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**Agricultural  
Marketing  
Service**

**Federal Grain  
Inspection  
Service**

**Washington, D.C.**

**July 2022**

# **Hop Inspection Handbook**



# Program Handbook

July 2022

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## Hop Inspection Handbook

### Foreword

The Hop Inspection Handbook sets forth the policies and procedures for sampling, inspecting, and certifying hops in accordance with the regulations under the [Agricultural Marketing Act \(AMA\) of 1946](#), as amended. These regulations establish the basic guidelines for inspecting hops and authorize the issuance of such additional guidelines as may be necessary.

The information contained in this handbook is applicable to official hop 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.

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## 1.1 INTRODUCTION

The inspection of hops 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 or retest 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. Not available for Hops.

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

Certification. The process of issuing an official certificate that indicates the quality of a lot or sample of hops 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.

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.

Core sample. A portion of hop extracted from a bale of hops for inspection purposes.

Core sampler. A probe-type device approved by FGIS for officially sampling hops. Core samplers are composed of a steel tube that is approximately 10 inches in length and 3 inches in diameter, with a sharp cutting edge, convenient handles, and an expeller attached inside the tube. The resulting sample will be a core of hop that is approximately 6 inches in length.

Dried hop. Dried hop in bulk, in containers/bales, or in some other form of package.

Extraneous matter. Material foreign to the hop plant.

File Sample. The extra, unworked portion of approximately 200 grams or more cut from the representative sample that may be used in conjunction with the work sample when needed.

Grower number. A number assigned by the Hop Growers of America that identifies a specific grower. Grower numbers must consist of state of origin and three or more alphanumeric characters. **Example: USWA1234.**

Hop. The cones of the cultivated varieties of hop.

Leaf and stem. The leaf and stem of the hop plant, except the approximately 1-inch long stems (petioles) that bear the individual cones.

Lot. Any identified amount of hops 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.

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 Hops.

Representative Portion. A specified quantity of hops divided out from the representative sample by means of a suitable riffle divider.

Representative Sample (as a whole). A sample 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 (board appeal not available for Hops).

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

Seed. Hop seed is defined as a whole germination-capable seed regardless of maturity, excluding broken hulls, husks, or pieces of seed. Seeds of the type which are determined incapable of germination are not counted as hop seeds.

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 hops; approximately 135 grams, used to make determinations required for a particular class.



### **1.3 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.

### **1.4 PRELIMINARY EXAMINATIONS**

The sampler must: (1) observe the uniformity of the hops as to quality, and condition; (2) draw the representative sample; and (3) 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.

### **1.5 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](#).

### **1.6 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.

### **1.7 FILE SAMPLE RETENTION**

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 FGIS [Directive 9170.13, "Uniform File Sample Retention System."](#)

## 1.8 ORIGINAL INSPECTION SERVICES

- a. Any interested person may request an original inspection.
- b. Requests may be made verbally, in writing, or electronically, such as the [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 hops.
    - (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 hop 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 Retest and Appeal Inspections are available after an original inspection for Hops. The applicant, however, may request to bypass a Retest Inspection and go directly to an Appeal Inspection.**

For more information, refer to [Directive 9170.15, “Review Inspections of Grains and Commodities.”](#)

## 1.9 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 hops.
    - (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 factors must be filed with the FGIS field office responsible for the area in which the original inspection was performed.
  - (3) Requests for appeal inspection services must be made before the hops 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. 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.
- h. 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 hops are found to be contaminated with filth or to contain a deleterious substance. If it is determined that the sampling procedures were improper, a new sample will be obtained if the lot can be positively identified as the lot which was previously inspected and the entire lot is available and accessible for sampling and inspection.
- i. 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.
- j. An appeal inspection certificate must be issued before the close of business on the business day following the date the appeal inspection is completed.

**Certification.** For certification criteria on Appeal Inspections, refer to the [Certification Handbook, Inspection Levels, “AMA Inspection Levels.”](#)

- k. 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 hops 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.
- l. 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.

- m. 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.**

For more information, refer to [Directive 9170.15, “Review Inspections of Grains and Commodities.”](#)

## 1.10 NEW ORIGINAL INSPECTIONS

- a. When the identity of the lot has been lost and/or circumstances prevent an 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 hop 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 hops, carrier, or container is not lost.**

- 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.

## 1.11 ORIGIN INSPECTIONS

- a. Applicants may request origin inspection certificates that show their hops 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 hops.
  - (2) Obtain a representative sample.
  - (3) Analyze the sample to verify that the hops compare favorably with types of hops known to be grown in the United States. The size, shape, color, odor, and other characteristics should be considered in making this determination.

**Certification.** For certification criteria, refer to the [Certification Handbook, Hop Inspection Certificates, “Certificate Information.”](#)

## FGIS-907 “APPLICATION FOR INSPECTION AND WEIGHING SERVICES”

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE FEDERAL GRAIN INSPECTION SERVICE <b>APPLICATION FOR INSPECTION AND WEIGHING SERVICES</b>		<b>FORM APPROVED OMB NO. 0580-0013.</b> 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) <input type="radio"/> Original Inspection <input type="radio"/> Reinspection <input type="radio"/> Appeal Inspection <input type="radio"/> Official Weighing <input type="radio"/> Review of Weighing <input type="radio"/> Board Appeal Inspection <input type="radio"/> Supervision of Weighing <input type="radio"/> Retest		2. Where are the services to be performed (check one) <input type="radio"/> United States <input type="radio"/> Canada	
3. Kind of Official Inspection Service Requested (check all that apply) <input type="radio"/> Official Sample Lot <input type="radio"/> Submitted Sample <input type="radio"/> Checkweigh <input type="radio"/> Official Commercial <input type="radio"/> Sampling <input type="radio"/> Official Weighing <input type="radio"/> Checkload <input type="radio"/> Other Criteria (list in remarks) <input type="radio"/> Stowage Examination <input type="radio"/> Grade and Factor <input type="radio"/> Checkcount <input type="radio"/> Condition <input type="radio"/> Factors Only <input type="radio"/> 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 <input type="radio"/> File Sample <input type="radio"/> 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
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 <sup>1</sup> or Review	28. Requested Sample Basis (Check)		29. Date <sup>2</sup> of Original Service	30. Check if Original Certificate For The Service is Attached	31. Remarks
			Official File	New			
			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	
			<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	
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<sup>1</sup> List factor(s) and/or other criteria in question. For requests filed in advance, show the scope of the inspection in question.  
<sup>2</sup> 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](http://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**

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## 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).
- b. Clothing.
  - (1) Wear hard hats that meet the American National Standards Institutes (ANSI) Z89.1 or Z89.2 criteria.
  - (2) Wear clothes that are reasonably close fitting to reduce the possibility of becoming snagged on ladders or other structural elements.

**Note: FGIS personnel must follow the clothing requirements found in [Directive 4735.2, “Uniform and Identity Apparel and Dress Code Policy.”](#)**

- c. Chemical Treatments. Remain alert to your physical condition, especially when drawing samples inside carriers. 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.

- d. 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.

## 2.2 REPRESENTATIVE SAMPLE

Obtaining a representative sample from a lot of hops 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](#). The core sampler is the only equipment approved by FGIS for sampling hops.
- c. Of the prescribed size.
- 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, subplot, 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 hops.**

## 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 hops 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. This must include the grower number and lot number.
- e. The number of containers/bales in the lot.
- f. When applicable, information related to the condition of the carrier's storage area (e.g., truck, hopper car, container, or barge).
- g. Type of movement (e.g., in, out, local, or export).

- h. When applicable, the number and prefix of seals broken and applied.
- i. Method of sampling.
- j. When applicable, any information related to the condition of the carrier's stowage area.
- k. Other pertinent information that may affect the grading or certification of the lot.

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

## 2.4 LOT IDENTIFICATION

- a. Lot identification must be shown on lot inspection certificates when the inspection is performed.
- 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.

**Note: Each lot of hops tendered for lot inspection must be identified by the grower's lot number, other lot number, or symbol affixed to each container or bale per the current requirements established by the Hop Growers of America.**

## 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/bales 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 containers or baled hops stored in a warehouse or similar facility, the lot is considered accessible when a minimum of one side of 50 percent of the containers/bales in the lot is accessible for sampling.
- (1) The applicant or warehouse manager need not have every container/bale 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 container/bale must be accessible.
- (2) It is the sampler's prerogative to request any or all containers/bales 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 containers/bales mixed in a lot of clean containers/bales. These may contain hops of a lower quality.
  - (b) Containers/Bales with different markings. This could indicate the mixing of containers/bales from another lot which had different quality requirements.
  - (c) Containers/Bales that appear to have penetration marks. These containers/bales may have been previously sampled, inspected, 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 EXAMINATION OF FILLED CONTAINERS

- a. Official personnel must examine filled containers to determine whether the hops 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 according to the [Certification Handbook, Reporting Services, “Condition Inspection.”](#)

## 2.8 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 hops, 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.

## 2.9 SAMPLING CONTAINERS/BALES

- a. Obtain core samples from an appropriate number of randomly selected containers/bales in the lot.

**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 hops and whether additional samples are needed due to quality differences.**

- (1) Determine the number of containers/bales in the lot.

- (2) Determine the minimum number of containers/bales from which core samples need to be drawn.
  - (a) If the lot contains fewer than 6 containers/bales, or the containers/bales are small in size, the containers/bales may be sampled multiple times (6 minimum) to achieve an adequate sample for analysis.
  - (b) If the lot contains 6 to 60 containers/bales, select at least 6 containers/bales in the lot and draw one core sample from each selected container/bale.
  - (c) If the lot contains more than 60 containers/bales, select at least 10 percent of the containers/bales in the lot; e.g., if the lot size is 250 containers/bales, select no less than 25 containers/bales in the lot and draw one core sample from each selected container/bale.

**Note: If containers/bales are added to an open lot, draw at least one core sample of hops from the additional containers/bales and verify at least 10 percent of the containers/bales have been sampled.**

- b. Take the sample from the side of each selected container/bale as follows:
  - (1) When a point is selected for sampling, cut a 6-8" slit and spread the hop cloth to permit the core sampler to enter the hops.
  - (2) Thrust the sampler into the hops with a slight rotary motion.
  - (3) When the sampler is withdrawn from the hops, carefully empty the sample into an approved container.
  - (4) Mark the identity of the lot from which the sample was drawn on the sample container.

**Note: Keep all core samples separate. In some cases, the core samples delivered to the laboratory at the close of the day represent only part of the lot. Store these part-lot samples so that they remain representative of the entire lot.**



**CHAPTER 3:  
INSPECTION**

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### 3.1 GENERAL ORDER OF PROCEDURES

The breakdown and inspection for Hops is listed below in the following chapter according to its general order.

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.

### 3.2 BASIS OF DETERMINATION

Determine all factors on the basis of the sample as a whole

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

### 3.3 COMPOSITING AND SUBDIVIDING SAMPLES

- a. Review the information on the sample ticket to determine if the number of core samples taken corresponds to the number of core samples required.

**Note: Do not perform compositing, subdividing, or analytical work until all sampling of the lot has been completed.**

- b. Composite and subdivide the core samples into representative portions for analysis and a file sample as follows:
  - (1) Carefully remove each sample from its container.
  - (2) Loosen each individual core sample and pour it onto a compositing pan.
  - (3) Examine each sample on the compositing pan for any unusual conditions that might affect the analysis. Remove anything that is not part of a hop plant such as polyurethane, metal, bugs, rope etc. Stems over 1 inch long should be cut or broken into smaller pieces (approximately ½-inch) and mixed through the sample.
  - (4) Combine the individual core samples evenly in a tote/plastic tub and then drop them through the divider in a swaying fashion so it passes freely and uniformly. This permits an even flow of hops to fall through the divider opening so that the sample is divided evenly.
  - (5) Sub-divide the sample further to obtain:
    - (a) Approximately 90 grams for leaf and stem analysis.
    - (b) Approximately 45 grams for seed analysis.

- (c) Approximately 200 grams for a file sample.
- (6) Discard all remaining sample material.
- (7) Identify the file sample and store it in a clean, dry place for a minimum of 15 days. Identify the portions to be used for the leaf and stem determination and the seed determination with tags showing the lot identity.

### 3.4 LEAF AND STEM ANALYSIS

Leaf and Stem. The leaf and stem of the hop plant, except the approximately 1-inch long stems (petioles) that bear the individual cones.

a. Weigh the representative portion and record the weight to the hundredth on the work record.

- (1) Place 90-gram portion on top of a 1/8-inch wire-mesh sieve with a bottom pan.

**Note: The sieve may be sprayed with silicone-type polish to prevent the buildup of lupulin or other resinous material.**

- (2) Sieve the portion (either by hand or by a mechanical sampler) for 5 minutes or until the material is sufficiently separated by particle size, but do not over-sieve. Excessive sieving can degrade the integrity of the portion and bias the final results. Set aside the material remaining on top of the 1/8-inch wire-mesh sieve for handpicking. This material will consist chiefly of whole hop cones and large leaf particles.

**Note: A 3/8-inch and a 3/16-inch wire mesh sieve may be used in addition to the 1/8-inch sieve as an aid in the separation for leaf and stem.**

- (3) Discard all material remaining in the bottom pan.

**Note: Occasionally wash the sieve in alcohol or a suitable solvent to free it from accumulation of resinous material.**

b. Handpick the material remaining on top of the 1/8-inch wire-mesh sieve.

- (1) All hop stems not exceeding 1-inch in length, which bear or have borne the individual cones, and all seeds, strigs, and lupulin are considered hops.
- (2) All leaf stems (regardless of length), all hop stems in excess of 1-inch in length, all leaf material, and all vine material are considered leaf and stem material.



- c. Weigh the “handpicked” separation to the hundredth of a gram.
  - (1) Calculate the percent of leaf and stem on the basis of weight of the original portion.
  - (2) Record the results to the nearest tenth of a percent on the work record with the exception of X.95% to X.99%, which will be shown as X.9% on the work record.

**Certification.** Record the percent of leaf and stem in the “Results” section of the certificate in whole percent with a fraction of a percent disregarded.

**For example:**

0.00 to 0.99 percent is recorded as 0.0 percent.

1.00 to 1.99 percent is recorded as 1.0 percent.

2.00 to 2.99 percent is recorded as 2.0 percent.

### 3.5 SEED ANALYSIS

Hops Seed. Whole germination-capable seed regardless of maturity, excluding broken hulls, husks, or pieces of seed. Seeds of the type which are determined incapable of germinating are not counted as Hops seed.

- a. Weigh the representative portion and record the weight to the hundredth on the work record.
- b. Dry off the sticky resinous material by packing the portion loosely into a metal container with a cover and place in an air oven at approximately 118 degrees Centigrade for approximately 2 hours.
- c. Free the seeds from the hops by folding the dried sample in a coarse, mesh, cotton cloth and rub vigorously.
  - (1) Separate the finely broken, dried hop material from the hop seeds by using a 4 x 20 wire-mesh sieve.
  - (2) Separate the strigs remaining with the seeds by hand, the use of an inclined hand tray lined with sandpaper, or by other satisfactory devices which hold the strigs and other material and permit the seeds to roll off.

To aid in seed identification, inspection personnel are permitted to take any dried hop material remaining on top of the 4 x 20 wire-mesh sieve after separation and re-crush that material in the coarse, mesh, cotton cloth or with tweezers, whereby the sterile seed and the other non-seed material is readily available.

- d. Weigh the seeds to the hundredth of a gram.
  - (1) Calculate the percent of seed on the basis of weight of the original portion.
  - (2) Record the results to the nearest tenth of a percent on the work record with the exception of X.95% to X.99%, which will be shown as X.9% on the work record.

**Certification.** Record the percent of seeds in the “Results” section of the certificate in whole percent with a fraction of a percent disregarded.

**For example:**

0.00 to 0.99 percent is recorded as 0.0 percent.

1.00 to 1.99 percent is recorded as 1.0 percent.

2.00 to 2.99 percent is recorded as 2.0 percent.

### 3.6 MONITORING HOP INSPECTIONS

- a. FGIS field office managers (FOMs) and Federal/State managers (F/SMs) are responsible for monitoring the performance of all hop inspections performed within their assigned circuit.
- b. As directed by the FOM or F/SM, hop inspections may be monitored either by onsite sample reviews and/or by sample exchanges. To facilitate sample exchanges:
  - (1) Official personnel at hop inspection service points will, at the request of the FGIS field office or Federal-State office, randomly select hop file samples.
  - (2) File samples selected for monitoring, along with their completed work records, will be promptly mailed to the responsible FGIS field office or Federal-State office.
  - (3) Upon receipt, FGIS field office or Federal-State personnel will inspect each monitoring sample using the prescribed portion sizes, but without previous knowledge of the original inspection results. The monitoring inspection results for each factor determination must be compared with the original inspection result and significant differences noted.
- c. When a monitoring inspection factor result differs significantly from an original inspection factor result, perform an appropriate follow-up action.

**CHAPTER 4:  
REVISION HISTORY**

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## **CHANGE NO: 4     JULY 1, 2022**

The Hop Inspection Handbook revision 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 9170.13, “Uniform File Sample Retention System.”
- Directive 9170.15, “Review Inspections of Grain and Commodities.”

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

- Policy Bulletin, Reference #250, “Hops Inspection.”
- Policy Bulletin, Reference #270, “Hop 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: 3     DECEMBER 10, 2007**

Chapter 3 of the Hop Inspection Handbook has been revised to show how the percentage of leaf and stem, and seed determination are recorded on the work record.

## **CHANGE NO: 2     OCTOBER 1, 2002**

Chapter 3 was revised to better clarify the rounding procedures for computing, recording and certifying the percentage of leaf and stem, and seed, determinations in Hops.

## **CHANGE NO. 1     AUGUST 1, 1998**

The Hop Inspection Handbook was revised to update and simplify the sampling, inspection, and certification procedures. Specifically, the sampling selection method was changed to a flat 10 percent rate, the requirement that moderately large lots be subdivided was eliminated, the analytical portion sizes used for determining the percent of leaf and stem and seed were standardized, the procedures for using the Carter Dockage Tester were eliminated, and the determination for leaf and stem was simplified.