beans only) in a 500-gram representative portion is considered sufficient evidence of IWOF.

Visible Window damage is considered contaminated by IWOF. IWOF and CCWB are also considered damaged when found in the damage sub-portion.

For Field-run beans only: IWOF and CCWB are determined after the removal of dockage.

Consider 2 or more insect excreta; or 1 live insect and 1 IWOF; or 1 CCWB (except in Blackeye and Mung beans) and 1 IWOF found within the processed sample as Sample Grade.

3.21 COLOR

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

Applicants may request, as part of a grade or a "factor-only" inspection service request, an assessment of bean color. This analysis is provided for information only and does not have any significance to the assignment of numerical grade.

Basis of Determination. Determine color (COLR) and uniformity of color, on a representative portion of approximately 500 grams of the sample as a whole.

When requested, applicants must furnish a "type sample" for comparison purposes. Inspection personnel are to use this submitted type sample in accordance with Chapter 1, "Registered Type Sample Inspections," in the evaluation of the market sample's overall color quality, as well as color uniformity.

Certification. Compare the color quality of the market sample to the type sample and in the "Results" section of the certificate state whether the overall color is "equal to or better than" or "not equal to" the registered type sample.

3.22 DEFECTS (TOTAL)

Definition. *Defects for the classes Baby Lima and Miscellaneous Lima beans shall be damaged beans, contrasting classes, and foreign material. Defects for all other classes of beans shall be splits, damaged beans, contrasting classes, and foreign material.*

Basis of Determination.

a. For the classes Baby Lima and Miscellaneous Lima beans, determine defects (DEF) by determining the sum of the percent of damaged beans, contrasting classes, and foreign material.

b. For mixed beans, determine total defects by determining the sum of the percent of splits, damaged beans, and foreign material.

c. For all other classes of beans, determine total defects by determining the sum of the percent of splits, damaged beans, contrasting classes, and foreign material.

Note: When damaged beans are determined on a portion smaller than 500 grams, the remaining factors that comprise defects (total) must be analyzed on the prescribed portion size.

The percent of total defects cannot be shown on the work record or the certificate when only one or two of the factors defined as defects have been determined. However, when one or two factors are determined and their sum would change the numerical grade or come close to changing the grade, the other factor(s) must be determined.

Certification. Record the percent of total defects on the work record and "Results" section of the certificate to the nearest tenth percent.

Note: In some cases, edible beans function as both damage and contrasting classes. Since defects (total) represent the sum of damage, foreign material, splits, and contrasting classes, they are essentially scored twice in the calculation of total defects.

3.23 DAMAGED BEANS

Definition. *Beans and pieces of beans that are damaged by frost, weather, disease, weevils or other insects, or other causes.*

Basis of Determination. Determine damaged beans (DB) on a representative portion of approximately:

500 grams for: Large Lima, Baby Lima, Miscellaneous Lima, Dark Red Kidney, Light Red Kidney, Marrow, Mixed, White Kidney beans, and Large seeded Chickpeas (Garbanzo beans).

375 grams for: Cranberry, Great Northern, Pinto, and Small Red beans.

250 grams for: Adzuki, Blackeye, Black, Flat Small White, Pea, Pink, Small White, Small seeded Chickpeas (Garbanzo beans), and Yelloweye beans.

50 grams for: Mung beans.

For Miscellaneous beans use the same amount as is used for a class of beans of similar size and shape.

TYPES OF BEAN DAMAGE.

Clean-Cut Weevil-Bored Beans (CCWB). Clean-cut weevil-bored beans shall be beans from which weevils have emerged, leaving a clean-cut open cavity free from deleterious matter, such as larva, dead insects, eggs, webbing, refuse, or excreta. (VRI – Bean - 2.0 Clean-Cut Weevil-Bored)

Note: Mung beans in grades U.S. Nos. 1, 2, and 3 may contain not more than 0.1, 0.2, and 0.5 percent, respectively, of clean-cut weevil-bored beans.

Samples, except blackeye beans, that contain 2 or more clean-cut weevil-bored beans in the work/file portions, as applicable, are considered "Weevily" and graded "U.S. Sample Grade". For detailed procedures, refer to Section 3.23, "Insect Infestation."

Cotyledon Damaged Chickpeas (Garbanzo Beans). Chickpea/Garbanzo beans or pieces of Chickpea/Garbanzo beans with a white chalky or wafer-like spot that penetrates the cotyledon (singularly or in combination) that meets or exceeds the minimum coverage are considered damage. (VRI – Bean - 5.1 Cotyledon Damage (Chickpea/Garbanzo))
Effective August 1st, 2021.

Dirt and Grime Damaged Beans. Beans (other than Pea beans) and split beans with dirt or grime adhering to the seed coat. The dirt or grime may be confined to one side or a combination of both sides. Smaller spots may be combined to equal the amount shown on VRI – Bean - 3.1 Dirt & Grime Damage (Other Than Pea Beans). For dirt and grime damaged "pieces of beans," refer to VRI – Bean - 13.0 Damaged Pieces.

Note: The percent of Pea beans with a significant amount of dirt or grime adhering to their seed coat may be determined upon request. The results of this determination will be shown in the "Remarks" section of the official bean certificate. These results will not, however, be used to determine the grade of the Pea beans. (VRI – Bean - 3.0 Dirt and Grime Pea Beans (Not Damage))

Pea beans that meet the Dirt and Grime requirements (VRI Bean-3.0) in any other predominating class function as both Contrasting Classes and Damage. When pea beans are the predominate class, any contrasting class that meets the Dirt and Grime requirements for VRI Bean-3.1, function as both Contrasting Classes and Damage. This also applies to mixed beans.

Frost Damaged Beans. Beans and pieces of beans which have been damaged by frost to the extent that the cotyledon has been discolored. Frost damage is indicated by the appearance of the whole bean; but the actual determination for damage shall be made on the basis of the opened bean, the discoloration shall be equal to or greater than that shown on VRI – Bean - 4.0 Frost Damage.

Hail Damaged Beans. Beans and pieces of beans which are damaged by hail. Hail damaged beans are similar in color to water blistered beans. Therefore, for Pink beans use VRI – Bean – 12.2 Water Blistered Damage (Pink Beans), and for all other classes of beans use VRI – Bean - 12.0 Water Blistered Damage, when determining hail damage.

Immature, Green, Chickpeas (Garbanzo Beans). Immature, green chickpeas (garbanzo beans) are undesirable because they tend to produce off flavors and, when canned, turn a grayish color creating a moldy appearance. For this reason, beans with any discernible amount of green are damaged. (VRI – Bean - 5.0 Green Damage (Chickpea))

Insect Stung Beans. Beans and pieces of beans which are distinctly damaged by weevils or other insects.

a. Blackeye Beans. Beans and pieces of Blackeye beans that have any of the following: Two or more stings that extend into the cotyledon; a single severe sting extending into the cotyledon with discoloration, or a chalky-spot equal to or greater than that shown on VRI – Bean - 6.0 Insect Stung Damage (Blackeye). Carefully remove seed coat to determine size of the chalky spot when applicable.

b. Beans Other than Blackeye Beans (including cowpeas). Beans and pieces of beans that have any of the following: One severe sting (not required to extend into the cotyledon) with discoloration equal to or greater than the amount shown on VRI – Bean - 6.1 Insect Stung Damage (Other Beans) or VRI – Bean - 6.2 Insect Stung Damage (White Beans); or two or more stings extending into the cotyledon. Carefully remove seed coat from beans that have several small stings to determine if penetration of the cotyledon has occurred.

Note: Chalky spots only apply to Blackeye beans.

Do not remove the seed coat when there is only a single sting since insect damage is determined before splitting.

Internal Respiration Damage. Beans and pieces of beans damaged by respiration or heating to the degree that the cotyledon is discolored (brown). (VRI – Bean - 14.0 Internal (Respiration) Damage)

Machine Damaged Beans. Beans and pieces of beans that are either cut or scraped due to handling, and which contain dirt or grime on the cotyledon equal to or greater than that shown on VRI – Bean - 15.0 Machine Damage.

Mold/Mildew Damaged Beans. Beans and pieces of beans which contain mold equal to or greater than that shown on VRI – Bean - 9.0 Mold/Mildew Damage and VRI – Bean - 9.1 Mold Damage (Pink/Brown). Mold may appear on or around the hilum, the surface, or the cotyledon.

Note: Closely examine any bean that evidences signs of internal mold damage. But, do not scrape or split any bean that appears (externally) to be sound. The presence of mold in some splits should not be considered to be sufficient justification for opening all beans in the sample.

Nightshade Damaged Beans. Beans and pieces of beans containing nightshade juice causing dirt and other matter to adhere to the seed coat equal to or greater than that shown on VRI – Bean - 10.0 Nightshade Damage. Beans affected by bag markings/ink stains are considered to be damaged if the discoloration is equal to or greater than that shown on VRI – Bean - 10.0 or VRI – Bean - 12.0 Water Blistered Damage.

Sprout Damaged Beans. Beans and pieces of beans which are sprouted or when it is apparent that sprouting has occurred (i.e., sprouting is noticeable in representative work sample) but, through handling, the sprout has broken off and is no longer protruding through the seed coat. (VRI – Bean - 11.0 Sprout Damage)

Visible Window Damaged Beans. Beans and pieces of beans which are weevil-bored, but the weevil has not emerged from the bean. A "window" of seed coat covers the bore hole. The bean may contain a live or dead weevil. (VRI – Bean - 2.1 Visible Window Damage (Weevil))

Note: Beans, except blackeye beans, that contain two or more "visible window damaged beans," are considered to be contaminated by insect webbing or filth and must be graded "U.S. Sample Grade."

Water Blistered Damaged Beans. Beans and pieces of beans which are damaged by water and have discoloration of the seed coat equal to or greater than that shown on VRI – Bean - 12.0 Water Blistered Damage or VRI – Bean - 12.2 Water Blistered Damage (Pink Beans). For Blackeye beans, use the Pea bean VRI as a guide in determining discoloration and use the Pinto bean VRI as a guide to determining area of coverage.

Worm-Eaten Beans or Worm-Cut Beans. Beans and pieces of beans which have been chewed by insect larvae, not to be confused with clean-cut weevil-bored beans or weevil-bored beans containing insect webbing or filth. Any chewed bean is considered damaged. (VRI – Bean - 8.0 Worm Eaten Damage)

Note: Small underdeveloped or shriveled beans, broken beans, or beans with cracked seed coats shall not be considered as damaged beans unless otherwise damaged.

Blistered, wrinkled, or broken beans in the classes Large Lima, Baby Lima, and Miscellaneous Lima beans shall not be considered as damaged beans unless otherwise damaged. Specific limits for these factors are provided in the grade requirements for each particular class.

Certification. Record the percent of damaged beans on the work record and results section the certificate to the nearest tenth percent.

3.24 BADLY DAMAGED BEANS

Definition. *Beans and pieces of beans that are materially damaged or discolored by frost, weather, disease, weevils or other insects, or other causes so as to materially affect the appearance and quality of the beans.*

Note: This factor is applicable only to classes Large Lima, Baby Lima, Miscellaneous Lima, and Pea beans.

Basis of Determination. Determine badly damaged (BD) beans on a representative portion of approximately 500 grams.

Badly damaged beans are beans and pieces of beans that are materially damaged or discolored to the extent that it affects the appearance and the quality of the bean. Damage must be visible from any position or angle. (VRI – Bean - 1.0 Badly Damaged)

Certification. Record the percent of badly damaged beans on the work record and "Results" section of the certificate to the nearest tenth percent.

Note: The percent of badly damaged beans is included in the damage bean percentage (thus included in Defects).

3.25 CLASS

Beans shall be divided into classes as follows: Pea Beans, Blackeye Beans, Cranberry Beans, Yelloweye Beans, Pinto Beans, Marrow Beans, Great Northern Beans, Small White Beans, Flat Small White Beans, White Kidney Beans, Light Red Kidney Beans, Dark Red Kidney Beans, Small Red Beans, Pink Beans, Black Beans, Mung Beans, Miscellaneous Beans, Large Lima Beans, Baby Lima Beans, Miscellaneous Lima Beans, Chickpeas (Garbanzo beans), and Mixed Beans.

Basis of Determination. Class is usually determined by a cursory examination of the work sample as a whole. When a detailed examination is necessary, determine class on a representative portion of approximately 500 grams. Use bean characteristics, including the color, size, and shape of the beans, when making this determination.

Miscellaneous beans shall be any class of beans not classified in the standards. For Certification, show the commonly accepted commercial name as the class.

Certification. If the beans contain more than 2.0 percent contrasting classes or more than 15.0 percent classes that blend, grade the beans "Mixed beans" and record the percent of each class of bean, to the nearest tenth percent, on the work record and "Results" section of the certificate.

3.26 CONTRASTING CLASSES

Definition. *Beans of other classes that are of a different color, size, or shape from the beans of the class designated.*

Basis of Determination. Determine contrasting classes (CCL) on a representative portion of approximately 500 grams. Use bean characteristics, including the color, size, and shape of the beans, when making this determination.

TABLE 3.13 – EXAMPLES OF NON-OBVIOUS CONTRASTING CLASSES

Class	Contrasting Classes
Any class of white beans…….....	Any class of another color
Small Red or Pink beans…….	Light or Dark Red Kidney beans
Blackeye, Cranberry, or Pinto beans	Any other class of beans
Large Lima or Baby Lima beans…….	Any other class of beans
Miscellaneous Lima beans…….....	Any other class of beans
Small Red beans……..…...	Pink beans
Black beans…….....	Any other class of beans
Great Northern beans…….....	Pea Beans, Small White, Flat Small White beans
Chickpeas (Garbanzo beans)…….	Any other class of beans
Mung Beans…….....	Any other class of beans

Certification. Except for Pea beans, record the percent of contrasting classes on the work record and "Results" section of the certificate to the nearest tenth percent. As a rule of thumb:

a. For Pea beans that contain 0.05 percent of contrasting classes or more, record the percent of contrasting classes on the work record and "Results" section of the certificate to the nearest tenth percent.

b. For Pea beans that contain less than 0.05 percent of contrasting classes, record the percent of contrasting classes on the work record and "Results" section of the certificate to the hundredth percent (disregarding thousandths).

When beans are determined to have more than 2.0 percent contrasting classes, grade the beans "Mixed beans" and record the percent of each class of bean, to the nearest tenth percent, on the work record and "Results" section of the certificate.

3.27 CONTRASTING CHICKPEAS (GARBANZO BEANS)

Definition. *Chickpeas that differ substantially in shape or color.*

Basis of Determination. Determine contrasting chickpeas (CCKP) or garbanzo beans (CGB) on a representative portion of approximately 500 grams. Use chickpea characteristics, including shape or color of chickpeas, when making this determination. (Contrasting Chickpea (Garbanzo Bean) Chart)

Certification. Record the percent of contrasting chickpeas/garbanzo beans on the work record and "Results" section of the certificate to the nearest tenth percent with the corresponding name, either Chickpeas or Garbanzo Beans, stated on the gradeline.

3.28 CLASSES THAT BLEND

Definition. *Sound beans of other classes that are similar in color, size, and shape to the beans of the class designated, and shall include white beans in the class Yelloweye which are similar in size and shape to the Yelloweye beans.*

Basis of Determination. Determine classes that blend (CTB) on a representative portion of approximately 500 grams. Use bean characteristics, including the color, size, and shape of the beans, when making this determination.

Note: Yelloweye beans in grades U.S. Nos. 1 and 2 may contain an additional 5.0 percent of classes that blend, provided that these "additional" beans are white beans of similar size and shape to Yelloweye beans.

TABLE 3.14 – EXAMPLES OF CLASSES THAT BLEND

Class	Classes That Blend
Pea beans.....	Small White beans
Small White beans.....	Flat Small White beans
Dark Red Kidney beans.....	Light Red Kidney beans
Great Northern beans.....	Marrow beans, White Kidney beans

Certification. When beans are determined to have more than 15.0 percent classes that blend, grade the beans "Mixed beans" and record the percent of each class of bean, to the nearest tenth percent, on the work record and “Results” section of the certificate.

3.29 SPLITS

Definition. *Pieces of beans that are not damaged, each of which consists of three-fourths or less of the whole bean, and shall include any sound bean the halves of which are held together loosely.*

Note: If a detached hull has dirt attached to the seedcoat and meets the dirt or grime VRI, it is considered damage, otherwise it would function as a split.

Basis of Determination. Determine splits (SPL) on a representative portion of approximately 500 grams.

To determine whether there is a separation of the halves within the seed coat, beans that appear to be held together loosely by the seed coat shall be rolled very gently back and forth between the first finger and thumb, with the minimum amount of pressure being applied.

If the halves move readily and are loose within the seedcoat, the bean shall be considered as split.

Note: Sound contrasting beans may function as SPL as well as CCL.

Certification. Record the percent of splits on the work record and "Results" section of the certificate to the nearest tenth percent.

3.30 FOREIGN MATERIAL AND STONES

Foreign material shall be stones, dirt, weed seeds, cereal grains, lentils, peas, and all matter other than beans.

Stones shall be concreted earthy or mineral matter, and other substances of similar hardness that do not disintegrate readily in water.

Note: Foreign material total is foreign material and stones combined.

Consider identifiable feed pellets as foreign material and unidentifiable pellets as FSUB. Empty bean pods and Sclerotinia are also FM.

Mud lumps or stones that are too large to pass through the sieve used in making the dockage determination should be handpicked from the beans and added to the dockage. Mud lumps or stones that are approximately the size and shape of beans, should be considered foreign material.

Beans which contain significant quantities of foreign material that can be removed readily by ordinary cleaning processes are considered as "Not Well Screened" and graded no higher than "U.S. Substandard."

Basis of Determination. Determine foreign material (FM) and stones (STON) on a representative portion of approximately 500 grams.

Certification. Except for Pea beans, record the percent of foreign material (total) and stones on the work record and "Results" section of the certificate to the nearest tenth percent.

a. For Pea beans that contain 0.05 percent or more of foreign material (total) or stones, record the percent of foreign material (total) and stones on the work record and "Results" section of the certificate to the nearest tenth percent.

b. For Pea beans that contain less than 0.05 percent of foreign material (total) or stones, record the percent of foreign material (total) and stones on the work record and "Results" section of the certificate to the hundredth percent (disregarding thousandths).

3.31 TOTAL DOCKAGE, DEFECTS, AND FOREIGN MATERIAL

The percentage of dockage, defective beans, and foreign material may be combined and shown on the certificate as "Total Dockage, Defects, and Foreign Material."

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

Calculate the percent of total dockage, defects, and foreign material (DDFM) as follows:

Example: Total Dockage, Defects, and Foreign Material Calculation

Original sample weight	1,001 grams
Weight of dockage	100.25 grams
Weight of handpicked portion	501 grams
Weight of defective beans and foreign material	12.53 grams

a. **(Weight of dockage ÷ original sample weight) x 100 = percent of dockage.**
(100.25g ÷ 1,001g) x 100 = 10.01% dockage.

b. **(100 percent - percent of dockage) ÷ 100 = change of base factor.**
(100% - 10.0%) ÷ 100 = 0.90 change of base factor.

c. **(Weight of defective beans and foreign material ÷ weight of handpicked portion) x 100 = percent of defective beans and foreign material.**
(12.53g ÷ 501g) x 100 = 2.50% defective beans and foreign material.

d. **Percent of defective beans and foreign material x change of base factor = percent of defective beans and foreign material (adjusted).**
2.50 x 0.90 = 2.25% defective beans and foreign material (adjusted).

e. **Percent of dockage + percent of defective beans and foreign material (adjusted) = percent of total dockage, defects, and foreign material.**
10.01% + 2.25% = 12.26% total dockage, defects, and foreign material (rounded to 12.3%).

Certification. Record the percent of "total dockage, defects, and foreign material" on the work record and “Results” section of the certificate to the nearest tenth percent.

3.32 SOUND BEANS

Definition. *Beans that are free from defects.*

Basis of Determination. Determine sound beans (SND) on a representative portion of approximately 500 grams.

Certification. Record the percent of sound beans on the work record and “Results” section of the certificate to the nearest tenth percent.

When beans are graded "U.S. Substandard," record the percent of sound beans to the nearest tenth percent, on the grade line of the certificate.

3.33 BLISTERED, WRINKLED, AND BROKEN BEANS

Blistered beans shall be sound beans with badly blistered or burst seed coats.

Wrinkled beans shall be sound beans that have deeply wrinkled seed coats and/or are badly warped or misshapen.

Broken beans shall be sound beans with some but less than one-fourth of each bean broken off or with one-fourth or more of the seed coat removed.

Note: This factor is applicable to the classes Large Lima, Baby Lima, and Miscellaneous Lima beans only.

Basis of Determination. Determine blistered, wrinkled, and broken (BWB) beans on a representative portion of approximately 500 grams.

Sound beans that have a cracked or split seedcoat that extends over the eye of the bean and part way down the sides and exposes the cotyledon one-half the way down both sides and over the eye, or is accompanied by other extensive breaks in the seedcoat, are considered blistered beans.

Sound beans that have deep wrinkles in the seedcoat which extends at least halfway into the cotyledon are considered wrinkled beans.

Sound beans that are warped or misshapen to the extent that they materially affect the appearance of a lot are considered wrinkled beans.

Certification. For Baby Lima and Miscellaneous Lima beans, record the percent of blistered, wrinkled, and broken beans on the work record and "Results" section of the certificate to the nearest tenth percent.

For Large Lima beans:

a. Record the percent of broken beans (BB) on the work record and "Results" section of the certificate to the nearest tenth percent.

b. Record the percent of blistered and wrinkled (BLW) beans on the work record and "Results" section of the certificate to the nearest tenth percent.

c. Add the percent of blistered and wrinkled beans to the percent of defects and record the total on the work record and "Results" section of the certificate to the nearest tenth percent.

3.34 SIZING/SEED COUNT

Note: These factors are not provided for under the United States Standards for Beans but may be determined upon request.

Basis of Determination. Determine seed size (SIZE) on the representative portion of sound beans (damage and defect free).

Use the applicant requested Round-Hole sieve size(s).

Certification. Record the percent over and/or through sieve size(s) per customer's request on the work record and "Results" section of the certificate to the nearest tenth percent. If applicant requests metric measurements, state percentages in the remarks section of the certificate.

Basis of Determination. Determine seed count (SDCT) (beans per ounce) on a representative portion of sound beans as follows:

Example: Seed Count Calculation

Representative weight of sound beans	490 grams
Number of beans in portion	1,000 beans
Number of grams in one ounce	28.35 grams

a. **Number of beans ÷ weight of the portion = number of beans per gram.**
1,000 ÷ 490g = 2.04 beans per gram.

b. **Number of beans per gram x number of grams in one ounce = number of beans per ounce.**
2.04 x 28.35 = 57.83 beans per ounce (rounded to 58).

Note: The sound bean portion may be divided to a smaller representative weight to facilitate the seed count process. The minimum representative weight for determining seed count is 28.35 grams. Any seed count weight less than 28.35 grams is recorded as N/A.

Certification. Record bean seed count per ounce (over and/or through sieve size(s)) on the work record and "Results" section of the certificate to the nearest whole number.

3.35 CHECKED SEED COATS

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

Basis of Determination. Determine checked seed coat (CSC) (i.e., partially detached) on a representative portion of approximately 125 grams of beans after the removal of defects and foreign material.

a. Place the beans in a shallow container and completely cover them with hot tap water.

b. Allow the beans to soak for 5 minutes and then pour off the water. Let the beans air-dry for one minute on a paper towel. Weigh the "drained bean" portion.

c. Pick out the beans with checked seed coats, weigh the separation, and then divide it by the weight of the "drained bean" portion.

Certification. Record the percent of checked seed coats on the work record and “Results” section of the certificate to the nearest tenth percent.

CHAPTER 4:
REVISION HISTORY

CONTENTS

CHANGE NO: 6 OCTOBER 1, 2023

Federal Register AMS-FGIS-22-0066 changes included for contrasting Chickpeas/Garbanzo Beans and Moisture limit for Special Grade, “High Moisture” in Table 3.10 Chickpeas, 3.4 Special Grades, and 3.15 Moisture.

CHANGE NO: 5 JULY 1, 2021

The Bean Inspection Handbook revisions incorporated policy and procedural changes and other changes including re-formatting and editorial updates. Further, each chapter was updated and re-formatted for uniformity.

For all substantive revisions, updated hyperlinks were embedded within the text to link directly to both internal and external content wherever possible.

The following FGIS Directives were incorporated and/or referenced in this update:

- Directive 4735.2, “Uniform and Identity Apparel and Dress Code Policy.”
- Directive 9060.2, “Implementation of the FGIS-FDA Memorandum of Understanding.”
- Directive 9100.3, “Withholding and Withdrawal of AMA Inspection Services.”
- Directive 9170.13, “Uniform File Sample Retention System.”
- Directive 9170.14, “FGIS Rolling Stock Fall Protections.”
- Directive 9170.15, “Review Inspections of Grains and Commodities.”
- Directive 9180.48, “Stowage Examinations.”
- Directive 9180.61, “Official Moisture Calibrations for Unified Grain Moisture Algorithm (UGMA) Compatible Meters.”

The following Program Notice was incorporated and/or referenced in this update:

- PN-19-04, “Inspection of Flood Damaged Grain.”

The following Policy Bulletins were incorporated and/or referenced in this update:

- Policy Bulletin, Reference #186, “Castor Beans in Pulses.”
- Policy bulletin, Reference #193, “Pinkeye Beans.”
- Policy Bulletin, Reference #252, “Probe Sampling AMA Commodities.”
- Policy Bulletin, Reference #259, “Large Animal Excreta.”
- Policy Bulletin, Reference #271, “Launch Boat Safety.”
- Policy Bulletin, Reference #277, “Bean Inspection Revision.”

Additionally, the Certification chapter was removed to be implemented into its own handbook. Acronyms and organizational details were updated to reflect accurate administrative structure and associated program information (i.e., reference to the Grain Inspection Packers and Stockyards Administration (GIPSA) was replaced by the Federal Grain Inspection Service (FGIS)).

CHANGE NO: 4 SEPTEMBER 8, 2014

The Bean Handbook Chapter 3 (Inspection) and Chapter 4 (Certification) was updated.

CHANGE NO: 3 MARCH 16, 2009

The Bean Inspection Chapter was revised to show numbering changes to the section citations for the United States Standards for Beans, and to provide recording and reporting requirements for Mixed Beans and for beans with the special grade “High Moisture.” Additionally, hyperlinks were established to the Visual Reference Images.

CHANGE NO: 2 JULY 11, 2005

The Bean Inspection Chapter was revised to show changes that were made to the United States Standards for Beans removing the special grade off-color and announcing GIPSA will continue to offer assessments for color on a request basis.

CHANGE NO. 1 APRIL 1, 1999

The Bean Inspection Handbook has been revised to update and simplify the sampling, inspection, and certification procedures for field-run and dockage-free beans.