United States
Department of
Agriculture

Marketing and
Regulatory
Programs

Agricultural
Marketing
Service

Federal Grain
Inspection
Service

Washington, D.C.

April 2014

Pea & Lentil Handbook

Program Handbook

April 2014

Pea and Lentil Inspection Handbook

Foreword

The Pea and Lentil Inspection Handbook sets forth the policies and procedures for sampling, inspecting, and certificating whole dry peas, split peas, and lentils in accordance with the regulations under the Agricultural Marketing Act (AMA) of 1946, as amended. These regulations establish the basic guidelines for inspecting peas and lentils and authorize the issuance of such additional guidelines as may be necessary for the interpretation and application of the United States Standards for Whole Dry Peas, Split Peas, and Lentils.

The information contained in this handbook is applicable to official pea and lentil inspection services performed by the Federal Grain Inspection Service (FGIS), a program under the Grain Inspection, Packers and Stockyards Administration (GIPSA), 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.

/s/ Robert Lijewski
Robert Lijewski, Director
Field Management Division

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

TABLE OF CONTENTS

Chapter 1: GENERAL INFORMATION

Chapter 2: SAMPLING

Chapter 3: THRESHER-RUN PEAS

Chapter 4: DOCKAGE-FREE PEAS

Chapter 5: SPLIT PEAS

Chapter 6: THRESHER-RUN LENTILS

Chapter 7: DOCKAGE-FREE LENTILS

Chapter 8: FEED PEAS

Chapter 9: CERTIFICATION

Chapter 10: REVISION HISTORY

CHAPTER 1
GENERAL INFORMATION

Contents

1.1 INTRODUCTION 2

1.2 DEFINITIONS 2

1.3 ABBREVIATIONS 4

1.4 ORIGINAL INSPECTION SERVICES 5

1.5 APPEAL INSPECTION SERVICES 5

1.6 BOARD APPEAL INSPECTION SERVICES 8

1.7 NEW ORIGINAL INSPECTIONS 8

1.8 REGISTERED TYPE SAMPLE INSPECTIONS 9

1.9 ORIGIN INSPECTIONS 11

1.10 COMBINED LOT INSPECTIONS 12

1.11 OTHERWISE GRADE INSPECTIONS 14

1.12 FACTOR ONLY INSPECTIONS 15

1.13 REFERENCE PUBLICATIONS 16

FORM FGIS 907, “Application for Inspection & Weighing Services 17

Instructions for Completing Form FGIS 907 19

1.1 INTRODUCTION

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

Official inspections of whole dry peas, split peas, and lentils are performed by trained and licensed (or authorized) official personnel employed by FGIS or a cooperator. All official personnel are closely monitored and supervised by FGIS to ensure accurate, reliable whole dry peas, split peas, and lentils inspection services.

1.2 DEFINITIONS

Appeal inspection. An applicant requested FGIS review inspection of original inspection service results.

Board Appeal inspection. An applicant requested FGIS Board of Appeals and Review (BAR) review inspection of 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 peas and lentils.

Certification. The process of issuing an official certificate that indicates the quality of a lot or sample of peas or lentils 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 which has an interagency agreement or 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.

Lot. Any identified amount of peas or lentils 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 offered for inspection that does not meet the definition for beans, peas, or lentils.

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.

Sampling. The process of drawing a representative sample from a lot of peas/lentils.

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 peas or lentils; and certifying the results.

Submitted sample inspection. The process of grading a sample submitted by an applicant and certifying the results.

1.3 ABBREVIATIONS

The following abbreviations may be shown on work records:

BD	Badly damaged
BLCH	Bleached
BDL	Blight Damaged Lentils
BWB	Blistered, wrinkled, and broken
COLR	Color
CCL	Contrasting class
CH	Chalky Peas
CL	Class
CLEN	Contrasting Lentils
CM	Centimeter(s)
COFO	Commercially objectionable foreign odor
CR	Cracked seedcoats
CT	Count
CTB	Classes that blend
CW	Checkweighing
DHT	Damaged by heat
DEF	Defective lentils total
DIRT	Dirt and grime
DKG	Dockage
DLQ	Distinctly low quality
DMG	Damage
DW	Dead weevils
FDK	Frost damaged kernels
FE	Facility examination
FM	Foreign material
FSUB	Unknown foreign substance
GLAS	Broken glass
HP	Handpicked
HTDP	Heat damaged Peas
HTG	Heating
IMK	Immature kernels
IADM	Inconspicuous admixture
INR	Insect refuse
INW	Insect webbing
KG	Kilogram(s)
LB	Pound(s)
L	Lentils
LW	Live weevils
M	Moisture
MF	Metal Fragments
MM	Millimeter(s)
MOLD	Mold Damage
MOTH	Angoumois moth
MUST	Musty
NSC	Not standardized
O16R	Commodity Remaining on 16/64 inch round hole sieve
ODOR	Odor
OBL	Observation of loading
OBF	Observation of fumigation
OCL	Other classes
ODI	Other dead insects
OLI	Other live insects
PHD	Pinhole Damage
S	Sieve
S9O	Passing Thru 9/64 X ¾ Inch Oblong-Hole Sieve
S10O	Passing Thru 10/64 X ¾ Inch Oblong-Hole Sieve
S11O	Passing Thru 11/64 X ¾ Inch Oblong-Hole Sieve
S12O	Passing Thru 11/64 X ¾ Inch Oblong-Hole Sieve
S16R	Passing Thru 16/64 Inch Round-Hole Sieve
SG	Sample grade
SCR	Screenings
SHRV	Shriveled Peas
SKN	Skinned
SOUR	Sour
SP	Split peas
SPL	Splits
SPLL	Split Lentils
SR	See reverse
ST	Stones
STOW	Stowage examination
TEMP	Temperature
TW	Test weight
WC	White caps
WDK	Weevil Damaged
WP	Whole peas
WVLY	Weevily
WVDK	Weevil damaged kernels
X	Mixed
U.S.	United States
SUBSTD	U.S. Substandard

1.4 ORIGINAL INSPECTION SERVICES

a. Any interested person may request an original inspection.

b. Requests may be made verbally or in writing.

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

(a) The identification, quantity, and location of the peas or lentils;

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

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

(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 pea and lentil 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.

1.5 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, upon request. All written requests must be made in English and include the following:

(a) The identification, quantity, and location of the peas or lentils;

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

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

(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) 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. An appeal inspection must only be performed by an FGIS inspector.

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 the 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 one that was previously inspected and the entire lot is available and accessible for sampling and inspection.

h. An appeal inspection must be limited to a review of the sampling procedures and an analysis of the file sample when, as a result of the original inspection, the peas or lentils 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. The original inspection certificate for the inspection being appealed must be promptly surrendered.

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.

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

(3) 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 new or file sample. All other results are those of the original inspection service."

(4) If the superseded original certificate is in the custody of FGIS, the superseded certificate must be marked "VOID." If the superseded certificate is not in the custody of FGIS at the time the appeal certificate is issued, the following statement must be shown on the appeal certificate: "The superseded certificate identified has not been surrendered."

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 peas/lentils has undergone a material change;

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

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

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

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.

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

1.6 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 of a Board appeal inspection are based on a file sample, the certificate must show the following statement: "Results based on file sample."

(6) 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 file sample. All other results are those of the (original inspection and/or appeal inspection) service."

(7) If the superseded certificate is in the custody of FGIS, the superseded certificate must be marked "VOID." If the superseded certificate is not in the custody of FGIS at the time the Board appeal certificate is issued, the following statement must be shown on the Board appeal certificate: "The superseded certificate identified has not been surrendered."

1.7 NEW ORIGINAL INSPECTIONS

a. When 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 pea or lentil lot which, as a result of a previous inspection, was found to be contaminated with filth or to contain a deleterious substance.

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

c. A new original inspection certificate must not supersede any previously issued certificate. However, when possible, the outstanding original inspection certificate should be surrendered.

1.8 REGISTERED TYPE SAMPLE INSPECTIONS

a. Applicants may request that the quality of peas or lentils in a lot be compared with the quality of an identified pea or lentil type sample that has been registered with an FGIS field office or Federal State office.

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

(1) Submit a clearly identified pea or lentil 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; e.g., Idaho Pride Lentils-77.

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

c. 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 Federal State office.

(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 must be retained for not 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 peas or lentils to the BAR, other FGIS field offices, or Federal State offices that have been requested to compare the quality of an identified lot of peas or lentils 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, heat seal or glue 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 (peas or lentils) 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 or Federal State manager (or designee).

(7) Issue a lot inspection certificate when the quality of an identified lot of peas or lentils is compared against the type sample. State that the quality of the peas or lentils in the lot was either "equal to or better than" or "not equal to" the type sample; i.e., "(Type of peas or lentils or grade and kind of peas or lentils). ("Quality equal to or better than" or "Quality not equal to") (name of registered type sample)."

1.9 ORIGIN INSPECTIONS

a. Applicants may request origin inspection certificates that show that their peas/lentils 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 peas or lentils.

(2) Obtain a representative sample.

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

(4) If, after reviewing the relevant records and analyzing the peas or lentils, there is no indication that the peas or lentils are not a product of the soil and industry of the United States, show the following statement on the certificate: "The (peas/lentils) described herein and relevant records indicating the origin of these (peas/lentils) have been examined and found to be a product of the soil and industry of the United States."

(5) When records are not available or if the records are not sufficient to substantiate that the peas or lentils 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 the certificate: "Applicant states that these (peas/lentils) are a product of the soil and industry of the United States."

1.10 COMBINED LOT INSPECTIONS

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

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

(1) The estimated quantity of peas or lentils that are to be certificated 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 peas/lentils are being loaded or from which the peas/ lentils are being unloaded; and

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

c. Peas or lentils in two or more lots/carriers that are to be officially inspected as a combined lot must be sampled in a reasonably continuous operation. Representative samples must be obtained from the peas or lentils in each individual carrier and inspected in accordance with the procedures as prescribed in this handbook.

d. Peas or lentils that have been officially inspected and certificated as two or more single lots may be recertificated as a combined lot if:

(1) The peas or lentils in each single lot were sampled in a reasonably continuous operation;

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

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

(4) The peas or lentils 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 recertificate the peas or lentils as a combined lot, determine that the samples used as a basis for the inspection of the peas and lentils in the single lots were representative at the time of sampling and have not changed in quality or condition; and

(6) The quality or condition of the peas or lentils must meet uniformity requirements (see section 2.9) established by this handbook.

NOTE: For recertification of single lots as a combined lot, the request for service must be filed not later than two business days after the latest inspection date of the single lots.

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

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

(1) Removing the infested peas or lentils from the lot; or

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

g. Samples obtained from peas or lentils officially inspected as a combined lot must be examined for uniformity of quality (see section 2.9). If the peas or lentils in the samples are found to be uniform in quality and the peas or lentils 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 peas or lentils in the combined lot must be officially inspected and certificated as one lot. The requirements of this paragraph with respect to reasonably continuous loading or unloading do not apply to peas or lentils which are at rest in carriers/or in a warehouse when the peas or lentils are offered for inspection.

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

i. Each official certificate for a combined lot inspection service must show the identification for the “combined lot” or, at the request of the applicant, the identification of each carrier in the combined lot. If the identification of each carrier is not shown, the statement “Carrier identification available on official inspection log” must be shown on the inspection certificate in the space provided for Remarks. The identification and any seal information for the carriers may be shown on the reverse side of the inspection certificate, provided the statement “See reverse side” is shown on the face of the certificate in the space provided for Remarks.

j. If a request for a combined lot inspection service is filed after the peas or lentils have been officially inspected and certificated as single lots, the combined lot inspection certificate must show:

(1) The date of inspection of the peas or lentils 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 peas or lentils, if at rest, or the name of the facility from which or into which the peas or lentils in the combined lot were loaded or unloaded;

(4) A statement showing the approximate quantity of peas or lentils in the combined lot;

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

(6) If at the time of issuing the combined lot inspection certificate, the superseded certificates are not in the custody of the official personnel, a statement indicating that the superseded certificates have not been surrendered must be clearly shown in the space provided for remarks. If the superseded certificates are in the custody of official personnel, the superseded certificates must be clearly marked "Void."

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

l. No combined lot inspection certificate will be issued:

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

(2) Which shows a quantity of peas or lentils in excess of the quantity in the single lots.

1.11 OTHERWISE GRADE INSPECTIONS

a. Any interested person may request information as to what the quality of peas or lentils 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.

(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 dry pea lot which is supposed to be U.S. No. 1 Smooth Green Dry Peas. The inspection results show that the peas grade U.S. Sample grade because of 15.0 percent bleached peas. The dry peas, except for the factor bleached peas, are U.S. No. 1.

Grade Designation - U.S. Sample grade Smooth Green Dry Peas.

Remarks Statement - "U.S. No. 1 Smooth Green Dry Peas except for bleached peas."

1.12 FACTOR ONLY INSPECTIONS

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

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.

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 Headquarters.

(2) Show the factor results on the inspection certificate according to the procedures in Chapter 9 of this handbook.

(3) Show the class of the peas or lentils on the gradeline of the certificate; e.g., "Smooth Green Dry Peas."

1.13 REFERENCE PUBLICATIONS

The following publications are referenced in this handbook. Copies may be obtained, upon request, from the Federal Grain Inspection Service.

1. Agricultural Marketing Act of 1946, as amended, and the regulations thereunder.

2. United States Standards for Whole Dry Peas, Split Peas, and Lentils.

3. FGIS Equipment Handbook.

4. FGIS Mechanical Sampling Systems Handbook.

5. FGIS Directive 9170.3, “Forwarding Samples to the Technical Services Division.”

6. FGIS Directive 9170.13, “Uniform File Sample Retention System.”

FORM FGIS 907, "Application for Inspection & Weighing Services

U.S. DEPARTMENT OF AGRICULTURE
GRAIN INSPECTION, PACKERS AND STOCKYARDS ADMINISTRATION
FEDERAL GRAIN INSPECTION SERVICE
APPLICATION FOR INSPECTION AND WEIGHING SERVICES

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0580-0013. The time required to complete this information collection is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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

1. Type of Services (check all that apply)

- ☐ Original Inspection
- ☐ Reinspection
- ☐ Appeal Inspection
- ☐ Official Weighing
- ☐ Review of Weighing
- ☐ Board Appeal Inspection
- ☐ Supervision of Weighing
- ☐ Retest

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

- ☐ United States
- ☐ Canada

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

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

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 Tax Id 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 (NOV 03) previous edition obsolete. Expires January 2015. This form also replaces FORMS FGIS-908 and 955, which are obsolete.

FORM FGIS 907, "Application for Inspection & Weighing Services continued

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			
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	
			☐	☐		☐	

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 Form 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 Tax Id 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 Form FGIS 907. If incomplete, either return the form to the applicant for completion or insert and initial the missing information. Complete items 19 through 24:

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

20. Enter the date the application was received.

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

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

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

24. Enter any additional pertinent information.

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, S/S, etc.).

26. Enter the quantity in terms of bushels, pounds, weight loaded or unloaded, or to be loaded or unloaded for cargos. For a lot of sacked grain, also enter the type, number, and weight of sacks; e.g., 6000, 100-lb cotton sacks. For a truckload or 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

2.1 SAFETY 2

2.2 REPRESENTATIVE SAMPLE 4

2.3 DETAILED WORK RECORD (SAMPLE TICKET) 5

2.5 SAMPLE HANDLING AND SECURITY 6

2.6 EXAMINATION OF PLANTS 7

2.7 EXAMINATION OF FILLED CONTAINERS 8

2.8 EXAMINATION OF CARRIERS 8

2.9 EXAMINATION OF SAMPLE PORTIONS 10

2.10 SAMPLING CONTAINERS OF PEAS & LENTILS IN WAREHOUSES 10

2.11 SAMPLING CONTAINERS OF PEAS AND LENTILS IN CARRIERS 11

2.12 SAMPLING BULK PEAS AND LENTILS AT REST 12

2.13 SAMPLING BULK PEAS AND LENTILS DURING MOVEMENT 15

2.1 SAFETY

Official personnel[1] must adhere to the following guidelines:

a. Comply with all pertinent Occupational Safety and Health Administration (OSHA) requirements (e.g., 29 CFR 1910 1918); follow all safety/sanitation rules in effect at the plant or warehouse; obey all posted warning signs and wear appropriate protective equipment when conditions warrant; and, when practical, carry a form of cellular equipment for communication.

b. Wear U.S. Coast Guard approved Type I PFD, Type II PFD, Type III PFD, or Type V PDF life vests when aboard barges or other vessels (midstream and dockside).

NOTE: Life vests must be international orange in color and contain retro-reflective panels. If used at night, the vest must be equipped with a light and a whistle.

c. Wear hard hats that meet the American National Standards Institutes (ANSI) Z89.1 or Z89.2 criteria. It is also recommended that official personnel wear shoes or boots that have nonslip soles and definite heels for good footing on ladders, wear clothes that are reasonably close fitting to reduce the possibility of becoming snagged on ladders or other structural elements, and wear gloves when climbing ladders and opening or closing hatches and doors.

d. 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, communication equipment, or other equipment while climbing ladders.

e. Remain alert to your physical condition, especially when drawing samples inside carriers. Peas and lentils 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. Shortness of breath, light headedness, drowsiness, or a headache can be indicative of a dangerous atmosphere. When these symptoms are experienced, leave the area immediately and seek medical attention.

f. 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. 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.

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

g. While walking on a dock or wharf, be alert for loose or rotting boards that may not support your weight. Learn the locations of life rings, emergency ladders, and telephones. Stay clear of cables, whether slack or under tension.

h. 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. Require the applicant for inspection to roll back the roll top covers and to lock them in place with lock pins. Do not permit hatches to be opened or closed while you are inside the barge.

i. Do not walk through a break in a string of trucks separated by only a few feet. Be alert to such hazards as moving trucks, cables, debris, metal strapping, or broken ladders; and avoid breathing diesel exhaust fumes.

j. Before entering a railyard, notify your immediate supervisor, the yardmaster, or switch crew foreman, and any other essential persons of your presence. Do not sample railcars in a rail yard alone unless you are being monitored by someone who is in a position to render aid if needed. (Inquire about possible switching activities, cars carrying hazardous cargo, and any other unusual activity).

k. 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 on an elevator hold track where no railcar or switch engine movement takes place during the performance of official functions.

l. 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.)

m. 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.

n. 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.

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

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

q. 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.)

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

s. When working in warehouses, watch out for forklifts and tow motors. Also, be alert for sacks slipping (falling) from improperly stacked pallets.

2.2 REPRESENTATIVE SAMPLE

Obtaining a representative sample from a lot of peas or lentils is an important and 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 (see the FGIS Equipment Handbook);

c. Of the prescribed size (approximately 2,000 grams); and

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 peas or lentils.

2.3 DETAILED WORK RECORD (SAMPLE TICKET)

a. The accurate recording of the lot's identity and its condition at the time of sampling is essential to the correct certification of the lot's quality. Samplers must record all unusual conditions and other pertinent information on the sample ticket. If the condition is not reported on the sample ticket, the lot could be inadvertently misgraded.

b. Sample tickets must contain the following information:

(1) The sampler's signature or initials;

(2) The date the sample was obtained;

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

(4) Full identification of the lot;

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

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

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

2.4 LOT ACCESSIBILITY

a. The entire lot should be completely and safely accessible.

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

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

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

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 peas or lentils stored in a warehouse or similar facility, the lot must be 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.

(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 peas or lentils 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.

2.5 SAMPLE HANDLING AND SECURITY

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

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

2.6 EXAMINATION OF PLANTS[1]

a. Official personnel must examine or survey pea and lentil 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; or

(4) Deemed necessary by official personnel.

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

(1) Vermin or insects;

(2) Toxic substances;

(3) Decayed animal or vegetable matter;

(4) Other filth; and

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

c. If the plant is approved 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 68.24 of the regulations under the Act, the FGIS "Sanitation Inspection Handbook," and FGIS Program Directive 9100.3.

[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 peas or lentils. Establishments engaged only in the harvesting, storage, or distribution of peas or lentils prior to the peas or lentils being cleaned or otherwise processed for human consumption are not considered as "plants" for the purpose of this directive.

2.7 EXAMINATION OF FILLED CONTAINERS

a. Official personnel must examine filled containers to determine whether the peas and lentils 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), or polypropylene bags; cases; or bales to determine whether they are free from dirt, stains, tears, live or dead insects, insect webbing, and insect refuse.

c. If adverse conditions are found, note the conditions, kind of containers, and container markings on the sample ticket and in the “Remarks” section of the certificate.

2.8 EXAMINATION OF CARRIERS

a. When peas or lentils 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 peas or lentils. (See FGIS Program 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 peas, lentils, 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; and

(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 68.24 of the regulations under the Act.

NOTE: When peas or lentils 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.

2.9 EXAMINATION OF SAMPLE PORTIONS

Compare each sample portion taken from a lot with other sample portions drawn from the same lot for uniformity of 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 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 peas or lentils, 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.

2.10 SAMPLING CONTAINERS OF PEAS & LENTILS IN 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 (see Table 1.)

Table 1 Sampling Rate

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

NOTE: For lots packed in primary and secondary containers, the number of secondary (outer) containers in the lot must be used to determine the number of containers to be sampled.

[1] If the lot contains more than 10,000 containers, divide the lot into 2 or more (approximately) equal sized sublots of 10,000 containers or less. Sample and grade each sublot separately.

b. Draw a sample from each selected container using an approved pea and lentil sack trier (see 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 peas or lentils in large-sized containers (22.25 kilograms/50 pounds or more), use a pea and lentil sack trier or a compartmented trier.

(2) For sampling peas and lentils in medium sized containers (4.5 to 22.24 kilograms/10 to 49.9 pounds), use a pea and lentil sack trier.

(3) For sampling peas and lentils 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 (class, quality, and condition). If uniform, combine the sample with other samples of equal quality from the same lot.

NOTE: Close all sack 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 peas or lentils, withdraw the trier, and place its contents full length on a sampling cloth.

(6) Examine the sample for uniformity (class, quality and condition). If uniform, combine the sample with other peas and lentils 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.

2.11 SAMPLING CONTAINERS OF PEAS AND LENTILS IN CARRIERS

a. When an applicant requests the inspection of a lot of peas or lentils in containers that are already loaded into a railcar, truck, or other carrier, the containers must be considered to be 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 but D; two sections for D). See figure 1.

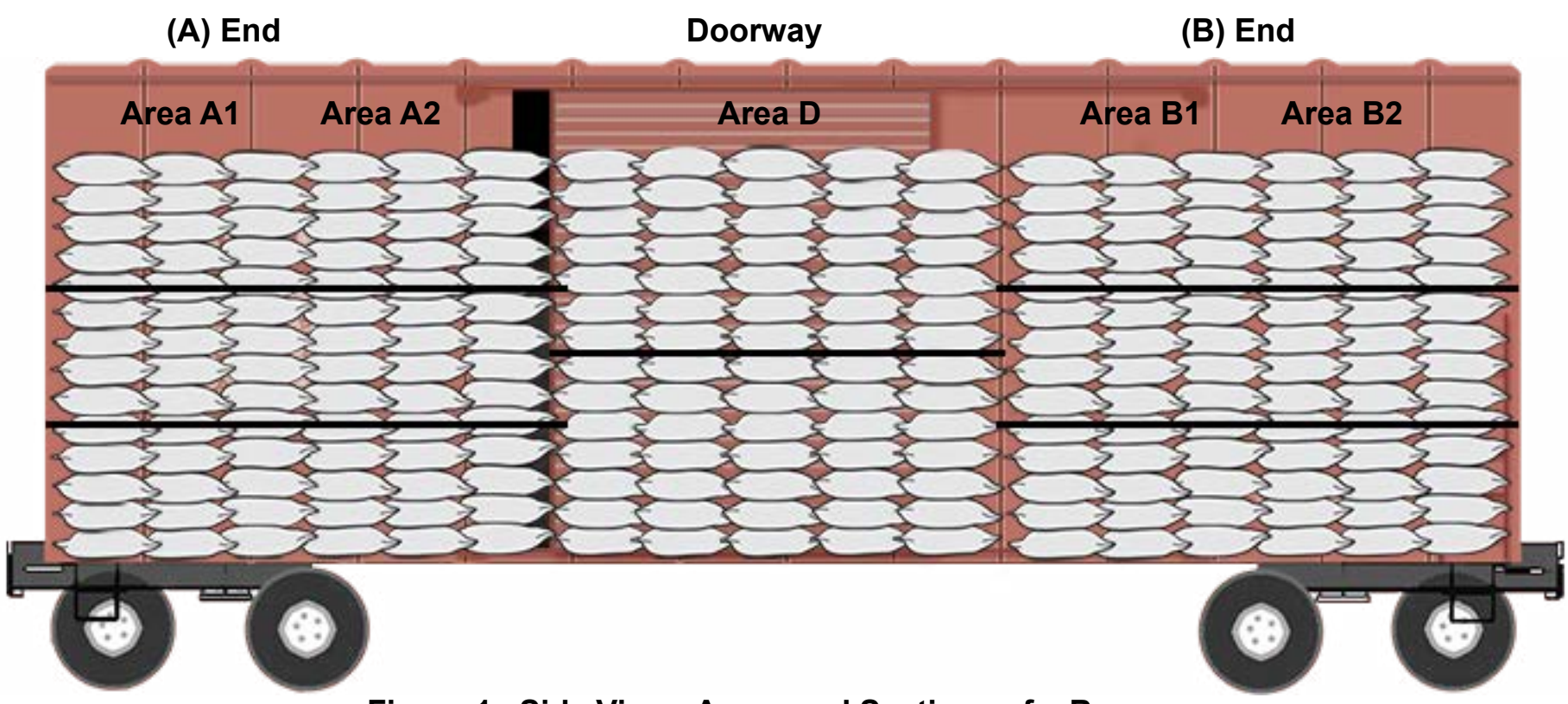

Figure 1. Side View Areas and Sections of a Boxcar

(2) Six bags must be randomly selected from each of the areas identified as A1, A2, B1, and B2. Ten bags must be selected from area D. If the car is not loaded uniformly (e.g., 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.) See figure 2.

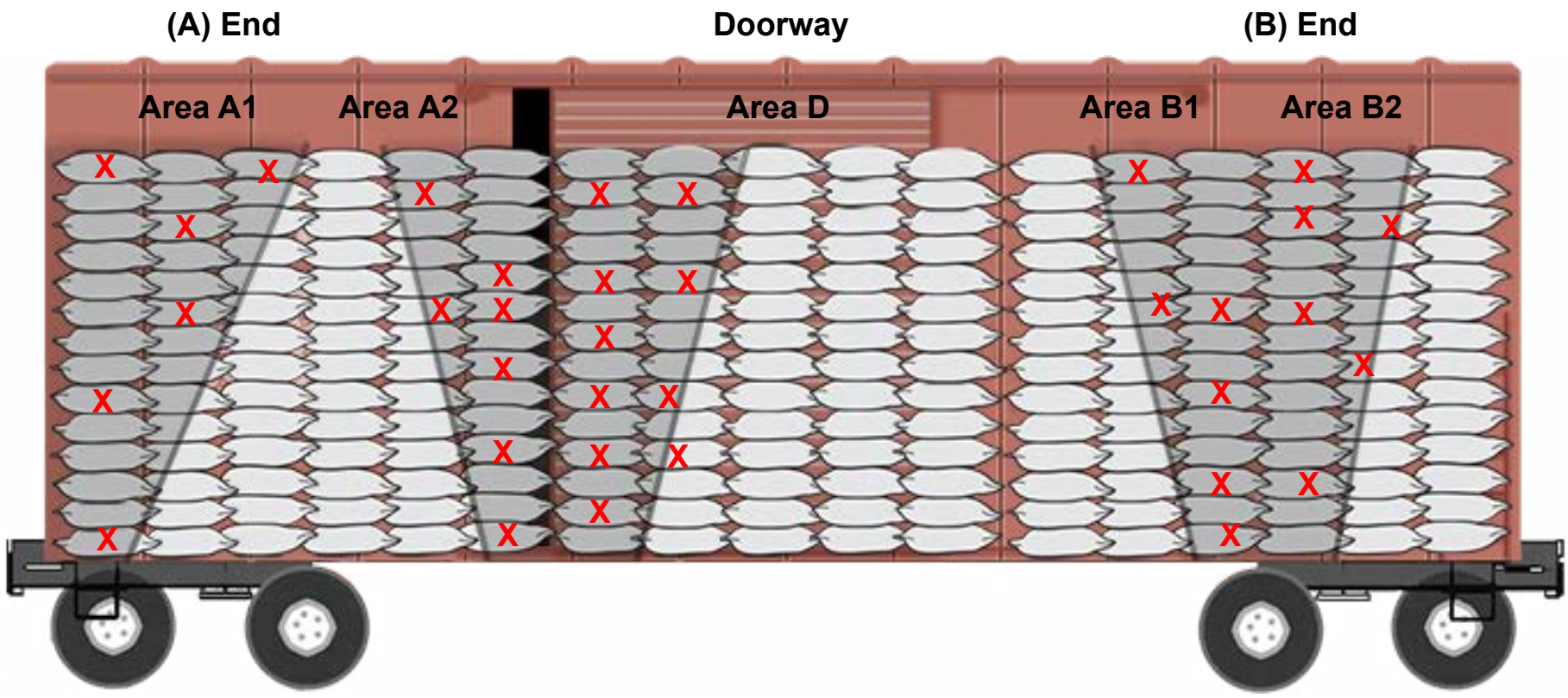

Figure 2. Side View of a Boxcar with Three Wells
Selected Bags Indicated by X Marks

(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.

2.12 SAMPLING BULK PEAS AND LENTILS AT REST

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

Carrier	Length of Tier	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 peas and lentils 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 (see pages 44 to 47). Probe the peas and lentils in the areas identified by the sampling pattern for the particular carrier.

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

(5) 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 so as not to damage the peas or lentils, grasp the trier by the outer tube, and withdraw it from the lot. Do not pull the trier by the handle.

(7) Empty the trier on the canvas and compare the peas or lentils from each depth of the trier for uniformity of 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 does not reach the bottom of the carrier, note the depth that is reached on the sample ticket.

c. The following diagrams show 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 peas or lentils 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 peas and lentils at rest. Insert the probe at the points marked (X), with the tip of the probe pointed toward the direction of the arrow head. 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 arrow head. Insert the probe in the center of the opening, approximately 7 feet from the side edge.

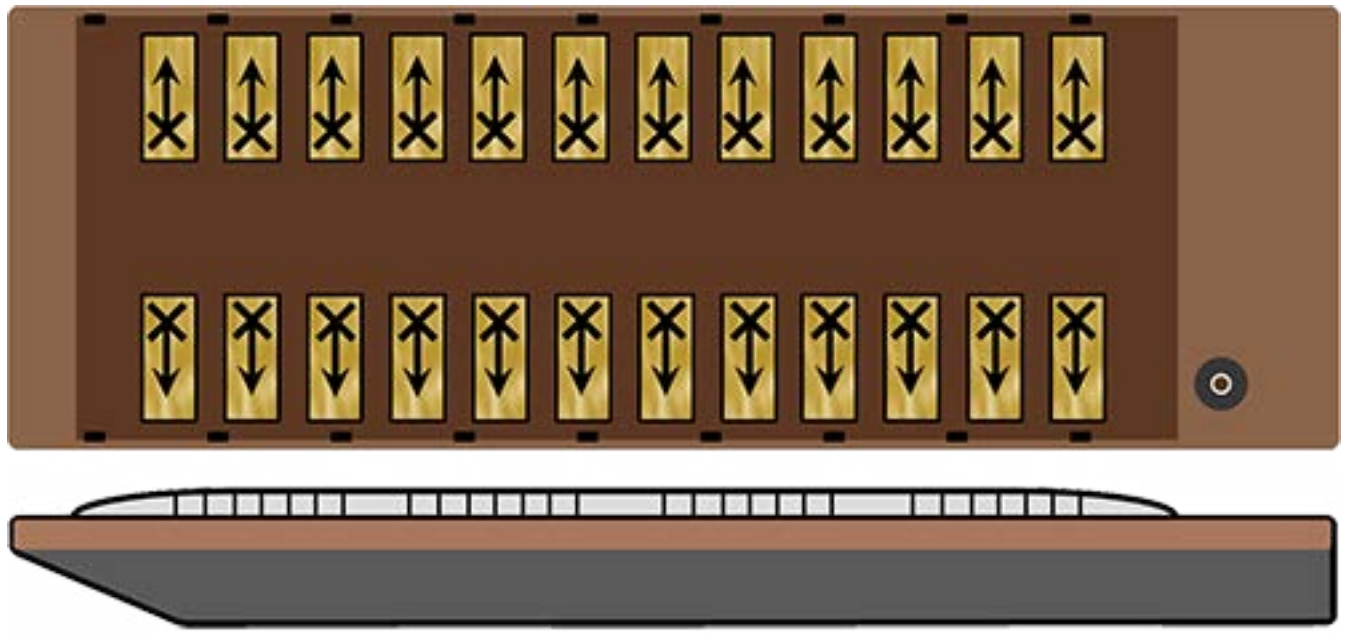

Figure 3. Fiberglass Hatch Top Barge

(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.

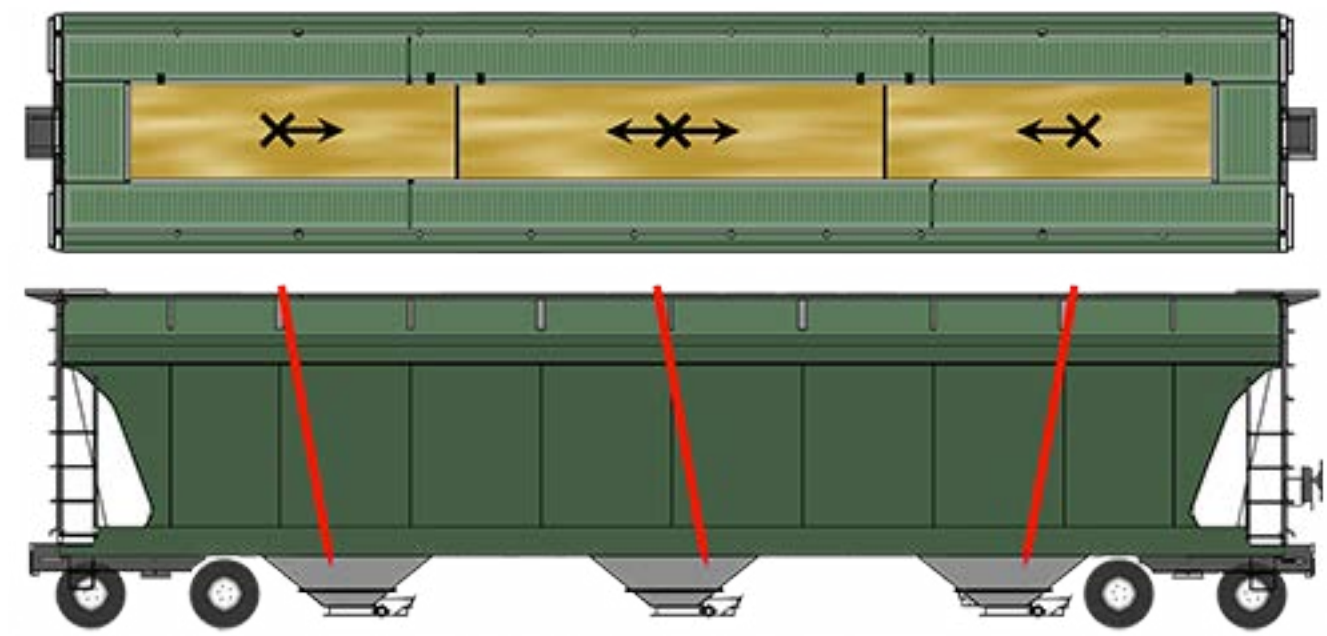

Figure 4. 3 Compartment, Trough or Door Type Hopper Car

(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.

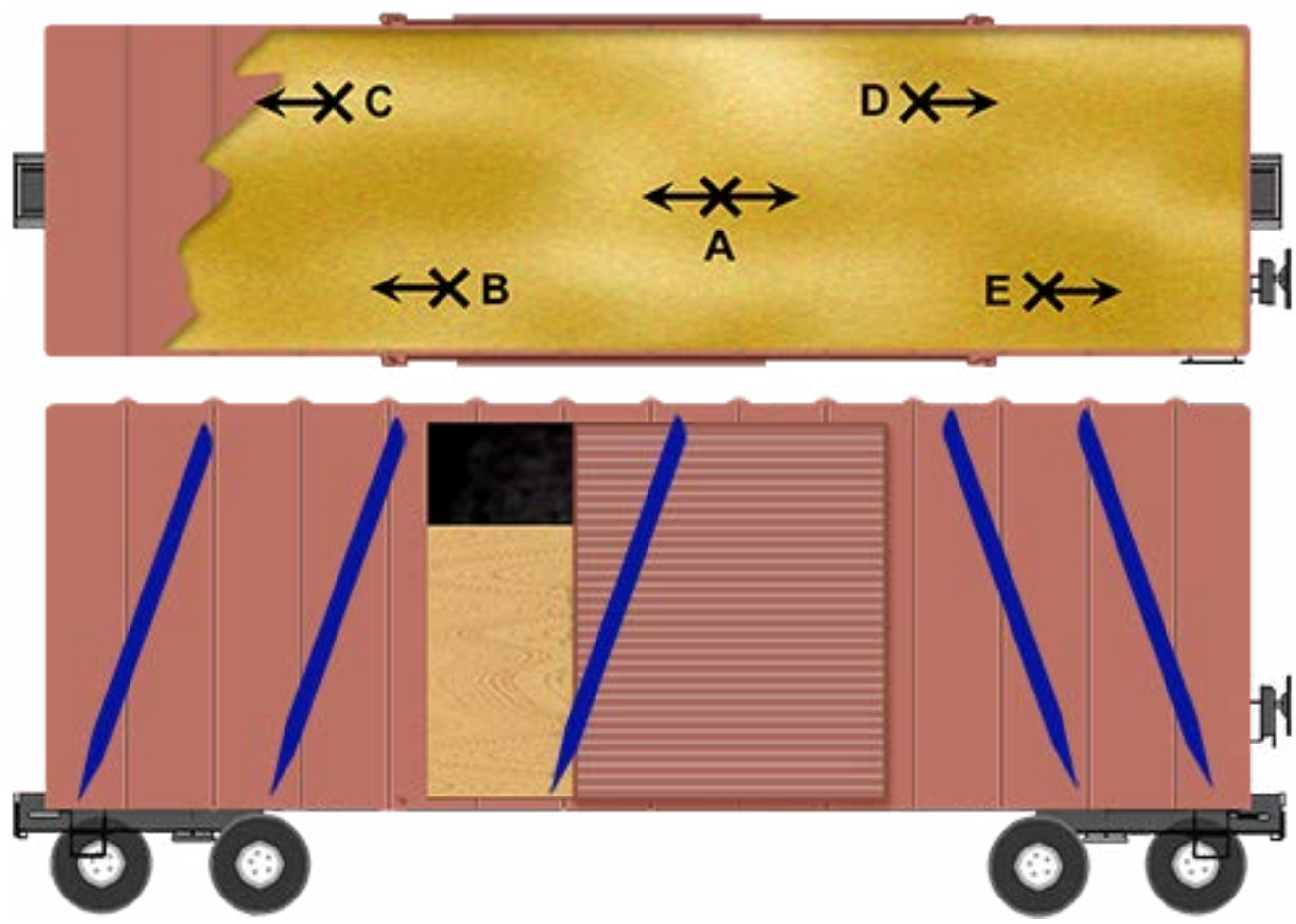

Figure 5. Boxcar

(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 Peas or Lentils More than 4 Feet Deep or Eight Filled Probe Compartments.

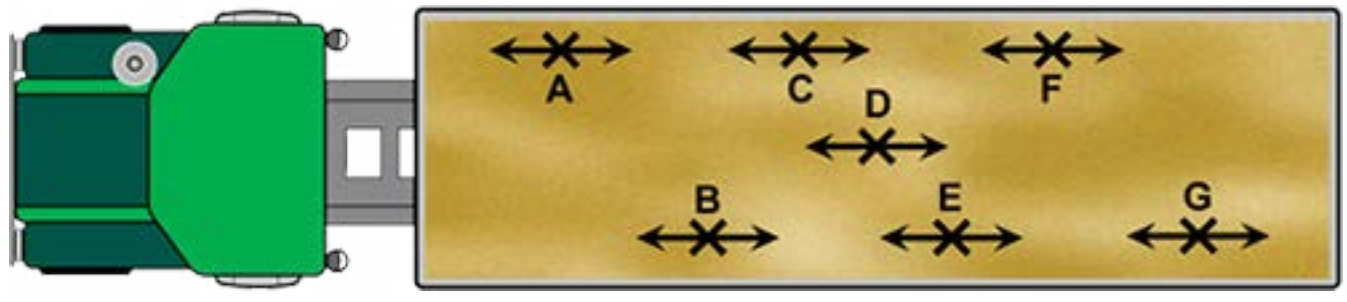

Figure 6. Flat Bottom Truck or Trailer

(b) Flat Bottom Trucks or Trailers Containing Peas or Lentils Less than 4 Feet Deep or Fewer than Eight Filled Probe Compartments

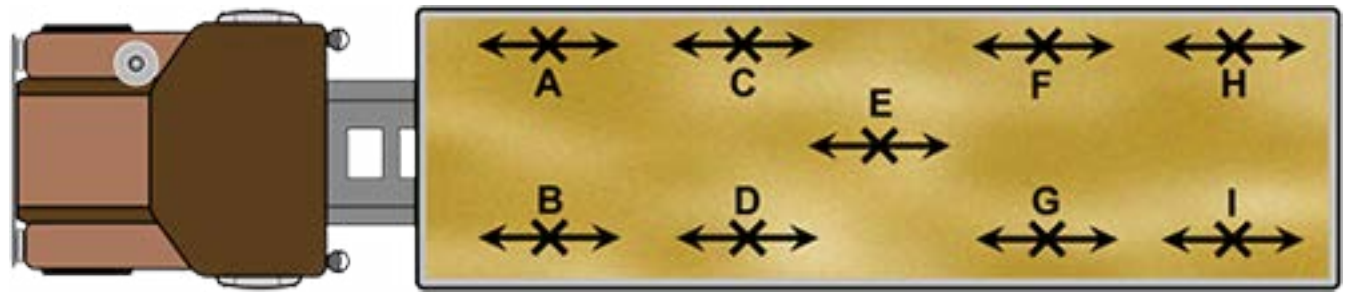

Figure7. Flat Bottom Truck and Trailer

(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.

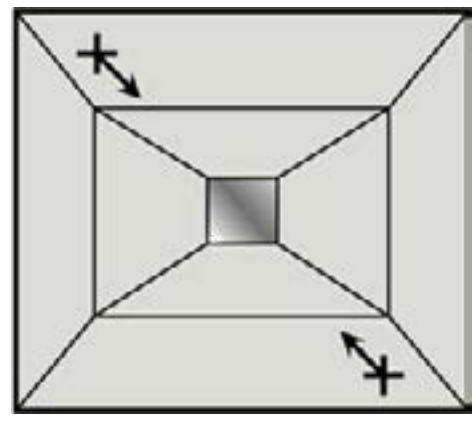

Figure 8. Aluminum Hopper Bottom Container

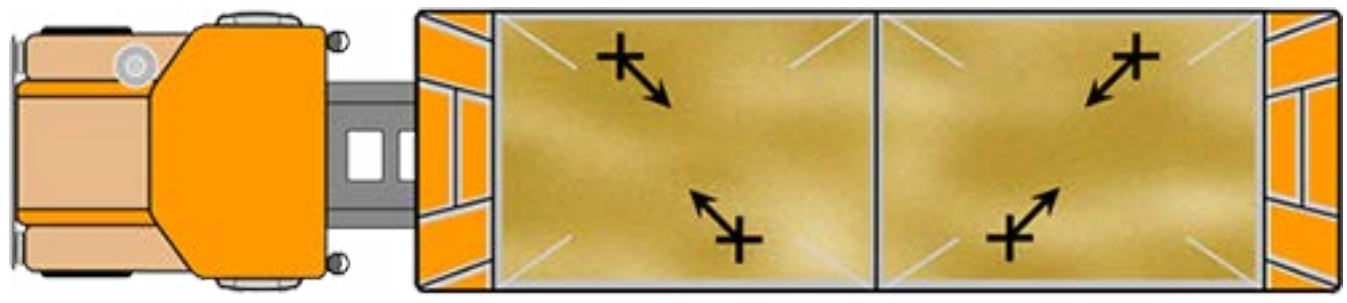

Figure 9. Hopper-Bottom Truck and Trailer

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

(1) For lots of one to four 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 five to nine 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.

2.13 SAMPLING BULK PEAS AND LENTILS DURING MOVEMENT

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

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

(2) For sampling peas or lentils 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 peas or lentils 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 peas and lentils 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 carrier
Truck	2 cuts per carrier
Barge/Ship	1 cut per 13,500 kilograms (30,000 lbs.)

WARNING: Sampling a free falling stream of peas or lentils with a pelican sampler can be dangerous. Assure 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 peas and lentils moving on a conveyor belt.

(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.

Figure 10. Ellis Cup

(b) Push the curved portion of the cup straight down in the center of the stream to the full depth of the peas or lentils. 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 peas or lentils 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 carrier
Truck	1 set per carrier
Barge/Ship	1 set per 13,500 kilograms (30,000 lbs.)

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

CHAPTER 3
THRESHER-RUN PEAS

Contents

3.1 DEFINITIONS 2

3.2 FACTORS AND FACTOR DESIGNATIONS 2

3.3 WORK RECORD 3

3.4 REPRESENTATIVE PORTION 3

3.5 WORK SAMPLE 3

3.6 FILE SAMPLE 3

3.7 PERCENTAGES 3

3.8 LABORATORY SCALES 3

3.9 PRELIMINARY EXAMINATION 4

3.10 BASIS OF DETERMINATION 4

3.11 TOTAL DOCKAGE, DEFECTS, AND FOREIGN MATERIAL 5

3.12 MOISTURE 6

3.13 TEST WEIGHT PER BUSHEL 6

3.14 CLASS 6

3.15 ODOR 7

3.16 HEATING 8

3.17 DOCKAGE 9

3.18 DEFECTIVE PEAS 11

3.19 WEEVIL DAMAGED PEAS 12

3.20 HEAT DAMAGED PEAS 13

3.21 DAMAGED PEAS 14

3.22 OTHER CLASSES 15

3.23 BLEACHED PEAS 16

3.24 SPLIT PEAS 16

3.25 SHRIVELED PEAS 17

3.26 PEAS WITH CRACKED SEEDCOATS 17

3.27 FOREIGN MATERIAL 18

3.28 COLOR 18

3.29 ANIMAL FILTH 19

3.30 BROKEN GLASS 19

3.31 METAL FRAGMENTS 19

3.32 DISTINCTLY LOW QUALITY 20

3.1 DEFINITIONS

Thresher Run Dry Peas. *Dry peas from which the dockage has not been removed.*

Whole Dry Peas. *Threshed seeds of the garden type pea plant (Pisum sativum L. and Pisum sativum var. arvense (L.) Poir.), which after the removal of dockage, contain 50.0 percent or more of whole peas and not more than 10.0 percent of foreign material.*

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

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

b. "Not Standardized Commodity." No further analysis is necessary on a sample designated as "Not Standardized Commodity" unless a specific factor test is requested.

3.2 FACTORS AND FACTOR DESIGNATIONS

Thresher-run dry peas shall be inspected for factors only, without reference to grade.

Thresher run dry peas may be inspected for: class; defective peas and foreign material; dockage; color description; and moisture.

The factor designation for all classes of thresher run peas may include the name of the class; percentage of dockage and type of sieve used in making the determination; the percentage of weevil damaged peas, heat damaged peas, damaged peas, other classes, bleached peas, split peas, shriveled peas, peas with cracked seed coats, foreign material, and the computed total percentage thereof; the color description; and the percentage of moisture.

NOTE: Upon applicant request, thresher-run peas may be graded, after the removal of dockage, to determine what the peas would have graded after processing (dockage removed). The percent of dockage will be determined with the use of FGIS approved sieve(s) and will be recorded in the factor results section of the certificate to the nearest tenth percent. The grade will be in the form of a statement (see below) placed in the remarks section of the certificate.

"After the removal of dockage, this thresher-run lot would have graded U.S. No. (grade) (Smooth Green/ Smooth Yellow) Dry Peas under the U.S. Standards for dockage-free peas except for (e.g. foreign material, bleached peas, etc)." Insert only the factors that would have a bearing on the grade.

3.3 WORK RECORD

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 either form FGIS 981, “Pea and Lentil Laboratory Ticket” or form FGIS 982, “Pea and Lentil Sample Ticket.” Cooperators must use a similar form.

3.4 REPRESENTATIVE PORTION

A specified quantity of peas divided out from the representative sample (refer to Chapter 2, sampling chapter) by means of an FGIS approved device.

3.5 WORK SAMPLE

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

3.6 FILE SAMPLE

a. A representative portion of peas (approximate size 1,000 grams) that may be used in conjunction with the work sample, when needed. File samples may also be used for monitoring, appeal inspection and board appeal purposes.

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

3.7 PERCENTAGES

a. Percentages are determined on the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to five, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

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

b. Record factor results to the nearest tenth percent.

3.8 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

3.9 PRELIMINARY EXAMINATION

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

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

3.10 BASIS OF DETERMINATION

All factor determinations must be made upon the basis of the dry peas after the removal of dockage with the following exceptions:

Dockage in thresher-run dry peas must be determined upon the basis of the peas as sampled.

Color must be determined after the removal of dockage, defective peas, and foreign material.

Defects in peas must be scored in accordance with the order shown in section 402(d) and once an individual pea is scored in a defective category, it must not be scored for any other defect. Percentages for all categories of defects must be calculated on the basis of the total weight of the sample analyzed for defective peas.

NOTE 1: When peas that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of peas, 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.

NOTE 2: When peas that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in quality or condition, the peas in each portion must be inspected separately.

NOTE 3: Seed peas are not considered standardized peas and may, upon request, be inspected according to applicant specifications.

Follow a systematic factor examination procedure. The order of procedure may vary depending on the quality of the peas and the tests that are requested.

A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Examine the representative sample for odor, broken glass and metal fragments.

(3) Use an FGIS approved divider to process the representative sample into two representative portions: a work sample and a file sample.

(4) Remove the dockage from the work sample.

(5) Examine the work sample for class and distinctly low quality.

(6) Upon request, determine or estimate the percent of small peas, split peas or other material that comprise the dockage. When this breakdown is not requested, determine the percent of total dockage.

(7) Upon request, divide out approximately 350 grams from the dockage-free portion and determine the percent of moisture.

(8) Divide out another 250-gram portion from the dockage free portion and determine the percent of defective peas, other classes and foreign material.

(9) After removing the defective peas and foreign material from the portion, examine the portion for color.

3.11 TOTAL DOCKAGE, DEFECTS, AND FOREIGN MATERIAL

The percentage of total dockage, total defects, and foreign material must be computed on the basis of the sample as a whole and be shown on the certificate as Total Dockage, Defects and Foreign Material.

a. Compute the percent of total dockage, total defects and foreign material as follows:

(1) Determine the weight of the work sample.

(2) Determine the weight of the dockage in the work sample (e.g., 120 grams).

(3) Calculate the percent of dockage (e.g., 120 g) 1000 g = 12 %).

(4) Calculate the percent of dockage free peas (e.g., 100 % 12 % = 88 %).

(5) Determine the weight of the defective peas and foreign material portion (e.g., 250 grams).

(6) Determine the weight of the defective peas and foreign material (e.g., 12.5 grams).

(7) Calculate the percentage of defective peas and foreign material (e.g., 12.5 g ÷ 250 g = 5 %).

(8) Adjust the percentage of defective peas and foreign material by the base (e.g., 5 % x 88 % = 4.4 %).

(9) Calculate the percentage of total dockage, defects, and foreign material (e.g., 12 % + 4.4 % = 16.4 %).

b. 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.

3.12 MOISTURE

Water content in whole peas as determined by an approved device according to procedures prescribed in FGIS instructions.

The moisture of thresher-run dry peas is determined by using the GAC2500-UGMA and Perten AM 5200-A instruments utilizing the calibrations of the predominate type of pea (see FGIS Directive 9180.61).

Basis of Determination. Determine moisture on a representative portion of approximately 650-grams, after the removal of dockage.

The procedures for performing a moisture determination using the GAC2500-UGMA and Perten AM 5200-A meters are described in the Moisture Handbook.

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

NOTE: To determine moisture on Marrowfat Peas use the Smooth Green Dry Pea moisture chart.

3.13 TEST WEIGHT PER BUSHEL

NOTE: This factor is not provided for under the United States Standards for Whole Dry Peas, but may be determined upon request.

a. Determine test weight per bushel on a representative portion of sufficient size to overflow the kettle, before the removal of dockage.

b. See Volume 1 of the Grain Inspection Handbook, Grain Grading Procedures, for information about performing test weight per bushel determinations.

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

3.14 CLASS

Peas are divided into the following classes:

<u>Smooth Green Dry Peas</u>. *Dry peas which have smooth seed coats and green cotyledons and contain not more than 1.5 percent of other classes.*

<u>Smooth Yellow Dry Peas</u>. *Dry peas which have smooth seed coats and yellow cotyledons and contain not more than 1.5 percent of other classes.*

<u>Wrinkled Dry Peas</u>. *Dry peas which have wrinkled seed coats and contain not more than 1.5 percent of other classes.*

Mottled Dry Peas. *Dry peas of the Austrian winter pea type and other peas which have colored or distinctively mottled seed coats which contain not more than 1.5 percent of other classes.*

Miscellaneous Dry Peas. *Dry peas that do not meet the criteria for any other class of dry peas and contain not more than 1.5 percent of other classes. (The grade limits for the factor Bleached peas must not apply to Miscellaneous Dry peas, except for Marrowfat-type dry peas).*

Mixed Dry Peas. *Any mixture that does not meet the requirements for the classes Smooth, Green, Smooth Yellow, Wrinkled, or Mottled Dry peas; or any mixture of different types of Miscellaneous Dry peas.*

NOTE: Thresher-run peas offered as "seed peas" must be certified as not-standardized commodity. Do not identify "seed peas" by a class designation; instead show not-standardized commodity on the certificate grade line and in the remarks section record either "Peas" or "Seed Peas".

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

b. When a detailed examination is necessary, make this determination on a representative portion of approximately 250 grams of dockage free peas.

c. If the peas contain more than 1.5 percent of "other classes:" Grade the peas "Mixed Dry Peas," and record the percent of each class of peas to the nearest tenth percent on the work record and result section of the certificate.

d. Miscellaneous dry peas are not otherwise classified in the standards and may be classified and designated according to the commonly accepted commercial name for the pea (e.g., Marrowfat peas).

3.15 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

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

(a) 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.

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

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

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

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

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

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

(b) 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.

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

b. When peas are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and in the result section of the certificate.

3.16 HEATING

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

(1) When high temperatures develop in dry peas as the result of excessive respiration, such peas are heating.

(2) Heating peas usually give off a sour or musty odor.

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

b. When applicable, show the term “Heating” on the work record and in the result section of the certificate.

3.17 DOCKAGE

Dockage. *Small, underdeveloped dry peas, pieces of dry peas, and all matter other than dry peas which can be removed readily by the use of an FGIS approved device.*

a. Determine dockage on a representative portion of approximately 1,000 grams.

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

NOTE: If official personnel determine that the prescribed sieve removes too many small, fully developed peas (not screenings), they may elect to use a slightly smaller sieve. Furthermore, if they determine that the prescribed sieve allows too many underdeveloped peas to remain with the "clean" peas, they may elect to use a slightly larger sieve. If the peas are offered for inspection as "seed peas," the applicant for inspection may specify the sieve size to be used.

Table 1

Prescribed Sieves	
Classes	**Sieves**
Mottled Dry Peas	9/64" x 3/4"
Smooth Green Dry Peas	11/64" x 3/4" (oblong or slotted)
Smooth Yellow Dry Peas	11/64" x 3/4" (oblong or slotted)
Wrinkled Dry Peas	11/64" x 3/4" (oblong or slotted)
Miscellaneous Dry Peas	Use appropriate size sieve

(1) Nest the sieve on top of a bottom pan.

(2) Place the sieve in a mechanical grain sizer so that the slotted perforations are parallel to the motion of the sizer and set the timer to 20.

(3) Put the representative portion in the center of the sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

(4) Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(5) Consider all material that passed through the sieve as dockage. Pick out large material, such as stems and pods with/without peas inside, from the peas remaining on top of the sieve and add it to the dockage. Do not remove the peas from the pods.

(6) Remove the dockage from the remainder of the representative portion in the same manner.

c. Record the percent of dockage, with the size of sieve(s) used in the determination, on the work record and result section of the certificate to the nearest tenth percent.

d. Upon applicant request, determine by (handpicking the entire separation) or estimating the percent of small peas, split peas, and other material that comprise the dockage; i.e., a dockage breakdown. The percent of grain in the "other material" dockage may also be estimated or determined.

(1) The breakdown of dockage may be estimated either by using hand sieves or by handpicking a representative portion of the dockage separation.

NOTE: Hand adjusting of the material through or over sieves is not required when the breakdown is estimated.

(2) Record the percent of small peas, split peas, and other material on the work record and the certificate to the nearest tenth percent. If an "estimated" dockage breakdown was performed, show the statement "Estimated using hand sieves" or, when handpicked, "(Estimated)" immediately following the results.

(3) When requested, record the percent of grain in the "other material" dockage on the work record and the certificate to the nearest whole percent, and show the following statement on the certificate. "Other material includes (_____) percent of grain."

e. Upon applicant request, reclaim any readily identifiable and separable pea material present in the dockage.

(1) After mechanically removing and recording the percent of dockage present in the thresher-run pea sample, reclaim any small peas, split peas, and recognizable pea pieces that passed through the prescribed dockage sieve.

NOTE: A smaller sized sieve may be used as an aid in the reclaiming process to minimize any hand-adjustment that may be necessary.

(2) Determine other material and foreign material according to applicable procedures, subtract the sum from 100, and round to the nearest whole percent. Record the results to the nearest whole percent on the work record, and in the result section of the certificate.

Upon request, when providing information for the Farm Service Agency, Loan Deficiency Program, show the following special statement in the “Remarks” section of the certificate.

“Sample contains (%) of whole, broken, or pieces of peas.”

3.18 DEFECTIVE PEAS

The categories of defective peas must be weevil-damaged peas, heat-damaged peas, damaged peas, other classes, bleached peas, split peas, shriveled peas and peas with cracked seedcoats.

The percentage of defective peas and foreign material must be combined and shown on the certificate as Total Defects and Foreign Material.

a. Determine defective peas on a representative portion of approximately 250 grams of dockage free peas.

b. Score defects in the following order: Weevil damaged, heat damaged, damaged, other classes, bleached peas, split peas, shriveled peas and peas with cracked seedcoats.

(1) Once an individual pea is scored, do not score it for any other defect but retain it as part of the sample for purposes of determining the percentage of other defects in the sample.

(2) Record the percent of each type of defect on the work record and the certificate to the nearest tenth percent.

c. Add the percentages of each type of defect and record the total defective peas on the work record and the certificate to the nearest tenth percent.

d. Add the percent of total defective peas to the percent of foreign material and record the sum as “total defects and foreign material” on the work record and the certificate to the nearest tenth percent.

NOTE: For the classes of Smooth Seeded peas (but not Seed Peas), only the percentage of peas with cracked seedcoats in excess of 3.0 percent will be included in the factor “Total Defects and Foreign Material.” (EXAMPLE: In a sample containing 3.2 percent of peas with cracked seedcoats, only 0.2 percent would be included in the Total Defects and Foreign Material.) For Seed Peas and Wrinkled peas, include all peas with cracked seedcoats with Total Defects and Foreign Material.

3.19 WEEVIL DAMAGED PEAS

Weevil-Damaged Peas. *Whole and pieces of dry peas which are distinctly damaged by the pea weevil or other insects.*

a. Determine weevil damaged peas on a representative portion of approximately 250 grams of dockage free peas.

(1) Weevil eaten damage. Peas which have been eaten by weevils to the extent that the peas are light in weight and can be removed readily from the sound peas in the processing plant by either a gravity machine or brine solution. (Visual Reference Image: Weevil Damage)

(2) Pinhole damage.

(a) Peas which have been stung by the pea weevil or other insect, and the damage extends into the cotyledon. Peas that have been "marked" by insects, but where the sting does not penetrate the cotyledon, are not considered weevil damaged peas.

(b) Peas containing dead larvae in which the cavities are small (e.g., about dull pencil lead size). (Visual Reference Image: Weevil Damage)

NOTE: Any pea that contains or has contained a weevil or larvae of the pea weevil is considered weevil-damaged.

(c) Upon request, show the percent of pinhole damage on the pan ticket and grade certificate. Many processors need this information because pinhole damaged peas cannot be removed in the normal cleaning operation.

b. Weevil damaged peas are usually bleached in appearance and show a discoloration window which indicates the presence of larvae within the pea. There are two methods of determining weevil damage.

(1) Visual Examination.

(a) Examine each pea for evidence of weevil stings or boring.

(b) If a pea has been stung, cut the pea to determine the extent of the penetration.

(2) Brine Solution Test.

NOTE 1: Complete all other factor examinations before soaking the peas in a brine solution.

NOTE 2: This method is not satisfactory for wrinkled peas as the wrinkles form pockets which may cause many sound peas to float along with the weevil damaged peas.

(a) Place a wire basket (a tube 6 inches wide by 7 inches deep with an eight-mesh-per-inch screen) in a stone jar. Fill the stone jar about half full of water and to this add calcium chloride until a specific gravity of 1.225 is reached.

(b) Pour the representative portion into the screen and stir so that all air pockets are eliminated.

(c) Use a tea strainer type ladle to lift out the peas which float on top of the solution. Peas that float are normally weevil damaged, but this should be confirmed by visual examination.

(d) Skim off the peas that float and thoroughly rinse them under running water.

(e) Partially dry the “floaters” on blotter trays. Then place the peas in heater trays (wire screens having 1/8-inch openings), set them in a heater/dryer until all the surface moisture has disappeared, and then visually examine to confirm weevil damage.

c. Record the percent of weevil damaged peas (total of those found by visual examination and by brine solution test) on the work record and results section of the certificate to the nearest tenth percent.

3.20 HEAT DAMAGED PEAS

Heat-Damaged Peas. *Whole and pieces of dry peas which have been materially discolored as a result of heating.*

a. Determine heat damaged peas on a representative portion of approximately 250 grams of dockage free peas.

b. Record the percent of heat damaged peas on the work record and the certificate to the nearest tenth percent.

3.21 DAMAGED PEAS

Damaged Peas. *Whole and pieces of dry peas which are distinctly: (1) Damaged by frost, weather, disease, heat (other than materially discolored as a result of heating), or other causes; and (2) soiled or stained by dirt (not applicable for the class Wrinkled Dry peas).*

Damaged peas must not include weevil-damaged peas or heat-damaged peas.

a. Determine damaged peas on a representative portion of approximately 250 grams of dockage free peas.

b. The major types of damaged peas are as follows:

(1) Dirt and Grime Damaged Peas. Dirt and grime damaged peas include peas and pieces of peas with dirt or grime (including nightshade juice bag markings/ink stains) adhering to the seed coat equal to or greater than shown on (Visual Reference Image: Damage (Dirt/Grime))

NOTE: Dirt and grime damage does not apply to the class Wrinkled Dry peas or Smooth Seeded peas grown for seed purposes.

(2) Frost Damaged Peas. Peas and pieces of peas which have been damaged by frost to the extent that the cotyledon has been discolored green with an area of coverage and intensity equal to or greater than shown on (Visual Reference Image: Frost Damage) Frost damage is indicated by the appearance of the whole pea; but the actual determination for damage must be made on the basis of the opened pea.

(3) Mold/Mildew Damaged Peas. Peas and pieces of peas which contain mold/mildew equal to or greater than that shown on (Visual Reference Image: Mold/Mildew Damage) Mold/Mildew may appear on or around the hilum, the surface, and/or the cotyledon. A pea that contains any mold/mildew on the cotyledon must be considered damaged.

(4) Sprout Damaged Peas. Peas and pieces of peas which are sprouted in which the sprout is equal to or greater than that shown on (Visual Reference Image: Sprout Damage)

(5) Badly Shriveled Peas. Peas that are shriveled and discolored to a deep brown or reddish cast.

(6) Worm Eaten or Worm Cut Peas. Peas and pieces of peas which have been chewed by insect larvae; not to be confused with weevil bored peas containing insect webbing or filth. Any chewed pea is considered damaged.

(7) Chalky Peas. Peas that have a white spot on the surface of the cotyledon caused by unusual weather conditions, some harvesting practices, and/ or Lygus bug stings. (Do not scrape the cotyledon of suspect peas, merely remove their seedcoats.) Chalky peas are considered damaged peas, not weevil-damaged peas. (Visual Reference Image: Damage (Chalky))

(8) Damaged by Heat. Peas that have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on (Visual Reference Image: Damaged By Heat)

(9) Bacterium/Fungal Stain. Peas and pieces of peas that are stained by bacterium and/or fungal species to the minimum intensity shown at the center of the pea and in which the discoloration covers 50 percent or more of the pea's surface are considered damage. These conditions can affect see development and color, with severely infected seeds appearing much smaller than normal and having purple to pink discolored seed coats. (Visual Reference Image: Bacterium/Fungal Stain)

(10) Weather Damage. Peas and pieces of peas in which the surface area is discolored to the minimum intensity and coverage shown are considered damage. (Visual Reference Image: Weather Damage)

c. Record the percent of damaged peas on the work record and result section of the certificate to the nearest tenth percent.

3.22 OTHER CLASSES

Other Classes. *Whole and pieces of dry peas which are of a contrasting color or which differ materially in shape, or other characteristics from the predominating class; and in the case of Miscellaneous Dry peas, which differ from the predominating type.*

a. Determine other classes on a representative portion of approximately 250 grams of dockage free peas.

b. Mixed peas rarely appear on the market. Slight mixtures sometimes occur affecting the quality or grade of peas. This is especially true of peas of widely different types.

(1) Examples of mixtures of other classes are:

a. Smooth Green Dry Peas mixed with Smooth Yellow Dry Peas or vice versa.

b. Marrowfats mixed with either Smooth Green or Yellow Dry Peas, or vice versa.

(2) Wrinkled varieties found in smooth varieties always function as other classes even though the cotyledon and seedcoat may be the same color as the smooth peas. Conversely, smooth peas function as other classes when found in the wrinkled varieties.

c. Record the percent of other classes on the work record and result section of the certificate to the nearest tenth percent.

3.23 BLEACHED PEAS

Bleached Peas. *Whole and pieces of dry peas of green colored varieties which are bleached distinctly yellow in color or peas of yellow-colored varieties which are bleached distinctly green in color.*

NOTE: The grade limits for the factor Bleached peas must not apply to Wrinkled, Mottled and/or Miscellaneous Dry peas, except for Marrowfat-type dry peas.

The factor Bleached peas is applicable to Mixed peas.

a. Determine bleached peas on a representative portion of approximately 250 grams of dockage free peas.

b. Bleached peas are usually caused by adverse weather conditions prior to and during harvest, or by storage.

c. Bleached Green peas are green colored varieties of peas with one eighth or more of the surface distinctly bleached to a white or light creamy yellow color (Visual Reference Image: Bleached (Green Peas)) Bleached Yellow peas are yellow-colored varieties of peas with one eighth or more of the surface distinctly bleached to a greenish color (Visual Reference Image: Bleached (Yellow Peas))

NOTE: To facilitate the determination of this factor, the seedcoat may be broken or removed to enable a better examination of the cotyledon.

d. Record the percent of Bleached peas on the work record and result section of the certificate to the nearest tenth percent.

3.24 SPLIT PEAS

Split Peas. *The halves or smaller pieces of dry peas and dry peas in which the halves are loosely held together*.

a. Determine split peas on a representative portion of approximately 250 grams of dockage free peas.

b. Record the percent of split peas on the work record and result section of the certificate to the nearest tenth percent.

3.25 SHRIVELED PEAS

Shriveled Peas. *Dry peas which are distinctly shriveled in contrast to the natural shape and appearance of normally developed peas.*

a. Determine shriveled peas on a representative portion of approximately 250 grams of dockage free peas.

b. Shriveled (smooth-type) peas are usually discolored, misshapen, deeply dimpled, and/or withered in appearance. (Visual Reference Image: Shriveled (Smooth)).

c. Care should be taken not to confuse "normal" wrinkled peas for shriveled peas. Wrinkled peas are considered shriveled if they are either slightly shriveled and distinctly discolored (caramelized), or slightly discolored with severe dimpling in the seedcoat. (Visual Reference Image: Shriveled (Wrinkled)).

d. Record the percent of shriveled peas on the work record and result section of the certificate to the nearest tenth percent.

3.26 PEAS WITH CRACKED SEEDCOATS

Peas with Cracked Seedcoats. *Dry peas having readily discernible cracked seedcoats or peas which have all or a part of the seedcoat removed, and broken peas which are more than one-half of a whole pea.*

NOTE: For the classes of Smooth Seeded peas (but not "Seed Peas"), only the percentage of peas with cracked seedcoats in excess of 3.0 percent must be included in the factor "Total Defects and Foreign Material." (EXAMPLE: In a sample containing 3.2 percent of peas with cracked seedcoats, only 0.2 percent would be included in the Total Defects and Foreign Material.) For "Seed Peas" and Wrinkled Peas, include all peas with cracked seedcoats with Total Defects and Foreign Material.

a. Determine peas with cracked seedcoats on a representative portion of approximately 250 grams of dockage free peas.

   NOTE: When the brining method is used to determine weevil damaged peas, do not use the brined portion to determine peas with cracked seedcoats.

b. Peas with growth stress cracks which are usually tight and next to the hilum function as cracked seedcoats.

c. Do not consider the peas to be "peas with cracked seedcoats" if the cracked seedcoats can only be detected by rubbing the peas between your fingers. (Visual Reference Image: Cracked Seed Coats)

d. Record the percent of peas with cracked seedcoats on the work record and result section of the certificate to the nearest tenth percent.

3.27 FOREIGN MATERIAL

Foreign Material. *All matter other than dry peas, including detached seedcoats, which cannot be readily removed in the determination of dockage.*

a. Determine foreign material on a representative portion of approximately 250 grams of dockage free peas.

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

Kernels of corn that remain on top of hand sieves when determining dockage function as foreign material and corn passing through the sieve is dockage.

b. Record the percent of foreign material on the work record and result section of the certificate to the nearest tenth percent.

3.28 COLOR

Good Color Peas. *Dry peas that in mass are practically free from discoloration and have the natural color and appearance characteristics of the predominating class.* (Visual Reference Image: Smooth Yellow Dry Peas (Good Color))

Fair Color Yellow Peas. *Dry yellow peas that in mass are lightly to moderately discolored as a result of storage or any other cause to the extent they cannot be considered of good color*. (Visual Reference Image: Smooth Yellow Dry Peas (Fair Color)

Poor Color Peas. *Dry peas that in mass are distinctly off-color from the characteristic color of the predominating class as a result of age or any other cause.*

a. Determine color on a representative portion of approximately 250 grams after the removal of dockage, defective peas and foreign material.

b. Available General Appearance VRI serve as the basis for this assessment.

(1) Peas must be considered as “poor color” if they are not of a good natural color or are stained to an extent that seriously affect the appearance of the lot.

(2) Peas that are discolored by dust or a slight amount of dirt, which can be removed by processing methods, must not be considered as “poor color.”

c. When thresher run peas are determined to be other than “good color,” record this information on the work record and result section of the certificate.

3.29 ANIMAL FILTH

a. Determine animal filth on the basis of the lot as a whole and/or the representative sample as a whole.

b. Sufficient evidence of animal filth must be:

(1) Two or more rodent or bird pellets in the lot as a whole or the work sample; or

(2) One rodent or bird pellet in the work sample and one or more in the file sample.

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

c. When applicable, show the term “Animal Filth” on the work record and result section of the certificate.

3.30 BROKEN GLASS

a. Determine broken glass on the basis of the lot as a whole and/or the representative sample (before the removal of dockage) as a whole.

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

c. When applicable, show the term “Broken glass” on the work record and result section of the certificate.

3.31 METAL FRAGMENTS

a. Determine metal fragments, such as metal filings or metal shavings, on the basis of the lot as a whole and/or the representative sample (before the removal of dockage) as a whole.

b. Sufficient evidence of metal fragments must be:

(1) Two or more metal fragments in the lot as a whole or the work sample; or

(2) One metal fragment in the work sample and one or more in the file sample.

c. When applicable, show the term “Metal fragments” on the work record and result section of the certificate.

3.32 DISTINCTLY LOW QUALITY

Distinctly Low Quality. *Whole dry peas which are obviously of inferior quality because they are stained by an unknown foreign substance or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s) or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.*

a. Determine distinctly low quality on the basis of the dockage-free sample as a whole.

b. Peas that are obviously affected by unusual conditions, which adversely affect the quality of the peas, such as unknown foreign substance, or treatment with a fungicide, must be considered to be distinctly low quality.

c. Record the words “Distinctly Low Quality” and the reason(s) why in the result section of the certificate.

CHAPTER 4
DOCKAGE-FREE PEAS

Contents

4.1 DEFINITIONS 3

4.2 GRADES AND GRADE REQUIREMENTS 3

4.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS 3

4.4 WORK RECORD 4

4.5 REPRESENTATIVE PORTION 4

4.6 WORK SAMPLE 4

4.7 FILE SAMPLE 4

4.8 PERCENTAGES 4

4.9 LABORATORY SCALES 4

4.10 PRELIMINARY EXAMINATION 5

4.11 BASIS OF DETERMINATION 5

4.12 INSECT INFESTATION 6

4.13 MOISTURE 7

4.14 TEST WEIGHT PER BUSHEL 8

4.15 CLASS 8

4.16 ODOR 9

4.17 HEATING 10

4.18 DEFECTIVE PEAS 11

4.19 WEEVIL DAMAGED PEAS 11

4.20 HEAT DAMAGED PEAS 13

4.21 DAMAGED PEAS 13

4.22 OTHER CLASSES 15

4.23 BLEACHED PEAS 15

4.24 SPLIT PEAS 16

4.25 SHRIVELED PEAS 16

4.26 PEAS WITH CRACKED SEEDCOATS 16

4.27 FOREIGN MATERIAL 17

4.28 SIZE REQUIREMENTS 17

4.30 U.S. SAMPLE GRADE CRITERIA 20

4.31 DISTINCTLY LOW QUALITY 21

4.32 VISUAL REFERENCE IMAGES 21

GRADES AND GRADE REQUIREMENTS FOR DOCKAGE FREE PEAS 22

4.1 DEFINITIONS

Dockage-Free Dry Peas. *Dry peas from which the dockage has been removed.*

Whole Dry Peas. *Threshed seeds of the garden type pea plant (Pisum sativum L. and Pisum sativum var. arvense (L.) Poir.), which after the removal of dockage, contain 50.0 percent or more of whole peas and not more than 10.0 percent of foreign material.*

Split Peas. *The halves or smaller pieces of dry peas, and dry peas in which the halves are loosely held together.*

Thresher-Run Dry Peas. *Dry peas from which the dockage has not been removed.*

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

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

b. "Not Standardized Commodity." No further analysis is necessary on a sample designated as "Not Standardized Commodity" unless a specific factor test is requested.

4.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of whole dry peas are shown in the United States Standards for Whole Dry Peas and in the Attachment, "Grades and Grade Requirements for Dockage Free Peas," to this chapter.

4.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

a. The special grades and special grade requirements of all classes of Whole Dry peas are shown in the United States Standards for Whole Dry Peas.

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

(1) Large. Peas of the classes Smooth Green Dry Peas or Smooth Yellow Dry Peas of which not more than 3.0 percent of the peas will readily pass through the 16/64 inch round hole sieve.

(2) Small. Peas of the classes Smooth Green Dry Peas or Smooth Yellow Dry Peas of which not more than 3.0 percent of the peas will remain on the 16/64 inch round hole sieve and not more than 3.0 percent will readily pass through the 10/64 x 3/4 inch slotted hole sieve.

4.4 WORK RECORD

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 either form FGIS 981, “Pea and Lentil Laboratory Ticket,” or form FGIS 982, “Pea and Lentil Sample Ticket.” Cooperators must use a similar form.

4.5 REPRESENTATIVE PORTION

A specified quantity of peas divided out from the representative sample (refer to Chapter 2, sampling chapter) by means of an FGIS approved device.

4.6 WORK SAMPLE

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

4.7 FILE SAMPLE

a. A representative portion of peas (approximate size 1,000 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, appeal inspection and board appeal purposes.

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

4.8 PERCENTAGES

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

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

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

b. Record factor results to the nearest tenth percent.

4.9 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

4.10 PRELIMINARY EXAMINATION

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

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

4.11 BASIS OF DETERMINATION

All factor determinations must be made upon the basis of the dry peas after the removal of dockage with the following exceptions:

Dockage in thresher-run dry peas must be determined upon the basis of the peas as sampled.

Color must be determined after the removal of dockage, defective peas, and foreign material.

Defects in peas must be scored in accordance with the order shown in section 402(d) and once an individual pea is scored in a defective category, it must not be scored for any other defect. Percentages for all categories of defects must be calculated on the basis of the total weight of the sample analyzed for defective peas.

NOTE 1: When peas that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of peas, 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.

NOTE 2: When peas that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in class, quality, or condition, the peas in each portion must be inspected separately.
Follow a systematic grading procedure. The order of procedure varies with the class and quality of the peas and the tests that are required to determine the grade.

A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Examine the representative sample for odor, broken glass, metal fragments, and distinctly low quality.

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

(4) Examine the work sample for class and infestation.

(5) Divide out a 250-gram portion. When necessary, sieve the portion to determine if the peas meet the size requirements for “large” or “small” peas, or for applying numerical grades. For special grade “small” peas, all portion sizes may be 125-grams.

(6) Examine the 250-gram portion for defective peas, other classes, and foreign material.

(7) After removing the defective peas and foreign material from the portion, examine the “clean” portion for color.

4.12 INSECT INFESTATION

NOTE: “Weevils” include pea weevils, coffee bean weevils, broad nosed grain weevils, rice weevils, granary weevils, maize weevils and lesser grain borers. “Other live insects” include beetles, moths, meal worms and other insects injurious to stored peas. Insect larvae are considered the same as adult insects. Dead insects do not apply.

To further define “other insects injurious to stored peas” refer to the USDA-ARS, Agricultural Handbook 500 – Stored Grain Insects**. Images of insects may also be viewed on the** GIPSA website**.**

a. Determine infestation on the basis of the work sample as a whole, a representative portion of approximately 250 grams, and the lot as a whole.

(1) Perform a cursory examination of the work sample. If two or more live insects are found, consider the peas to be “U.S. Sample grade.”

(2) Closely examine a representative portion of approximately 250 grams divided out from the work sample.

(a) If no live insects are found in the sample, make no further check of the sample for insects.

(b) If two or more live insects are found, consider the peas to be “U.S. Sample grade.”

(c) If one live insect is found, examine the remainder of the work and file sample.

1 If one or more live insects are found in the remainder of the work or file sample, consider the peas to be “U.S. Sample grade.”

2 If no live insects are found in the remainder of the work or file sample, do not consider the peas to be “U.S. Sample grade.”

(3) Examine the peas in the lot; i.e., the surface area of the lot and the area around the lot.

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

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

(b) If two or more live insects are found, consider the peas to be "U.S. Sample grade."

b. When applicable, show the number of live insects on the work record and results section of the certificate, and grade the peas "U.S. Sample grade."

4.13 MOISTURE

Moisture. Water content in whole peas as determined by an approved device according to procedures prescribed in FGIS instructions.

The moisture of whole dry peas is determined by using the GAC2500-UGMA and Perten AM 5200-A instruments utilizing the calibrations of the predominate type of pea (see FGIS Directive 9180.61).

Basis of Determination. Determine moisture on a representative portion of approximately 650-grams.

The procedures for performing a moisture determination using the GAC2500-UGMA and Perten AM 5200-A meters are described in the Moisture Handbook.

Certification. Record the percent of moisture on the work record and result section of the certificate to the nearest tenth percent. If the moisture results exceed 15.0 percent, grade the peas "U.S. Sample grade."

NOTE: To determine moisture on Marrowfat Peas use the Smooth Green Dry Pea moisture chart.

4.14 TEST WEIGHT PER BUSHEL

NOTE: This factor is not provided for under the United States Standards for Whole Dry Peas, but may be determined upon request.

a. Determine test weight per bushel on a representative portion of sufficient size to overflow the kettle.

b. See Grain Grading Procedures Volume 1: General Information, for information about performing test weight per bushel determinations.

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

4.15 CLASS

Peas are divided into the following classes:

Smooth Green Dry Peas. *Dry peas which have smooth seedcoats and green cotyledons and contain not more than 1.5 percent of other classes.*

Smooth Yellow Dry Peas. *Dry peas which have smooth seedcoats and yellow cotyledons and contain not more than 1.5 percent of other classes.*

Wrinkled Dry Peas. *Dry peas which have wrinkled seedcoats and contain no more than 1.5 percent of other classes.*

Mottled Dry Peas. *Dry peas of the Austrian winter pea type and other peas which have colored or distinctively mottled seedcoats which contain no more than 1.5 percent of other classes.*

Miscellaneous Dry Peas. *Dry peas that do not meet the criteria for any other class of dry peas and contain no more than 1.5 percent of other classes. (The grade limits for the factor Bleached peas must not apply to Miscellaneous Dry peas, except for Marrowfat-type Dry peas.)*

Mixed Dry Peas. *Any mixture that does not meet the requirements for the classes Smooth Green, Smooth Yellow, Wrinkled, Mottled, or Miscellaneous Dry peas; or any mixture of different types of Miscellaneous Dry peas.*

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

b. When a detailed examination is necessary, make this determination on a representative portion of approximately 250 grams.

c. If the peas contain more than 1.5 percent of “other classes:”

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

(2) Grade the peas “Mixed Dry peas,” and record the percent of each class of peas to the nearest tenth percent on the work record and result section of the certificate.

d. Miscellaneous dry peas are any class of dry peas not classified in the standards. For certification, show the commonly accepted commercial name as the class.

4.16 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

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

(a) 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.

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

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

A drier odor that resembles a moldy or basement odor should be made “Musty.”

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

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

NOTE: A sample with a light drier (cooked) odor is not considered an objectionable odor.

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

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

(b) 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.

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

b. When peas are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and the result section of the certificate, and grade the peas “U.S. Sample grade.”

4.17 HEATING

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

(1) When high temperatures develop in dry peas as the result of excessive respiration, such peas are heating.

(2) Heating peas usually give off a sour or musty odor.

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

b. When applicable, show the term “Heating” on the work record and result section of the certificate, and grade the peas “U.S. Sample grade.”

4.18 DEFECTIVE PEAS

The categories of defective peas must be weevil-damaged peas, heat-damaged peas, damaged peas, other classes, bleached peas, split peas, shriveled peas and peas with cracked seedcoats.

a. Determine defective peas on a representative portion of approximately 250 grams.

b. Score defects in the following order: Weevil damaged, heat damaged, damaged, other classes, bleached peas, split peas, shriveled peas and peas with cracked seedcoats.

(1) Once an individual pea is scored, do not score it for any other defect but retain it as part of the sample for purposes of determining the percentage of total defects in the sample.

(2) Record the percent of each type of defect on the work record and the certificate to the nearest tenth percent.

4.19 WEEVIL DAMAGED PEAS

Weevil Damaged Peas. *Whole and pieces of dry peas which are distinctly damaged by the pea weevil or other insects*.

a. Determine weevil damaged peas on a representative portion of approximately 250 grams.

(1) Weevil eaten damage. Peas which have been eaten by weevils to the extent that the peas are light in weight and can be removed readily from the sound peas in the processing plant by either a gravity machine or brine solution. (Visual Reference Image: Weevil Damage)

(2) Pinhole damage.

(a) Peas which have been stung by the pea weevil or other insect, and the damage extends into the cotyledon. Peas that have been “marked” by insects but where the sting does not penetrate the cotyledon are not considered weevil damaged peas.

(b) Peas containing dead larvae in which the cavities are small (e.g., about dull pencil lead size). (Visual Reference Image: Weevil Damage)

NOTE: Any pea that contains or has contained a weevil or larvae of the pea weevil is considered weevil-damaged.

Dead insects, when found in the cavity of a pea, cause the pea to be considered weevil damage.

b. Weevil damaged peas are usually bleached in appearance and show a discolored window which indicates the presence of larvae within the pea. There are two methods of determining weevil damage.

(1) Visual Examination.

(a) Examine each pea for evidence of weevil stings or boring.

(b) If a pea has been stung, cut the pea to determine the extent of the penetration and whether it contains a live insect.

(2) Brine Solution Test.

NOTE 1: Complete all other factor examinations before soaking the peas in a brine solution.

NOTE 2: This method is not satisfactory for wrinkled peas as the wrinkles form pockets which may cause many sound peas to float along with the weevil damaged peas.

(a) Place a wire basket (a tube 6 inches wide by 7 inches deep, (eight-mesh-per-inch screen) in a stone jar. Fill the stone jar about half full with water. Then add calcium chloride until a specific gravity of 1.225 is reached.

(b) Pour the representative portion into the screen and stir so that all air pockets are eliminated.

(c) Use a tea strainer type ladle to lift out the peas which float on top of the solution. Peas that float are normally weevil damaged, but this should be confirmed by visual examination.

(d) Skim off the peas that float and thoroughly rinse them under running water.

(e) Partially dry the “floaters” on blotter trays. Then place the peas in heater trays (wire screens having 1/8-inch openings), set the trays in a heater/ dryer until all the surface moisture has disappeared, and visually examine for weevil damage.

c. Record the percent of weevil damaged peas (total of those found by visual examination and by brine solution test) on the work record and results section of the certificate to the nearest tenth percent.

4.20 HEAT DAMAGED PEAS

Heat-Damaged Peas. Whole and pieces of dry peas which have been materially discolored as a result of heating.

a. Determine heat damaged peas on a representative portion of approximately 250 grams. (Visual Reference Image: Heat Damage).

b. Record the percent of heat damaged peas on the work record and the certificate to the nearest tenth percent.

4.21 DAMAGED PEAS

Damaged Peas. *Whole and pieces of dry peas which are distinctly: (1) damaged by frost, weather, disease, heat (other than materially discolored as a result of heating), or other causes; and (2) soiled or stained by dirt (not applicable for the class Wrinkled Dry peas)*.

Damaged peas must not include weevil-damaged peas or heat-damaged peas.

a. Determine damaged peas on a representative portion of approximately 250 grams.

b. The major types of damaged peas are as follows:

(1) Dirt and Grime Damaged Peas. Dirt and grime damaged peas include peas and pieces of peas with dirt or grime (including nightshade juice/bag markings/ink stains) adhering to the seedcoat equal to or greater than shown on (Visual Reference Image: Damage (Dirt/Grime))

NOTE: Dirt and grime damage does not apply to the class Wrinkled Dry peas or smooth seeded peas grown for seed purposes.

(2) Frost Damaged Peas. Peas and pieces of peas which have been damaged by frost to the extent that the cotyledon has been discolored green with an area of coverage and intensity equal to or greater than shown on (Visual Reference Image: Frost Damage). Frost damage is indicated by the appearance of the whole pea, but the actual determination for damage must be made on the basis of the opened pea.

(3) Mold/Mildew Damaged Peas. Peas and pieces of peas which contain mold/mildew equal to or greater than that shown on (Visual Reference Image: Mold/Mildew Damage). Mold/Mildew may appear on or around the hilum, the surface, and/or the cotyledon. A pea that contains any mold/mildew on the cotyledon must be considered damaged.

(4) Sprout Damaged Peas. Peas and pieces of peas which are sprouted in which the sprout is equal to or greater than that shown on (Visual Reference Image: Sprout Damage).

(5) Badly Shriveled Peas. Peas that are shriveled and discolored to a deep brown or reddish cast.

(6) Worm Eaten or Worm Cut Peas. Peas and pieces of peas which have been chewed by insect larvae; not to be confused with weevil bored peas containing insect webbing or filth. Any chewed pea is considered damaged.

(7) Chalky Peas. Peas that have a white spot caused by unusual weather conditions, some harvesting practices, and/or Lygus bug stings. (Do not scrape the cotyledon of suspect peas, merely remove their seedcoats.) Chalky peas are considered damaged peas, not weevil-damaged peas. (Visual Reference Image: Damage (Chalky))

(8) Damaged by Heat. Peas that have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on (Visual Reference Image: Damage By Heat).

(9) Bacterium/Fungal Stain. Peas and pieces of peas that are stained by bacterium and/or fungal species to the minimum intensity shown at the center of the pea and in which the discoloration covers 50 percent or more of the pea's surface are considered damage. These conditions can affect see development and color, with severely infected seeds appearing much smaller than normal and having purple to pink discolored seedcoats. (Visual Reference Image: Bacterium/Fungal Stain.)

(10) Weather Damage. Peas and pieces of peas in which the surface area is discolored to the minimum intensity and coverage shown are considered damage. (Visual Reference Image: Weather Damage)

c. Record the percent of damaged peas on the work record and result section of the certificate to the nearest tenth percent.

4.22 OTHER CLASSES

Other Classes. *Whole and pieces of dry peas which are of a contrasting color or which differ materially in shape, or other characteristics from the predominating class; and in the case of Miscellaneous Dry peas, which differ from the predominating type.*

a. Determine other classes on a representative portion of approximately 250 grams of dockage free peas.

b. Mixed peas rarely appear on the market. Slight mixtures sometimes occur affecting the quality or grade of peas. This is especially true of peas of widely different types.

(1) Examples of mixtures of other classes are:

(a) Smooth Green Dry Peas mixed with Smooth Yellow Dry Peas or vice versa.

(b) Marrowfats mixed with either Smooth Green or Yellow Dry Peas or vice versa.

(2) Wrinkled varieties found in smooth varieties always function as other classes even though the cotyledon and seedcoat may be the same color as the smooth peas. Conversely, smooth peas function as other classes when found in the wrinkled varieties.

c. Record the percent of other classes on the work record and result section of the certificate to the nearest tenth percent.

4.23 BLEACHED PEAS

Bleached Peas. *Whole and pieces of dry peas of green-colored varieties which are bleached distinctly yellow in color or peas of yellow-colored varieties which are bleached distinctly green in color.*

NOTE: The grade limits for the factor Bleached peas must not apply to Wrinkled, Mottled and Miscellaneous Dry peas, except for Marrowfat-type dry peas.

NOTE: Bleached peas are applicable as a grading factor in Mixed Peas.

a. Determine bleached peas on a representative portion of approximately 250 grams.

b. Bleached peas are usually caused by adverse weather conditions prior to and during harvest, or by storage.

c. Bleached green peas are green-colored varieties of peas with one eighth or more of the surface distinctly bleached to a white or light creamy yellow color. (Visual Reference Image: Bleached (Green Peas)) Bleached Yellow peas are

yellow-colored varieties of peas with one eighth or more of the surface distinctly bleached to a greenish colo. (Visual Reference Image: Bleached (Yellow Peas))

NOTE: To facilitate the determination of this factor, the seedcoat may be partially removed to enable better examination of the cotyledon.

d. Record the percent of Bleached peas on the work record and result section of the certificate to the nearest tenth percent.

4.24 SPLIT PEAS

Split Peas. The halves or smaller pieces of dry peas and dry peas in which the halves are loosely held together.

a. Determine split peas on a representative portion of approximately 250 grams.

b. Small broken pieces of peas function as splits.

c. Record the percent of split peas on the work record and result section of the certificate to the nearest tenth percent.

4.25 SHRIVELED PEAS

Shriveled Peas. Dry peas which are distinctly shriveled in contrast to the natural shape and appearance of normally developed peas.

a. Determine shriveled peas on a representative portion of approximately 250 grams.

b. Shriveled (smooth-type) peas are usually discolored, misshapen, deeply dimpled, and/or withered in appearance. (Visual Reference Image: Shriveled (Smooth))

c. Care should be taken not to confuse “normal” wrinkled peas for shriveled peas. Wrinkled peas are considered shriveled if they are slightly shriveled and distinctly discolored (caramelized), or slightly discolored with severe dimpling in the seedcoat. (Visual Reference Image: Shriveled (Wrinkled))

d. Record the percent of shriveled peas on the work record and result section of the certificate to the nearest tenth percent.

4.26 PEAS WITH CRACKED SEEDCOATS

Peas with Cracked Seedcoats. *Dry peas having readily discernible cracked seedcoats or peas which have all or a part of the seedcoat removed, and broken peas which are more than one-half of a whole pea.*

a. Determine peas with cracked seedcoats on a representative portion of approximately 250 grams.

NOTE: When the brining method is used to determine weevil damaged peas, do not use the brined portion to determine peas with cracked seedcoats.

b. Peas with growth stress cracks which are usually tight and next to the hilum function as cracked seedcoats.

c. Do not consider peas to be "peas with cracked seedcoats," if the cracked seedcoats can only be detected by rubbing the peas between your fingers. (Visual Reference Image: Cracked Seed Coats)

d. Record the percent of peas with cracked seedcoats on the work record and result section of the certificate to the nearest tenth percent.

4.27 FOREIGN MATERIAL

Foreign Material. *All matter other than dry peas, including detached seedcoats.*

a. Determine foreign material on a representative portion of approximately 250 grams.

Small pieces of seedcoats and dead insects both function as foreign material.

b. Record the percent of foreign material on the work record and the certificate to the nearest tenth percent.

4.28 SIZE REQUIREMENTS

Dry peas of any of the numerical grades must be of such size that not more than 3.0 percent must pass through the appropriate oblong-hole sieve as follows:

Peas	Appropriate Sieve
Mottled Dry Peas	**9/64 " x 3/4 "**
Special Grade "Small" Peas	**10/64 " x 3/4 "**
All Other Peas	**11/64 " x 3/4 " (oblong or slotted)**

Large. Peas of the classes Smooth Green Dry peas or Smooth Yellow Dry peas of which not more than 3.0 percent of the peas will readily pass through the 16/64 inch round-hole sieve.

Small. Peas of the classes Smooth Green Dry peas or Smooth Yellow Dry peas of which not more than 3.0 percent of the peas will remain on the 16/64 inch round-hole sieve and not more than 3.0 percent will readily pass through the 10/64 inch x 3/4 inch slotted-hole sieve.

a. Determine uniformity of size and/or the special grades “Large” and “Small” on a representative portion of approximately 250 grams.

(1) Size peas for determining uniformity, by sieving the representative portion with the appropriate size sieve (see Table 1). For Mixed Dry peas and Miscellaneous Dry peas, use the sieve prescribed for the class of peas that predominates the mixture.

Table 1

Prescribed Sieves	
Classes	**Sieves**
Mottled Peas	9/64” x 3/4”
Special Grade-Small Peas	10/64” x 3/4”
All Other Peas	11/64” x 3/4” (oblong or slotted

(2) Size smooth peas for determining special grade “Large” or “Small” by sieving the representative portion with the appropriate size sieve (see Table 2). For Mixed Dry peas and Miscellaneous Dry peas, use the sieve prescribed for the class of peas that predominates the mixture.

Table 2

Prescribed Sieves	
Special Grade	**Sieves**
Large Smooth Dry Peas	16/64” round-hole
Small Smooth Dry Peas	16/64” round-hole and 10/64” x 3/4”

b. Size the peas as follows:

(1) Nest the appropriate size sieve(s) on top of a bottom pan.

(2) Place the sieve in a mechanical sizer so that the slotted perforations are parallel to the motion of the sizer and set the timer to 20.

(3) Put the representative portion in the center of the sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

(4) Return the peas remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(5) Determine the percent of peas that pass through the sieve(s).

c. Record the percent of peas that pass through the sieve(s) and the size of sieve(s) used in the determination on the work record.

(1) When determining uniformity of size, if more than 3.0 percent of the peas pass through the sieve, record the percent that passed through on the certificate to the nearest tenth percent and grade the peas “U.S. Sample grade.”

(2) When determining special grade “Large” or “Small:”

(a) If not more than 3.0 percent of the peas pass through a 16/64 inch round hole sieve, show the special grade “Large” on the work record and on the grade line of the certificate.

(b) If not more than 3.0 percent of the peas remain on top of a 16/64 inch round hole sieve and not more than 3.0 percent pass through a 10/64 x 3/4 inch sieve, show the special grade “Small” on the work record and on the grade line of the certificate.

NOTE: Upon request, the percentage of peas that will pass through a 9/64 x 3/4 inch, 10/64 x 3/4 inch, and/or 11/64 x 3/4 inch (oblong or slotted) sieve may also be shown in the result section of the certificate.

4.29 COLOR

Good Color Peas. *Dry peas that in mass are practically free from discoloration and have the natural color and appearance characteristics of the predominating class.*

Fair Color Yellow Peas. *Dry yellow peas that in mass are lightly to moderately discolored as a result of storage or any other cause to the extent they cannot be considered of good color.*

Poor Color Peas. *Dry peas that in mass are distinctly off-color from the characteristic color of the predominating class as a result of age or any other cause.*

a. Determine color on a representative portion of approximately 250 grams after the removal of defective peas and foreign material.

b. Available interpretive line prints (ILP) serve as the basis for this general appearance assessment.

(1) Peas must be considered as “poor color” if they are not of a good natural color or are stained to an extent that seriously affect the appearance of the lot.

(2) Peas that are discolored by dust or a slight amount of dirt, which can be removed by processing methods, must not be considered as “poor color.”

c. When dockage-free peas are determined to be other than “good color,” record this information on the work record and result section of the certificate.

d. Yellow Peas that are “fair” in color must grade no higher than U.S. No. 2. Peas that are “poor” in color must grade no higher than U.S. No. 3.

4.30 U.S. SAMPLE GRADE CRITERIA

Basis of Determination. Determine U.S. Sample Grade criteria on the lot as a whole and/or the representative sample as a whole. (Table 3) shows the criteria and corresponding tolerance limits, and the appropriate basis of determination

Table 3

U.S. SAMPLE GRADE CRITERIA			
Criteria	Visual Reference Image	Number/Weight[1]	
		Sample Basis	Lot Basis[2]
Any numerical grading factor		Excess of limit for U.S. No. 3	N/A
Moisture		more than 15.0%	N/A
Animal filth	Animal Filth	2 or more	2 or more
Deer/Elk Pellets		1 or more	1 or more
Broken Glass (any size)		Presence	Presence
Live Insects		2 or more	2 or more
Metal Fragments		2 or more	2 or more
Odor		Presence	Presence
Insect Webbing or Filth		2 or more	2 or more
Heating		Presence	Presence

[1] Record count factors to the nearest whole number.

[2] The entire sample of a submitted sample is considered as the lot.

Certification. Grade dockage-free peas “U.S. Sample Grade” when one or more of the limits in Table 3 are exceeded. Record the reason(s) why in the “Results” section of the certificate. Record count factors to the nearest whole number.

4.31 DISTINCTLY LOW QUALITY

Distinctly Low Quality. *Whole dry peas which are obviously of inferior quality because they are stained by an unknown foreign substance or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s) or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.*

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

b. Peas that are obviously affected by unusual conditions which adversely affect the quality of the peas, such as unknown foreign substance, or treatment with a fungicide, must be considered to be "distinctly low quality."

c. Record the words "Distinctly Low Quality" and the reason(s) why in the "Results" section of the certificate, and grade the peas "U.S. Sample grade."

4.32 VISUAL REFERENCE IMAGES

Visual Reference Images (VRI) (Table 4) are used to ensure consistent and uniform application of grading lines and illustrate types of damage in conjunction with written descriptions.

Table 4

Visual Reference Images		
Peas	**Split Peas**	**Peas / Split Peas**
DAMAGE (DIRT/GRIME)	WEEVIL DAMAGE (CAVITY)	DAMAGE (CHALKY)
MOLD/MILDEW DAMAGE	STAINED (GREEN)	HEAT DAMAGE
SPROUT DAMAGE	STAINED (YELLOW)	DAMAGED BY HEAT
WEEVIL DAMAGE	WHOLE DRY PEA	BLEACHED (GREEN PEAS)
WEEVIL DAMAGE (STING)		BLEACHED (YELLOW PEAS)
FROST DAMAGE		
CRACKED SEEDCOATS		
SHRIVELED (SMOOTH)		
SHRIVELED (WRINKLED)		
BACTERIUM/FUNGAL STAIN		
WEATHER DAMAGE		
General Appearance		
Smooth Yellow (Good Color)		
Smooth Yellow (Fair Color)		

GRADES AND GRADE REQUIREMENTS FOR DOCKAGE FREE PEAS

Grading Factors	Maximum percent limits of: Grades U.S. Nos.[1]		
	1	2	3
Defective Peas			
Weevil-Damaged Peas	**0.3**	**0.8**	**1.5**
Heat-Damaged Peas	**0.2**	**0.5**	**1.0**
Damaged Peas[2]	**1.0**	**1.5**	**2.0**
Other Classes[3]	**0.3**	**0.8**	**1.5**
Bleached Peas[4]	**1.5**	**3.0**	**5.0**
Split Peas	**0.5**	**1.0**	**1.5**
Shriveled Peas	**2.0**	**4.0**	**8.0**
Peas with Cracked Seedcoats	**5.0**	**7.0**	**9.0**
Foreign Material	**0.1**	**0.2**	**0.5**
Minimum Requirements for Color	**Good**	**Good**	**Poor**
Smooth Yellow Dry Peas	**Good**	**Fair**	**Poor**

U.S. Sample grade: U.S. Sample grade must be dockage-free peas which:

(a) Do not meet the requirements for the grades U.S. Nos. 1, 2, or 3; or

(b) Contain metal fragments, broken glass, or commercially objectionable odor; or

(c) Contain more than 15 percent moisture; or

(d) Are heating, or distinctly low quality; or

(e) Are infested with live weevils or other live insects.[5]

[1] Uniformity of Size Requirements - Dry peas of any of the numerical grades must be of such size that not more than 3.0 percent must pass through the appropriate oblong-hole sieve as follows:

Mottled peas ..... 9/64” x 3/4”
Special grade - Small peas..... 10/64” x 3/4”
All other peas .....11/64” x 3/4” oblong or slotted

[2] Damaged peas do not include weevil-damaged or heat-damaged peas.

[3] These limits do not apply to the class Mixed Dry peas.

[4] These limits do not apply to Mottled, Wrinkled and/or Miscellaneous Dry peas, except for Marrowfat- type Dry peas.

[5] As applied to dockage-free whole dry peas, the meaning of the term infested as set forth in the Pea and Lentil Inspection Handbook.

CHAPTER 5
SPLIT PEAS

Contents

5.1 DEFINITIONS 3

5.2 GRADES AND GRADE REQUIREMENTS 3

5.3 SPECIAL GRADE AND SPECIAL GRADE REQUIREMENTS 3

5.4 WORK RECORD 4

5.5 REPRESENTATIVE PORTION 4

5.6 WORK SAMPLE 4

5.7 FILE SAMPLE 4

5.8 PERCENTAGES 4

5.9 LABORATORY SCALES 5

5.10 PRELIMINARY EXAMINATION 5

5.11 BASIS OF DETERMINATION 5

5.12 INSECT INFESTATION 6

5.13 MOISTURE 7

5.14 TEST WEIGHT PER BUSHEL 7

5.15 CLASS 8

5.16 ODOR 8

5.17 HEATING 9

5.18 DEFECTIVE SPLIT PEAS 10

5.19 WEEVIL DAMAGED SPLIT PEAS 10

5.20 HEAT DAMAGED SPLIT PEAS 11

5.21 DAMAGED SPLIT PEAS 11

5.22 CONTRASTING SPLIT PEAS 12

5.23 WHOLE PEAS 13

5.24 WHITE CAPS 13

5.25 BLEACHED SPLIT PEAS 14

5.26 FOREIGN MATERIAL 14

5.27 SIZE REQUIREMENTS 15

5.28 COLOR 16

5.29 U.S. SAMPLE GRADE CRITERIA 17

5.30 DISTINCTLY LOW QUALITY 17

5.31 VISUAL REFERENCE IMAGES 18

GRADES AND GRADE REQUIREMENTS FOR SPLIT PEAS 19

5.1 DEFINITIONS

Split Peas. *Threshed seeds of the garden type pea plant (Pisum sativum L. and Pisum sativum var. arvense (L.) Poir.), which have 50.0 percent or more of the peas split into halves or smaller pieces and contain not more than 10.0 percent of foreign material.*

NOTE: Two halves of a pea that are misaligned but stuck together must be considered split peas.

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

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

b. "Not Standardized Commodity." No further analysis is necessary on a sample designated as "Not Standardized Commodity" unless a specific factor test is requested.

5.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for all classes of split peas are shown in the United States Standards for Split Peas and in the attachment, "Grades and Grade Requirements for Split Peas," to this chapter.

5.3 SPECIAL GRADE AND SPECIAL GRADE REQUIREMENTS

a. The special grade and special grade requirements of all classes of split peas are shown in the United States Standards for Split Peas.

b. The special grade "Split Pea Chips" must be applied in accordance with the following requirements. The split peas must readily pass through a 12/64 inch round hole sieve. Additional size requirements for the respective numerical grades must be as follows:

U.S. No. 1 Not more than 3.0 percent must readily pass through a 6/64 inch round hole sieve.

U.S. No. 2 Not more than 6.0 percent must readily pass through a 6/64 inch round hole sieve.

U.S. No. 3 Not more than 10.0 percent must readily pass through a 6/64 inch round hole sieve.

5.4 WORK RECORD

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. Federal Grain Inspection Service (FGIS) personnel must use either form FGIS 981, “Pea and Lentil Laboratory Ticket,” or form FGIS 982, “Pea and Lentil Sample Ticket.” Cooperators must use a similar form.

NOTE: For submitted sample inspections, results may be recorded on form FGIS 994, “Commodity Certificate Submitted Sample Inspection,” or similar form.

5.5 REPRESENTATIVE PORTION

A specified quantity of split peas divided out from the representative sample (refer to Chapter 2, Sampling) by means of an FGIS approved device.

5.6 WORK SAMPLE

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

5.7 FILE SAMPLE

a. A representative portion of split peas (approximate size 1,000 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, appeal inspection and board appeal purposes.

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

5.8 PERCENTAGES

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

(1) When the figure to be rounded is followed by a figure greater than or equal to five, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

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

b. Record all results to the nearest tenth percent.

5.9 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

5.10 PRELIMINARY EXAMINATION

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

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

5.11 BASIS OF DETERMINATION

All factor determinations must be made upon the basis of the split peas as sampled.

Defects in split peas must be scored in accordance with the order shown in Section 501 (e) of the standards. Once an individual pea is scored in a defective category, it must not be scored for any other defect but it must remain as a part of the sample for purposes of determining percentages of other defects in the sample.

NOTE 1: When split peas that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of split peas, 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.

NOTE 2: When split peas that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in class, quality, or condition, the split peas in each portion must be inspected separately.

Follow a systematic grading procedure. The order of procedure varies with the class and quality of the split peas and the tests that are required to determine the grade.

A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Examine the representative sample for odor, color, broken glass, metal fragments, and distinctly low quality.

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

(4) Examine the work sample for class and infestation.

(5) Divide out a 250-gram portion and sieve the portion to determine the percent of split peas that pass through 6/64 inch, 8/64 inch, and 10/64 inch round hole sieves or to determine if the split peas meet the size requirements for "chips."

(6) Recombine the 250-gram portion and examine it for defective split peas and foreign material.

5.12 INSECT INFESTATION

NOTE: "Weevils" include pea weevils, coffee bean weevils, broad nosed grain weevils, rice weevils, granary weevils, maize weevils and lesser grain borers. "Other live insects" include beetles, moths, meal worms and other insects injurious to stored peas. Insect larvae are considered the same as adult insects.

To further define "other insects injurious to stored peas" refer to the USDA-ARS, Agricultural Handbook 500 – Stored Grain Insects**. Images of insects may also be viewed on the** GIPSA website**.**

a. Determine infestation on the basis of the work sample as a whole, a representative portion of approximately 250 grams, and the lot as a whole.

(1) Perform a cursory examination of the work sample. If two or more live insects are found, consider the split peas to be "U.S. Sample grade."

(2) Closely examine a representative portion of approximately 250 grams divided out from the work sample.

(a) If no live insects are found in the sample, make no further check of the sample for insects.

(b) If two or more live insects are found, consider the peas to be "U.S. Sample grade."

(c) If one insect is found, examine the remainder of the work sample.

1 If one or more insects are found in the remainder of the work sample, consider the peas to be "U.S. Sample grade."

2 If no insects are found in the remainder of the work sample, do not consider the peas to be "U.S. Sample grade."

NOTE: The presence of two or more split peas containing insect webbing or filth (refuse, excreta, dead insects or larvae) in the representative sample as a whole is considered sufficient evidence of insect infestation. But, the presence of pea weevils in a warehouse should not be considered an indication of infestation unless live or dead pea weevils are found inside bags or containers of peas.

(3) Examine the split peas in the lot; i.e., the surface area of the lot and the area around the lot.

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

(b) If two or more live insects are found, consider the split peas to be "U.S. Sample grade."

b. When applicable, show "U.S. Sample grade on account of (live insects or insect webbing and filth)" on the work record and in the Remarks section of the certificate, and grade the split peas "U.S. Sample grade."

5.13 MOISTURE

Moisture. *Water content in split peas as determined by an approved device according to procedures prescribed in FGIS instructions.*

The moisture of split peas is determined by using the GAC2500-UGMA and Perten AM 5200-A instruments utilizing the calibrations of the predominate type of pea (see FGIS Directive 9180.61).

Basis of Determination. Determine moisture on a representative portion of approximately 650-grams.

The procedures for performing a moisture determination using the GAC2500-UGMA and Perten AM 5200-A meters are described in the Moisture Handbook.

Certification. Record the percent of moisture on the work record and result section of the certificate to the nearest tenth percent. If the moisture results exceed 15.0 percent, grade the peas "U.S. Sample grade."

5.14 TEST WEIGHT PER BUSHEL

NOTE: This factor is not provided for under the United States Standards for Split Peas, but may be determined upon applicant request.

a. Determine test weight per bushel before the removal of dockage on a representative portion of sufficient size to overflow the kettle and certify to the nearest tenth of a pound.

b. See Grain Grading Procedures, Volume 1: General Information, for information on performing test weight per bushel determinations.

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

5.15 CLASS

Split peas must be divided into the following classes:

Green Split Peas. Split peas from smooth green dry pea varieties.

Yellow Split Peas. Split peas from smooth yellow dry pea varieties.

Miscellaneous Split Peas. Split peas from classes of whole peas other than smooth green or smooth yellow dry pea varieties.

NOTE: There is no class of "Mixed Split Peas."

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

b. When a detailed examination is necessary, make this determination on a representative portion of approximately 250 grams.

c. When Green or Yellow Split Peas contain in excess of the 1.5 percent of "contrasting split peas," and when Miscellaneous Split Peas contain in excess of 2.0 percent of "contrasting split peas," grade the split peas "U.S. Sample grade."

5.16 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

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

(a) 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.

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

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

A drier odor that resembles a moldy or basement odor should be made "Musty."

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

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

NOTE: A Split pea sample with a light drier (cooked) odor is not considered an objectionable odor.

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

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

(b) 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.

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

b. When split peas are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and the certificate, and grade the split peas "U.S. Sample grade."

5.17 HEATING

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

(1) When high temperatures develop in split peas as the result of excessive respiration, such split peas are heating.

(2) Heating split peas usually give off a sour or musty odor.

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

b. When applicable, show the term "Heating" on the work record and the certificate, and grade the split peas "U.S. Sample grade."

5.18 DEFECTIVE SPLIT PEAS

Defective Split Peas. *The categories of defective split peas must be weevil-damaged split peas, heat-damaged split peas, damaged split peas, contrasting split peas, whole peas, white caps and bleached split peas.*

a. Determine defective peas on a representative portion of approximately 250 grams.

b. Score defects in the following order: Weevil damaged, heat damaged, damaged, contrasting split peas, whole peas (score weevil-damaged, heat-damaged, or damaged whole peas as “weevil-damaged,” “heat-damaged,” or “damaged,” not as “whole peas”), white caps and bleached split peas.

(1) Once an individual split pea is scored, do not score it for any other defects but retain it as part of the sample for purposes of determining the percentage of other defects in the sample.

(2) Record the percent of each type of defect on the work record and the certificate to the nearest tenth percent.

5.19 WEEVIL DAMAGED SPLIT PEAS

Weevil-Damaged Split Peas. *Split peas (including whole peas in split peas) which are distinctly damaged by the pea weevil or other insects*.

NOTE: Score weevil-damaged whole peas as “weevil-damaged,” not as “whole peas.” Do not include weevil-damaged in the total percent of damage split peas.

a. Determine weevil damaged split peas on a representative portion of approximately 250 grams.

b. Usually, weevil damaged split peas may be determined by visually examining the flat side of the cotyledon.

(1) The cavity left by the weevil larvae in the whole pea results in a cup like indentation on the split pe

(2) Often, the pea weevil larvae dies before penetrating the center of the whole pea, leaving a black or discolored sting mark on the convex side of the cotyledon. When this sting mark is definite and shows distinct evidence of larvae penetration, consider the split pea to be weevil damaged. (Visual Reference Image: Weevil Damage (Cavity))

c. Record the percent of weevil damaged split peas on the work record and the certificate to the nearest tenth percent.

5.20 HEAT DAMAGED SPLIT PEAS

Heat Damaged Split Peas. *Split peas (including whole peas in split peas) which have been materially discolored and damaged by heat.*

NOTE: Score heat-damaged whole peas as "heat-damaged," not as "whole peas." Do not include heat-damaged in the total percent of damage split peas.

a. Determine heat damaged peas on a representative portion of approximately 250 grams.

b. Consider split peas that have been discolored equal to or greater than that shown on VRI Heat Damage to be heat damaged.

c. Record the percent of heat damaged peas on the work record and the certificate to the nearest tenth percent.

5.21 DAMAGED SPLIT PEAS

Damaged Split Peas. *Split peas (including whole peas in split peas) which are distinctly damaged by frost, weather, disease, heat (other than to a material extent), or other causes (except weevil or material heat damage), or are distinctly soiled or stained by nightshade, dirt, or toxic material.*

NOTE: Score damaged whole peas as "damaged," not as "whole peas."

a. Determine damaged split peas on a representative portion of approximately 250 grams.

b. The major types of damaged split peas are as follows:

(1) Stained Damaged Split Peas. Split peas and pieces of split peas which are discolored or stained, especially on the flat side. Split peas and pieces of split peas with stains, dirt and/or grime adhering to the cotyledon equal to or greater than shown on VRI Stained (Green) and VRI Stained (Yellow) must be considered damage.

(2) Frost Damaged Split Peas. Split peas and pieces of split peas which have been damaged by frost to the extent that the cotyledon has been discolored.

(3) Mold Damaged Split Peas. Split peas and pieces of split peas which contain mold equal to or greater than that shown on VRI Mold Damage. Mold may appear on or around the hilum, the surface, and/or the cotyledon.

A pea that contains any mold on the cotyledon must be considered damaged. Mold occurs in many colors.

(4) Chalky Split Peas. Split peas that have a white spot on the surface of the cotyledon caused by unusual weather conditions, some harvesting practices, and/or Lygus bug stings. (Do not scrap the cotyledon of suspect split peas, merely remove their seedcoats.) Chalky split peas are considered damaged split peas, not weevil-damaged split peas. (Visual Reference Image: Damage (Chalky))

(5) Damaged by Heat Split Peas. Split peas and pieces of split peas that have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on Visual Reference Image: Damage by Heat.

c. Record the percent of damaged peas on the work record and the certificate to the nearest tenth percent.

5.22 CONTRASTING SPLIT PEAS

Contrasting Split Peas. *Split peas (including whole peas in split peas) which are of a color contrasting with the predominating class of split peas. Bleached Split peas of the predominating class must not be considered as contrasting split peas.*

a. Determine contrasting split peas on a representative portion of approximately 250 grams.

b. Green Split peas created from the class Smooth Green Dry peas.

NOTE: Marrowfats in Smooth Green Dry peas function as Green Split peas, however if a contract stipulates that split peas be processed from whole Smooth Green Dry Peas the marrowfat limit must not exceed 1.5 percent. If this occurs, the split peas will be considered to have been processed from Mixed Dry Peas, not Smooth Green Dry Peas. A qualifying statement is to be included in the remarks section of the certificate explaining the reason for the nonconformance.

(1) The color of the cotyledon runs from pale green to dark green.

(2) Contrasting split peas in Green Split peas must be split peas which have a solid orange yellow or creamy yellow color.

c. Yellow Split peas created from the class Smooth Yellow Dry peas.

(1) They have a brilliant orange yellow color.

(2) Contrasting split peas in Yellow Split peas must be split peas which have a solid green color associated with the color of the cotyledons of the Smooth Green Dry peas, or as in the case of Mottled peas, a smaller yellow cotyledon having pieces of black or grayish green colored seedcoat clinging to it.

NOTE: Yellow Split peas often contain split peas which have green blotches on the Yellow Split peas or they may be almost entirely green

with tinges of yellow coloring. These are considered as Bleached Yellow Split peas (if they meet the line for bleach) and should not be considered as contrasting split peas in Yellow Split peas.

d. Miscellaneous Split peas are made from the class Mottled Dry peas.

(1) Miscellaneous Split peas are considerably smaller than Yellow Split peas and have a creamier colored cotyledon. Often, they have pieces of a brownish black or grayish green colored seedcoat clinging to the cotyledon.

(2) Contrasting split peas in Miscellaneous Split peas must be split peas which have a solid green color associated with the color of the cotyledons of the Smooth Green Dry peas, or as in the case of Yellow Split peas, a large yellow cotyledon.

e. Record the percent of contrasting split peas on the work record and the certificate to the nearest tenth percent.

5.23 WHOLE PEAS

Whole Peas. *Dry peas which are not split.*

NOTE: Score defective whole peas as "whole peas," unless they are weevil-damaged, heat-damaged, or damaged. In this case, score weevil-damaged, heat-damaged, or damaged whole peas as "weevil-damaged split peas," "heat-damaged split peas," or "damaged split peas." Do not include weevil-damaged and/or heat-damaged split peas in the total percent of damage split peas.

a. Determine whole peas on a representative portion of approximately 250 grams.

b. A "whole pea" is any pea which is 55 percent or more of a whole pea. Un-split peas with the seed coat removed must be considered "whole peas." (Visual Reference Image: Whole Dry Pea).

c. Record the percent of whole peas on the work record and the certificate to the nearest tenth percent.

5.24 WHITE CAPS

White Caps. *Split peas with the seed coat attached*.

a. Determine white caps on a representative portion of approximately 250 grams.

b. During the process of splitting whole dry peas, the seedcoat is removed. For various reasons, part of the seedcoat sometimes adheres very tightly to the cotyledon causing "white caps." White caps are readily distinguishable as they show up well in any class of split peas.

c. Seedcoats come in a number of colors; e.g., white, tan, green, brown, black, purple, or mottled. Consider split peas with seedcoats attached to be white caps regardless of the color of the seed coat.

d. Record the percent of white caps on the work record and the certificate to the nearest tenth percent.

5.25 BLEACHED SPLIT PEAS

Bleached Split Peas. *Split peas of green-colored varieties which are bleached distinctly yellow in color or split peas of yellow-colored varieties which are bleached distinctly green in color.*

NOTE: Bleached Split peas is not a grading factor in Miscellaneous Split peas.

a. Determine Bleached Split peas on a representative portion of approximately 250 grams.

b. Bleached Split peas in Green Split peas are those split peas which are white or light creamy yellow in color as contrasted with the natural color of Green Split peas. (Visual Reference Image: Bleached (Green Peas))

c. Bleached Split peas in Yellow Split peas are often those split peas that have green blotches or those that are almost entirely green with tinges of yellow coloring. (Visual Reference Image: Bleached (Yellow Peas))

d. Bleached Split peas must be distinctly bleached with at least one eighth of the surface distinctly yellow or green in color, as the case may be, in contrast to the good natural color which is characteristic of the class being graded.

e. Record the percent of Bleached Split peas on the work record and the certificate to the nearest tenth percent.

5.26 FOREIGN MATERIAL

Foreign Material. *All matter which will pass readily through a 2 ½ /64 round-hole sieve and all matter other than split peas and whole peas which remains on the sieve. (Foreign material must include detached seedcoats and pieces of detached seedcoats.)*

a. Determine foreign material on a representative portion of approximately 250 grams.

(1) Nest a 2 ½ /64 inch round hole sieve on top of a bottom pan.

(2) Place the sieve in a mechanical grain sizer and set the timer to 20.

(3) Put the representative portion in the center of the sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

(4) Return the peas remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(5) Remove any material, other than split peas, remaining in the portion on top of the sieve, including detached seedcoats. Place this material with the portion that passed through the sieve and consider the entire portion as foreign material.

b. Record the percent of foreign material on the work record and on the certificate to the nearest tenth percent.

5.27 SIZE REQUIREMENTS

THE U.S. STANDARDS FOR SPLIT PEAS CONTAIN GRADE LIMITS FOR THE PERCENT OF SPLIT PEAS THAT MAY PASS THROUGH 10/64 INCH, 8/64 INCH, AND 6/64 INCH ROUND HOLE SIEVES.

Split Pea Chips. *The split peas must readily pass through a 12/64 inch round-hole sieve. Additional size requirements of the respective numerical grades must be as follows:*

U.S. No. 1 *Not more than 3.0 percent must readily pass through a 6/64 inch round-hole sieve.*

U.S. No. 2 *Not more than 6.0 percent must readily pass through a 6/64 inch round-hole sieve.*

U.S. No. 3 *Not more than 10.0 percent must readily pass through a 6/64 inch round-hole sieve.*

a. Determine uniformity of size and/or the special grade “Chips” on a representative portion of approximately 250 grams.

b. Size split peas as follows:

(1) Nest the appropriate size sieves on top of a bottom pan.

(2) Place the sieves in a mechanical grain sizer and set the timer to 20.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

(3) Return the peas remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(4) Determine the percent of peas that pass through each of the sieves.

c. When determining uniformity of size, record the percent of peas that pass through the sieves and the size of sieves used in the determination on the work record and on the certificate to the nearest tenth percent.

d. When determining the special grade “Chips,” if all of the peas pass through a 12/64 inch round hole sieve, show the special grade “Chips” on the work record and on the grade line of the certificate; and also record the percent of peas that pass through the 6/64 inch round hole sieve on the work record and on the certificate to the nearest tenth percent.

5.28 COLOR

Good Color Split Peas. *Split peas that in mass are practically free from discoloration and have the natural color and appearance characteristics of the predominating class.*

Fair Color Split Peas. *Split peas that in mass are off-color from the characteristic color of the predominating class as a result of age or any other cause.*

Poor Color Split Peas. *Split peas that in mass are distinctly off-color from the characteristic color of the predominating class as a result of age or any other cause.*

a. Determine color on the representative sample as a whole.

b. Record the color as “good,” “fair,” or “poor” on the work record and the certificate.

5.29 U.S. SAMPLE GRADE CRITERIA

Basis of Determination. Determine U.S. Sample Grade criteria on the lot as a whole and/or the representative sample as a whole. Table 1 shows the criteria and corresponding tolerance limits, and the appropriate basis of determination.

TABLE 1

U.S. SAMPLE GRADE CRITERIA			
Criteria	**Visual Reference Image**	**Number/Weight[1]**	
		Sample Basis	**Lot Basis[2]**
Any numerical grading factor		Excess of limit for U.S. No. 3	N/A
Moisture		more than 15.0%	N/A
Animal filth	Animal Filth	2 or more	2 or more
Deer/Elk Pellets		1 or more	1 or more
Broken Glass (any size)		Presence	Presence
Live Insects		2 or more	2 or more
Metal Fragments		2 or more	2 or more
Odor		Presence	Presence
Insect Webbing or Filth		2 or more	2 or more
Heating		Presence	Presence

[1] Record count factors to the nearest whole number.
[2] The entire sample of a submitted sample is considered as the lot.

Certification. Grade dockage-free peas "U.S. Sample Grade" when one or more of the limits in table 1 are exceeded. Record the reason(s) why in the "Results" section of the certificate. Record count factors to the nearest whole number.

5.30 DISTINCTLY LOW QUALITY

Distinctly Low Quality. *Split peas which are obviously of inferior quality because they are stained by an unknown foreign substance or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s) or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.*

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

b. Split peas that are obviously affected by unusual conditions which adversely affect the quality of the peas, such as unknown foreign substance, or treatment with a fungicide, must be considered to be "distinctly low quality."

c. Record the words "Distinctly Low Quality" and the reason(s) why in the "Results" section of the certificate, and grade the split peas "U.S. Sample grade."

5.31 VISUAL REFERENCE IMAGES

VISUAL REFERENCE IMAGES (VRI) (Table 2) are used to ensure consistent and uniform application of grading lines and illustrate types of damage in conjunction with written descriptions.

Table 2

Visual Reference Images		
Peas	**Split Peas**	**Peas / Split Peas**
DAMAGE (DIRT/GRIME)	WEEVIL DAMAGE (CAVITY)	DAMAGE (CHALKY)
MOLD/MILDEW DAMAGE	STAINED (GREEN)	HEAT DAMAGE
SPROUT DAMAGE	STAINED (YELLOW)	DAMAGED BY HEAT
WEEVIL DAMAGE	WHOLE DRY PEA	BLEACHED (GREEN PEAS)
WEEVIL DAMAGE (STING)		BLEACHED (YELLOW PEAS)
FROST DAMAGE		
CRACKED SEEDCOATS		
SHRIVELED (SMOOTH)		
SHRIVELED (WRINKLED)		
BACTERIUM/FUNGAL STAIN		
WEATHER DAMAGE		
General Appearance		
Smooth Yellow (Good Color)		
Smooth Yellow (Fair Color)		

GRADES AND GRADE REQUIREMENTS FOR SPLIT PEAS

Grading Factors	Maximum percent limits of: Grades U.S. Nos.[1]		
	1	2	3
Split Peas Passing Through -			
10/64-inch Round-Hole Sieve	**3.0**	**15.0**	**25.0**
8/64-inch Round-Hole Sieve	**0.5**	**3.0**	**5.0**
6/64-inch Round-Hole Sieve	**0.1**	**0.2**	**0.3**
Weevil-Damaged Split Peas	**0.5**	**1.0**	**1.5**
Heat-Damaged Split Peas	**0.2**	**0.5**	**1.0**
Damaged Split Peas[1]	**1.0**	**1.5**	**2.0**
Contrasting Split Peas			
In Green & Yellow Split Peas Only	**0.3**	**0.8**	**1.5**
In Miscellaneous Split Peas Only	**0.5**	**1.0**	**2.0**
Whole Peas	**0.5**	**1.0**	**2.0**
White Caps			
In Green & Yellow Split Peas Only	**1.0**	**2.0**	**3.0**
In Miscellaneous Split Peas Only	**1.5**	**3.0**	**5.0**
Bleached Peas in Green & Yellow Split Peas Only	**1.5**	**3.0**	**5.0**
Foreign Material	**0.1**	**0.2**	**0.5**
Minimum Requirements for Color	**Good**	**Fair**	**Poor**

U.S. Sample grade: U.S. Sample grade must be split peas which:

(a) Do not meet the requirements for the grades U.S. Nos. 1, 2, or 3; or

(b) Contain more than 15.0 percent moisture; live weevils, other live insects, insect webbing or filth, metal fragments, broken glass, or commercially objectionable odor; or

(c) Are heating or are of distinctly low quality.

[1] Damaged split peas do not include weevil-damaged or heat-damaged split peas.

CHAPTER 6
THRESHER-RUN LENTILS

Contents

6.1 DEFINITIONS 3

6.2 FACTORS AND FACTOR DESIGNATIONS 3

6.3 WORK RECORD 4

6.4 REPRESENTATIVE PORTION 4

6.5 WORK SAMPLE 4

6.6 FILE SAMPLE 4

6.7 PERCENTAGES 4

6.8 LABORATORY SCALES 4

6.9 PRELIMINARY EXAMINATION 5

6.10 BASIS OF DETERMINATION 5

6.11 TOTAL DOCKAGE, DEFECTS AND FOREIGN MATERIAL 6

6.12 MOISTURE 7

6.13 TEST WEIGHT PER BUSHEL 7

6.14 ODOR 7

6.15 HEATING 8

6.16 DOCKAGE 9

6.17 DEFECTIVE LENTILS 11

6.18 WEEVIL DAMAGED LENTILS 12

6.19 HEAT DAMAGED LENTILS 12

6.20 DAMAGED LENTILS 13

6.21 SKINNED LENTILS 14

6.22 SPLIT LENTILS 14

6.23 CONTRASTING LENTILS 15

6.24 FOREIGN MATERIAL 15

6.25 INCONSPICUOUS ADMIXTURE 16

6.26 COLOR 16

6.27 BROKEN GLASS 17

6.28 METAL FRAGMENTS 17

6.29 DISTINCTLY LOW QUALITY 17

6.1 DEFINITIONS

Thresher-Run Lentils. *Lentils from which the dockage has not been removed.*

Lentils. *Threshed seeds of the lentil plant (Lens culinaris Moench) which after removal of the dockage contains 50.0 percent or more of whole lentils and not more than 10.0 percent foreign material.*

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

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

b. "Not Standardized Commodity." No further analysis is necessary on a sample designated as "Not Standardized Commodity" unless a specific factor test is requested.

6.2 FACTORS AND FACTOR DESIGNATIONS

Thresher-run lentils must be inspected without reference to grade.

Thresher-run lentils may be inspected for the following factors: dockage, weevil-damaged lentils, heat-damaged lentils, damaged lentils, skinned lentils, split lentils, contrasting lentils, foreign material, inconspicuous admixture, color description and moisture.

The factor designation for the class thresher run lentils may include the percentage of dockage and type of sieve used in making the determination; the percentage of weevil damaged lentils, heat damaged lentils, damaged lentils, skinned lentils, split lentils, contrasting lentils, foreign material, inconspicuous admixture, and the computed total percentage thereof; the color description and the percentage of moisture.

NOTE: Upon applicant request, thresher-run lentils may be graded, after the removal of dockage, to determine what the lentils would have graded after processing (dockage removed). The percent of dockage will be determined with the use of FGIS approved sieve(s) and will be recorded in the factor results section of the certificate to the nearest tenth percent. The grade will be in the form of a statement (see below) placed in the remarks section of the certificate.

"After the removal of dockage, this thresher-run lot would have graded U.S. No. (grade) Lentils under the U.S. Standards for dockage-free lentils except for (e.g. foreign material, skinned lentils, etc)." Insert only the factors that would have a bearing on the grade.

6.3 WORK RECORD

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 either form FGIS 981, “Pea and Lentil Laboratory Ticket” or form FGIS 982, “Pea and Lentil Sample Ticket.” Cooperators must use a similar form.

6.4 REPRESENTATIVE PORTION

A specified quantity of lentils divided out from the representative sample (refer to Chapter 2, sampling chapter) by means of an FGIS approved device.

6.5 WORK SAMPLE

A representative portion of lentils (approximate size 1,000 grams) that is used to make all determinations required for the class Lentils.

6.6 FILE SAMPLE

a. A representative portion of lentils (approximate size 1,000 grams) that may be used in conjunction with the work sample, when needed. File samples may also be used for monitoring, appeal inspection and board appeal purposes.

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

6.7 PERCENTAGES

a. Percentages are determined on the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

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

b. Record factor results to the nearest tenth percent.

6.8 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

6.9 PRELIMINARY EXAMINATION

a. The sampler must observe the uniformity of the lentils as to class, quality, and condition; make the determination for “Heating;” draw the representative sample; and report relevant information to the inspector.

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

6.10 BASIS OF DETERMINATION

All factor determinations must be made upon the basis of the lentils after the removal of dockage with the following exceptions:

Dockage must be determined upon the basis of the thresher-run lentils as sampled.

Color must be determined after the removal of dockage, defective lentils, and foreign material.

Defects in lentils must be scored in accordance with the order shown in section 601(c). Once an individual lentil is scored in a defective category it must not be scored for any other defect, but it must remain as a part of the sample for purposes of determining the percentage of defects in the sample.

NOTE 1: When lentils that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of lentils, 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.

NOTE 2: When lentils that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in quality, or condition, the lentils in each portion must be inspected separately.
Follow a systematic factor examination procedure. The order of procedure may vary depending on the quality of the lentils and the tests that are requested. A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Examine the representative sample for odor, broken glass and metal fragments.

(3) Use an FGIS approved divider to process the representative sample into two representative portions: a work sample and a file sample.

(4) Remove the dockage from the work sample.

(5) Examine the work sample for distinctly low quality.

(6) Upon request, determine the percent of small lentils or other material that comprise the dockage. When this breakdown is not requested, determine the percent of total dockage.

(7) Upon request, divide out approximately 350 grams from the dockage free portion and determine the percent of moisture.

(8) Divide out another 125-gram portion (or a 60-gram portion for small seeded lentils) from the dockage free portion and determine the percent of defective lentils and foreign material.

(9) After removing the defective lentils and foreign material from the portion, examine the portion for color.

6.11 TOTAL DOCKAGE, DEFECTS AND FOREIGN MATERIAL

The percentage of total dockage, defective lentils and foreign material must be combined and shown on the certificate as “Total Dockage, Defects, and Foreign Material.”

a. Compute the percent of total defects and foreign material as follows:

(1) Determine the weight of the work sample.

(2) Determine the weight of the dockage in the work sample (e.g., 120 grams).

(3) Calculate the percent of dockage (e.g., 120 g ÷ 1000 g = 12 %).

(4) Calculate the percent of dockage free lentils (e.g., 100 % 12 % = 88 %).

(5) Determine the weight of the defective lentils and foreign material portion (e.g., 125 grams).

(6) Determine the weight of the defective lentils and foreign material (e.g., 12.5 grams).

(7) Calculate the percentage of defective lentils and foreign material (e.g., 12.5 g ÷ 125 g = 10 %).

(8) Adjust the percentage of defective lentils and foreign material by the base (e.g., 10 % x 88 % = 8.8 %).

(9) Calculate the percentage of total defects and foreign material (e.g., 12 % + 8.8 % = 20.8 %).

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

6.12 MOISTURE

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

The moisture of thresher-run lentils is determined by using the GAC2500-UGMA and Perten AM 5200-A instruments utilizing the proper calibrations (see FGIS Directive 9180.61).

Basis of Determination. Determine moisture on a representative portion of approximately 650-grams, after the removal of dockage.

The procedures for performing a moisture determination using the GAC2500-UGMA and Perten AM 5200-A meters are described in the Moisture Handbook.

Certification. Record the percent of moisture on the work record to the nearest tenth percent. Upon request or when the result is in excess of 14.0 percent, show the percent of moisture in the result section of the certificate to the nearest tenth percent.

6.13 TEST WEIGHT PER BUSHEL

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

a. Determine test weight per bushel before the removal of dockage on a representative portion of sufficient size to overflow the kettle and certify to the nearest tenth of a pound.

b. See the Grain Grading Procedures Volume 1: General Information, for information on performing test weight per bushel determinations.

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

6.14 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

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

(a) 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.

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

(2) A **musty** odor must be any odor that is earthy, moldy and ground like. Do not confuse a burlap bag odor with a musty odor.

(3) A **sour** odor must be any odor that is rancid, sharp, or acrid.

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

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

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

(b) 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.

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

b. When lentils are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and result section of the certificate.

6.15 HEATING

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

(1) When high temperatures develop in lentils as the result of excessive respiration, such lentils are heating.

(2) Heating lentils usually give off a sour or musty odor.

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

b. When applicable, show the term “Heating” on the work record and result section of the certificate.

6.16 DOCKAGE

Dockage. *Small, underdeveloped lentils, pieces of lentils, and all matter other than lentils which can be readily removed by use of sieves and cleaning devices as set forth in the Pea and Lentil handbook.*

a. Determine dockage on a representative portion of approximately 1,000 grams.

b. Remove the dockage from the lentils by sieving the representative portion with the appropriate size sieve.

NOTE: If official personnel determine that the prescribed sieve removes too many small, fully developed lentils (not screenings), they may elect to use a slightly smaller sieve. Furthermore, if they determine that the prescribed sieve allows too many underdeveloped lentils to remain with the "clean" lentils, they may elect to use a slightly larger sieve.

Table 1

Prescribed Sieves	
Types	**Sieves**
Regular Lentils	12/64 - inch Round-Hole
Small Lentils	9/64 - inch Round-Hole

(1) Nest the sieve on top of a bottom pan.

(2) Place the sieve in a mechanical grain sizer and set the timer to 20.

(3) Put the representative portion in the center of the sieve and actuate the sizer.

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

(4) Return the material remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(5) Consider all material that pass through the sieve as dockage. Pick out large material, such as pods and stems, from the lentils remaining on top of the sieve and add it to the dockage.

NOTE: If the 12/64-inch round-hole sieve is used and the sample contains small-seeded types, re-sieve the material in the bottom pan with the 9/64-inch round-hole sieve to reclaim all marketable lentils.

(6) Remove the dockage from the remainder of the representative portion in the same manner.

c. Dockage may also be removed from the lentils by using an FGIS approved dockage tester with the appropriate size sieve and a No. 6 riddle.

(1) Place the sieve in the top sieve carriage.

(2) Set the air to nine (or depending on Carter dockage machine model, a position at which maximum airflow is achieved) and feed to six.

(3) Put the sample in the feed hopper and actuate the tester.

(4) Return any lentils that pass over the riddle to the “cleaned” lentils.

NOTE: In some cases, it may be necessary to run the sample through the dockage tester two times. But, samples should never be run through the dockage tester more than two times.

(5) Consider all material that pass through the sieve and the material that pass over the riddle, except for lentils, as dockage (pods with lentils inside function as dockage).

(6) Material removed by the air functions as dockage.

d. Record the percent of dockage, with the size of sieve(s) used, on the work record and result section of the certificate to the nearest tenth percent.

e. A dockage breakdown may be determined upon applicant request.

(1) Dockage breakdown may be determined by handpicking a representative portion of the dockage separation; or

(2) Estimated using hand sieves. Record the percent of small lentils, split lentils, and other material on the work record and the certificate to the nearest tenth percent and show the statement “Estimated using hand sieves.”

NOTE: Hand adjusting of the material through or over sieves is not required when the breakdown is estimated.

6.17 DEFECTIVE LENTILS

The categories of defective lentils must be weevil-damaged lentils, heat-damaged lentils, damaged lentils, and split lentils.

The percentage of defective lentils and foreign material must be combined and shown on the certificate as Total Defects and Foreign Material.

a. Determine defective lentils on a representative portion of approximately 125 grams of dockage free lentils.

   NOTE: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of defective lentils on a representative portion of approximately 60 grams.

b. Score defects in the following order: Weevil damaged, heat damaged, damaged, and split lentils.

   (1) Once an individual lentil is scored, do not score it for any other defect but retain it as part of the sample for purposes of determining the percentage of other defects in the sample.

   (2) Record the percent of each type of defect and the percent of total defects and foreign material on the work record and the certificate to the nearest tenth percent.

c. Add the percentages of each type of defect and record the total percent of defective lentils on the work record and the certificate to the nearest tenth percent.

d. Add the percent of total defective lentils to the percent of foreign material and record the sum as “total defects and foreign material” on the work record and result section of the certificate to the nearest tenth percent.

6.18 WEEVIL DAMAGED LENTILS

Weevil-Damaged Lentils. *Whole and pieces of lentils which are distinctly damaged by weevils or other insects.*

a. Determine weevil damaged lentils on a representative portion of approximately 125 grams of dockage free lentils.

NOTE: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of weevil-damaged lentils on a representative portion of approximately 60 grams.

b. Consider as weevil damaged:

(1) Lentils that contain or had contained a weevil, larva, or any other insect; and

(2) Lentils that have been stung by weevils or other insects where the damage extends into the cotyledon and is of a size equal to or greater than that shown on Visual Reference Image: Insect-Stung Damage.

NOTE: Lentils that have been "marked" by insects, but where the sting does not penetrate the cotyledon or are insect chewed are not considered as weevil damaged lentils.

c. Record the percent of weevil damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

6.19 HEAT DAMAGED LENTILS

Heat-Damaged Lentils. *Whole and pieces of lentils which have been materially discolored as a result of heating.*

a. Determine heat damaged lentils on a representative portion of approximately 125 grams of dockage free lentils.

NOTE: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of heat-damaged lentils on a representative portion of approximately 60 grams.

b. Lentils which have been materially damaged to an extent that the cotyledon has been discolored equal to or greater than that shown on Visual Reference Image: Heat Damage.

c. Record the percent of heat damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

6.20 DAMAGED LENTILS

Damaged Lentils. *Whole and pieces of lentils which are distinctly damaged by frost, weather, disease, heat (other than to a material extent), immature, or other causes, except weevil or material heat damage, or are distinctly soiled or stained by nightshade, dirt or toxic material.*

NOTE: Damaged lentils must not include weevil-damaged, heat-damaged or "Sunburned" lentils commonly referred to as rust colored lentils due to the oxidation process.

a. Determine damaged lentils on a representative portion of approximately 125 grams of dockage free lentils.

NOTE: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of damaged lentils on a representative portion of approximately 60 grams.

(1) Frost Damaged Lentils. Lentils that have been damaged by frost to the extent that the cotyledon or seed coat has been discolored equal to or greater than that shown on Visual Reference Image: Frost Damage. Frost damaged lentils are usually characterized by a waxy textured cotyledon that may be yellow, green, or another color. Frost damaged lentils should not be confused with immature lentils or lentils that have naturally green-colored cotyledons.

(2) Insect-Stung Damaged. Lentils that have white "chalky" spots usually caused by Lygus bugs or similar insects. These spot were once thought to be caused by weathering. (Visual Reference Image: Insect-Stung Damage).

(3) Mold Damaged Lentils. Lentils which contain surface mold equal to or greater than that shown on Visual Reference Image: Mold Damage. (Lentils which contain any amount of mold on the cotyledon must be considered to be damaged.)

(4) Damaged By Heat Lentils. Lentils which have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on Visual Reference Image: Damaged By Heat.

(5) Sprout Damaged Lentils. Lentils which are sprouted and the sprout is equal to or greater than that shown on Visual Reference Image: Sprout Damage.

(6) Dirt/Grime Damaged Lentils. Lentils with dirt and grime (including nightshade juice/bag markings/ink stains) adhering to the seed coat or cotyledon equal to or greater than that shown on Visual Reference Image: Dirt/Grime.

(7) Worm Eaten or Worm Cut Lentils. Lentils which have been chewed by insect larvae. Not to be confused with weevil bored lentils containing insect webbing or filth. Any chewed lentil is considered damaged.

(8) Immature Lentils. Lentils that do not have a traditional lens-shaped profile due to immaturity. Immature lentils are characterized as having a thin, wrinkled, and misshapen appearance. All three conditions must be present for an inspector to consider a lentil an immature lentil. Lentils may also be discolored.

b. Record the percent of damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

6.21 SKINNED LENTILS

Skinned Lentils. *Lentils from which three-fourths or more of the seed coat has been removed.*

a. Determine skinned lentils on a representative portion of approximately 125 grams of dockage free lentils.

NOTE: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of skinned lentils on a representative portion of approximately 60 grams.

b. Skinned lentils are lentils that are scraped or skinned to an extent equal to or greater than that shown on Visual Reference Image: Skinned.

c. Record the percent of skinned lentils on the work record and result section of the certificate to the nearest tenth percent.

NOTE: Decorticated Lentils (i.e., seed coat removed) are a processed commodity. They may be inspected for the same quality factors (e.g., damaged kernels, skinned lentils, etc.), as applied to unprocessed lentils, however certify as "Decorticated Lentils" with no grade applied.

6.22 SPLIT LENTILS

Split Lentils. *Pieces of lentils which are less than three-fourths of a whole lentil, and lentils in which the cotyledons are loosely held together.*

a. Determine split lentils on a representative portion of approximately 125 grams of dockage free lentils.

NOTE: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of split lentils on a representative portion of approximately 60 grams.

b. Record the percent of split lentils on the work record and result section of the certificate to the nearest tenth percent.

6.23 CONTRASTING LENTILS

Contrasting lentils. Lentils that differ substantially in size or color from the predominating lentil type.

a. Determine contrasting lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Sieves may be used as an aid when determining contrasting classes in lentils, however, the mechanical separation must be reviewed to recover lentils that may have fallen through and do not meet the definition of contrasting lentils.

c. For sizing purposes only, lentils that are substantially different in size are to be considered.

d. Color, as used in this definition, is limited to the lentil's natural seed coat color and excludes the mottling that may be present on some seed coats and discolorations that may be associated with aging or handling/storage practices.

e. Contrasting lentils also function as "defective lentils" and "skinned lentils" when appropriate.

f. Record the percent of contrasting lentils on the work record and result section of the certificate to the nearest tenth percent.

6.24 FOREIGN MATERIAL

Foreign Material. *All matter other than lentils, including detached seedcoats, which cannot be readily removed in the proper determination of dockage.*

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

a. Determine foreign material on a representative portion of approximately 125 grams of dockage free lentils.

NOTE 1: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of foreign material on a representative portion of approximately 60 grams.

NOTE 2: Mud lumps or stones that are too large to pass through the sieve used in making the dockage determination should be handpicked from the lentils and added to the dockage. Mud lumps or stones that are approximately the size and shape of lentils, should be considered foreign material.

NOTE 3: Rogue lentils are not considered as foreign material.

c. Record the percent of foreign material on the work record and result section of the certificate to the nearest tenth percent.

6.25 INCONSPICUOUS ADMIXTURE

Inconspicuous Admixture. Any seed which is difficult to distinguish from a lentil; including, but not limited to, Vicia sativa.

a. Determine inconspicuous admixture on a representative portion of approximately 125 grams of dockage free lentils.

NOTE: When inspecting small-seeded varieties of lentils, such as Small Browns, determine the percent of inconspicuous admixture on a representative portion of approximately 60 grams.

b. Record the percent of inconspicuous admixture on the work record and the certificate to the nearest tenth percent.

6.26 COLOR

Good Color Lentils. *Lentils that in mass are practically free from discoloration and have the natural color and appearance characteristics of the predominating class.*

Fair Color Lentils. *Lentils that are not of good color.*

Poor Color Lentils. *Lentils that are severely discolored from storage or other causes to the extent they cannot be considered of fair color.*

a. Determine color on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils after the removal of dockage, defective lentils, and foreign material.

(1) Available interpretive line prints serve as the basis for this general appearance assessment.

NOTE: When determining color, ignore obvious contrasting classes (CCL) if the overall color of the predominating and contrasting lentils is of a good natural color.

(2) Lentils that are discolored by dust or a slight amount of dirt, which can be removed by processing methods, must be considered as “good color.”

NOTE: One of the most common causes of discoloration of lentils is excessive heat, so-called “sunburned lentils” which are characterized by dark brown or reddish casts. Long storage may also produce discoloration and prevent the lentils from being considered of good color.

b. When thresher run lentils are determined to be other than “good color,” record this information on the work record and result section of the certificate.

6.27 BROKEN GLASS

a. Determine broken glass on the basis of the lot as a whole and/or the representative sample (before the removal of dockage) as a whole.

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

c. When applicable, show the term “Broken glass” on the work record and result section of the certificate.

6.28 METAL FRAGMENTS

a. Determine metal fragments, such as metal filings or metal shavings, on the basis of the lot as a whole and/or the representative sample (before the removal of dockage) as a whole.

b. Sufficient evidence of metal fragments must be:

(1) Two or more metal fragments in the lot as a whole or the work sample; or

(2) One metal fragment in the work sample and one or more in the file sample.

c. When applicable, show the term “Metal fragments” on the work record and result section of the certificate.

6.29 DISTINCTLY LOW QUALITY

Distinctly Low Quality. *Whole lentils which are obviously of inferior quality because they are stained by an unknown foreign substance, or they otherwise contain a known toxic substance(s) or an unknown foreign substance(s), or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.*

a. Determine distinctly low quality on the basis of the dockage-free sample as a whole.

b. Lentils that are obviously affected by unusual conditions which adversely affect the quality of the lentils, such as unknown foreign substance, or treatment with a fungicide, must be considered to be “distinctly low quality.”

c. Record the words “Distinctly Low Quality” and the reason(s) why in the “Results” section of the certificate.

CHAPTER 7
DOCKAGE-FREE LENTILS

Contents

7.1 DEFINITIONS 3

7.2 GRADES AND GRADE REQUIREMENTS 3

7.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS 3

7.4 WORK RECORD 3

7.5 REPRESENTATIVE PORTION 4

7.6 WORK SAMPLE 4

7.7 FILE SAMPLE 4

7.8 PERCENTAGES 4

7.9 LABORATORY SCALES 4

7.10 PRELIMINARY EXAMINATION 4

7.11 BASIS OF DETERMINATION 5

7.12 INSECT INFESTATION 6

7.13 MOISTURE 7

7.14 TEST WEIGHT PER BUSHEL 7

7.15 ODOR 8

7.16 HEATING 9

7.17 DEFECTIVE LENTILS (TOTAL) 9

7.18 WEEVIL-DAMAGED LENTILS 10

7.19 HEAT-DAMAGED LENTILS 10

7.20 DAMAGED LENTILS 11

7.21 SPLIT LENTILS 12

7.22 SKINNED LENTILS 12

7.23 CONTRASTING LENTILS 13

7.24 FOREIGN MATERIAL (TOTAL) 13

7.25 INCONSPICUOUS ADMIXTURE 14

7.26 SIZE REQUIREMENTS 14

7.27 COLOR 16

7.28 U.S. SAMPLE GRADE CRITERIA 17

7.29 DISTINCTLY LOW QUALITY 18

7.30 VISUAL REFERENCE IMAGES 18

7.1 DEFINITIONS

Dockage-Free Lentils. *Lentils from which the dockage has been removed.*

Lentils. *Threshed seeds of the lentil plant (Lens culinaris Moench), which after removal of the dockage, contain 50.0 percent or more of whole lentils and not more than 10.0 percent foreign material*.

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

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

b. "Not Standardized Commodity." No further analysis is necessary on a sample designated as "Not Standardized Commodity" unless a specific factor test is requested.

7.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for the class Lentils are shown in the United States Standards for Lentils, and in Attachment 1, "Grades and Grade Requirements for Dockage-Free Lentils," to this chapter.

7.3 SPECIAL GRADES AND SPECIAL GRADE REQUIREMENTS

a. The special grade and special grade requirements of the class Lentils are shown in the United States Standards for Lentils.

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

(1) Large Lentils. Lentils of which not more than 3.0 percent will readily pass through a 15/64 inch round-hole sieve.

(2) Small Lentils. Lentils of which 95 percent or more will readily pass through a 15/64 inch round hole sieve, not less than 80 percent will readily pass through a 12/64 inch round hole sieve, and not more than 3.0 percent will readily pass through a 9/64 inch round hole sieve.

7.4 WORK RECORD

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-981, "Pea and Lentil Laboratory Ticket" or form FGIS-982, "Pea and Lentil Sample Ticket." Cooperators must use a similar form.

7.5 REPRESENTATIVE PORTION

A specified quantity of lentils divided out from the representative sample (refer to Chapter 2, sampling chapter) by means of an FGIS approved device.

7.6 WORK SAMPLE

A representative portion of lentils (approximate size - 1,000 grams) that is used to make all determinations required for the class Lentils.

7.7 FILE SAMPLE

a. A representative portion of lentils (approximate size 1,000 grams) that may be used in conjunction with the work sample, when needed, to determine the complete grade. File samples may also be used for monitoring, appeal inspection and board appeal purposes.

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

7.8 PERCENTAGES

a. Percentages are determined on the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

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

b. All percentages must be stated to the nearest tenth percent.

7.9 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

7.10 PRELIMINARY EXAMINATION

a. The sampler must observe the uniformity of the lentils as to class, quality, and condition, which includes making the determination for “Heating”, and making preliminary determinations for infestation and odor; draw the representative sample; and report relevant information to the inspector.

b. The inspector must review the sampler’s remarks/information when determining the representativeness of the sample. If the inspector suspects the sample is not representative, the inspector should consult with the sampler and, if necessary, dismiss the inspection or arrange to obtain another sample.

7.11 BASIS OF DETERMINATION

a. *All factor determinations must be made upon the basis of the lentils after the removal of dockage, with the following exceptions:*

(1) *Dockage must be determined upon the basis of the thresher-run lentils as sampled.*

(2) *Color must be determined after removal of dockage, defective lentils, and foreign material.*

b. *Defects in lentils must be scored in accordance with the order shown in the following order; weevil damaged lentils, heat-damaged lentils, damaged lentils and split lentils; and once an individual lentil is scored in a defective category it must not be scored for any other defect but it must remain as part of the sample for purposes of determining the percentages of other defects in the sample.*

NOTE 1: When lentils that are offered for inspection as one lot are found to contain more than 10,000 containers or 1,000,000 pounds (bulk) of lentils, 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.

NOTE 2: When lentils that are offered for inspection as one lot are subsequently found to contain portions that are distinctly different in quality, or condition, the lentils in each portion must be inspected separately.

Follow a systematic factor examination procedure. The order of procedure may vary depending on the quality of the lentils and the tests that are requested. A general order of procedure is as follows:

(1) Review the information on the sample ticket.

(2) Use an FGIS approved divider to process the representative sample into two representative portions: work sample and file sample.

(3) Examine the work sample for infestation, odor, broken glass and metal fragments.

(4) When necessary, sieve the work sample to determine if the lentils meet the size requirements for “large lentils” or “small lentils.”

(5) When needed, divide out a dockage-free portion and determine the percent of moisture.

(6) Divide out approximately **a 60-gram portion for small seeded lentils** or a **125-gram portion for large seeded lentils**, and determine the percent of defective lentils, foreign material, and other pertinent grading factors.

(7) After removing the defective lentils and foreign material from the portion, examine the “clean” portion for color.

7.12 INSECT INFESTATION

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

To further define "other insects injurious to stored lentils" refer to the USDA-ARS, Agricultural Handbook 500 – Stored Grain Insects**. Images of insects may also be viewed on the AMS website.**

a. Determine infestation on the basis of the work sample as a whole, a representative portion of approximately 60 grams for small lentils or a 125-gram portion for large seeded lentils, and the lot as a whole.

(1) Perform a cursory examination of the work sample. If two or more live insects are found, consider the lentils to be "U.S. Sample grade."

(2) Closely examine a representative portion of approximately 60 grams for small lentils or a 125-gram portion for large seeded lentils, divided out from the work sample.

(a) If no live insects are found in the sample, make no further check of the sample for insects.

(b) If two or more live insects are found, consider the lentils to be "U.S. Sample grade."

(c) If one live insect is found, closely examine the remainder of the work and file sample.

1 If one or more live insects are found in the remainder of the work or file sample, consider the lentils to be "U.S. Sample grade."

2 If no live insects are found in the remainder of the work or file sample, do not consider the lentils to be "U.S. Sample grade."

(3) Examine the lentils in the lot; i.e., the surface area of the lot and the area around the lot.

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

(b). If two or more live insects are found, consider the lentils to be "U.S. Sample grade."

(c) If two or more dead insects are found, consider the lentils to be Distinctly Low Quality and grade the lentils "U.S. Sample grade."

b. When applicable, show number of live insects on the work record and result section of the certificate and grade the lentils "U.S. Sample grade."

7.13 MOISTURE

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

The moisture of lentils is determined by using the GAC2500-UGMA and Perten AM 5200-A instruments utilizing the proper calibrations (see FGIS Directive 9180.61).

Basis of Determination. Determine moisture on a representative portion of approximately 650-grams.

The procedures for performing a moisture determination using the GAC2500-UGMA and Perten AM 5200-A meters are described in the Moisture Handbook.

Certification. Record the percent of moisture on the work record and results section of the certificate to the nearest tenth percent. If the moisture results exceed 14.0 percent, grade the lentils "U.S. Sample grade."

7.14 TEST WEIGHT PER BUSHEL

NOTE: This factor is not provided for under the United States Standards for Lentils, but may be determined upon applicant request.

a. Determine test weight per bushel on a representative portion of sufficient size to overflow the kettle.

b. See Volume 1: General Information of the Grain Grading Procedures, for information on performing test weight per bushel determinations.

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

7.15 ODOR

a. Determine odor on the basis of the lot as a whole or the representative sample as a whole.

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

(a) 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.

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

(2) A musty odor must be any odor that is earthy, moldy, and ground like. Do not confuse a burlap bag odor with a musty odor.

(3) A sour odor must be any odor that is rancid, sharp, or acrid.

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

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

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

(b) 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.

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

b. When lentils are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and result section of the certificate and grade the lentils “U.S. Sample grade.”

7.16 HEATING

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

(1) When high temperatures develop in lentils as the result of excessive respiration, such lentils are heating.

(2) Heating lentils usually give off a sour or musty odor.

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

b. When applicable, show the term “Heating” on the work record and results section of the certificate, and grade the lentils “U.S. Sample grade.”

7.17 DEFECTIVE LENTILS (TOTAL)

The categories of defective lentils must be weevil-damaged lentils, heat-damaged lentils, damaged lentils, and split lentils.

Defects in lentils must be scored in accordance with the order listed below; and once an individual lentil is scored in a defective category it must not be scored for any other defect but it must remain as a part of the sample for purposes of determining the percentage of defects in the sample.

a. Determine defective lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Score defects in the following order: weevil-damaged, heat-damaged, damaged and split lentils.

(1) Once an individual lentil is scored, do not score it for any other defect but retain it as part of the sample for purposes of determining the percentage of other defects in the sample.

(2) Record the percent of each type of defect and the percent of total defects on the work record and results section of the certificate to the nearest tenth percent. (If an individual factor result is 0.0 percent, no result is required to be shown.)

7.18 WEEVIL-DAMAGED LENTILS

Weevil-Damaged Lentils. *Whole and pieces of lentils which are distinctly damaged by weevils or other insects.*

a. Determine weevil-damaged lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Consider as weevil-damaged:

(1) Lentils that contain or had contained a weevil, larva, or any other insect; and

(2) Lentils that have been stung by weevils or other insects where the damage extends into the cotyledon shown on Visual Reference Image: Insect-Stung Damage.

NOTE: Lentils that have been "marked" by insects but where the sting does not penetrate the cotyledon or are insect chewed are not considered as weevil damaged lentils.

c. Record the percent of weevil damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

7.19 HEAT-DAMAGED LENTILS

Heat-Damaged Lentils. *Whole and pieces of lentils which have been materially discolored as a result of heating*.

a. Determine heat-damaged lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Lentils which have been materially damaged to an extent that the cotyledon has been discolored equal to or greater than that shown on Visual Reference Image: Heat Damage.

c. Record the percent of heat-damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

7.20 DAMAGED LENTILS

Damaged Lentils. *Whole and pieces of lentils which are distinctly damaged by frost, weather, disease, heat (other than to a material extent), immature, or other causes, (except weevil or material heat damage) or are distinctly soiled or stained by nightshade, dirt, or toxic material.*

NOTE: Damaged lentils must not include weevil-damaged, heat-damaged or "Sunburned" lentils commonly referred to as rust colored lentils due to the oxidation process.

a. Determine damaged lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

(1) Insect-Stung Lentils. Lentils that have white "chalky" spots usually caused by Lygus bugs or similar insects. (Visual Reference Image: Insect-Stung Damage).

(2) Blight (Ascochyta) Damage. Lentils infected by blight damage have brown blotches on the surface. A severely infected lentil is purplish brown, shriveled and small, and may have a white fungal growth on the surface. Lentils, which contain any amount of mold on the cotyledon, must be considered damaged. (Visual Reference Image: Ascochyta blight). This print depicts what Ascochyta blight looks like and is not intended to represent any minimum coverage or color intensity requirement.

(3) Frost Damaged Lentils. Lentils that have been damaged by frost to the extent that the cotyledon or seedcoat has been discolored equal to or greater than that shown on (Visual Reference Image: Frost Damage). Frost damaged lentils are usually characterized by a waxy textured cotyledon that may be yellow, green, or another color. Frost damaged lentils should not be confused with immature lentils or lentils that have naturally green-colored cotyledons.

(4) Damaged-By-Heat Lentils. Lentils which have been damaged by heat to the extent that the cotyledon has been discolored equal to or greater than that shown on (Visual Reference Image: Damaged By Heat).

(5) Mold Damaged Lentils. Lentils which contain surface mold equal to or greater than that shown on Visual Reference Image: Mold Damage. (Lentils, which contain any amount of mold on the cotyledon, must be considered damaged)

(6) Sprout Damaged Lentils. Lentils which are sprouted and the sprout is equal to or greater than that shown on Visual Reference Image: Sprout Damage.

(7) Dirt/Grime Damaged Lentils. Lentils with dirt and grime (including nightshade juice/bag markings/ink stains) adhering to the seed coat or cotyledon equal to or greater than that shown on Visual Reference Image: Dirt/Grime.

(8) Worm-Eaten or Worm-Cut Lentils. Lentils which have been chewed by insect larvae. Not to be confused with weevil bored lentils containing insect webbing or filth. Any chewed lentil is considered damaged.

(9) Immature Lentils. Lentils that do not have a traditional lens-shaped profile due to immaturity. Immature lentils are characterized as having a thin, wrinkled, and misshapen appearance. All three conditions must be present for an inspector to consider a lentil an immature lentil. Lentils may also be discolored.

b. Record the percent of damaged lentils on the work record and result section of the certificate to the nearest tenth percent.

7.21 SPLIT LENTILS

Split Lentils. *Pieces of lentils which are less than three-fourths of a whole lentil, and lentils in which the cotyledons are loosely held together.*

a. Determine split lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Small recognizable lentil pieces are considered a split not foreign material.

c. Record the percent of split lentils on the work record and result section of the certificate to the nearest tenth percent.

7.22 SKINNED LENTILS

Skinned Lentils. *Lentils from which three-fourths or more of the seed coat has been removed.*

a. Determine skinned lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Skinned lentils are lentils that are scraped or skinned to an extent equal to or greater than that shown on Visual Reference Image: Skinned.

c. Record the percent of skinned lentils on the work record and result section of the certificate to the nearest tenth percent.

NOTE: Decorticated Lentils (i.e., seed coat removed) are a processed commodity. They may be inspected for the same quality factors (e.g., damaged kernels, skinned lentils, etc.), as applied to unprocessed lentils, however, certify as "Decorticated Lentils" with no grade applied.

7.23 CONTRASTING LENTILS

Contrasting lentils. *Lentils that differ substantially in size or color from the predominating lentil type.*

a. Determine contrasting lentils on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Sieves may be used as an aid when determining contrasting classes in lentils, however, the mechanical separation must be reviewed to recover lentils that may have fallen through and do not meet the definition of contrasting lentils.

c. For sizing purposes only, lentils that are substantially different in size are to be considered.

d. Color, as used in this definition, is limited to the lentil's natural seedcoat color and excludes the mottling that may be present on some seedcoats and discolorations that may be associated with aging or handling/storage practices.

e. Contrasting lentils also function as "defective lentils" and "skinned lentils" when appropriate.

f. Record the percent of contrasting lentils on the work record and result section of the certificate to the nearest tenth percent.

7.24 FOREIGN MATERIAL (TOTAL)

Foreign Material. *All matter other than lentils, including detached seedcoats, which cannot be readily removed in the proper determination of dockage.*

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

a. Determine foreign material on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Record the percent of foreign material on the work record and result section of the certificate to the nearest tenth percent.

NOTE: Rogue lentils are not considered as foreign material.

7.25 INCONSPICUOUS ADMIXTURE

Inconspicuous Admixture. Any seed which is difficult to distinguish from a lentil; including, but not limited to, Vicia sativa.

a. Determine inconspicuous admixture on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils.

b. Record the percent of inconspicuous admixture on the work record and result section of the certificate to the nearest tenth percent.

NOTE: Rogue lentils function as inconspicuous admixture.

7.26 SIZE REQUIREMENTS

Large Lentils. *Lentils of the class Lentils of which not more than 3.0 percent of the lentils will readily pass through the 15/64-inch round-hole sieve.*

Small Lentils. *Lentils of the class Lentils of which 95 percent or more will readily pass through a 15/64-inch round-hole sieve, not less than 80 percent will readily pass through a 12/64 inch round-hole sieve, and not more than 3.0 percent will readily pass through the 9/64 inch round-hole sieve.*

a. Determine the special grades “Large Lentils” and “Small Lentils” on a representative portion of approximately 125 grams.

(1) Size lentils by sieving the representative portion with the appropriate size sieve (see Table 1).

Table 1

Prescribed Sieves	
Special Grade	**Sieves**
Large Lentils	15/64 - inch Round-Hole
Small Lentils	15/64 - inch Round-Hole 12/64 - inch Round-Hole 9/64 - inch Round-Hole

(2) Nest the appropriate size sieve(s) on top of a bottom pan.

(3) Place the sieve(s) in a mechanical grain sizer and set the timer to 20.

(4) Put the representative portion in the center of the sieve and actuate the sizer.

(5) Return the lentils remaining in the perforations of the sieve to the portion that remains on top of the sieve.

(6) Determine the percent of lentils that pass through the sieve(s).

NOTE: If a mechanical sizer is unavailable, hold the sieves and bottom pan level and, using a steady motion, move the sieves from right to left approximately 10 inches, and return from left to right to complete one sieving operation. Repeat this operation twenty times.

b. Record the percent of lentils that pass through the sieve(s) and the size of sieve(s) used in the determination on the work record.

(1) If not more than 3.0 percent of the lentils pass through a 15/64-inch round-hole sieve, show the special grade “Large Lentils” on the work record and on the grade line of the certificate.

(2) If 95 percent or more of the lentils pass through a 15/64 inch round-hole sieve, not less than 80 percent pass through a 12/64 inch round hole sieve and not more than 3.0 percent pass through a 9/64 inch round hole sieve, show the special grade “Small Lentils” on the work record and on the grade line of the certificate.

7.27 COLOR

Good Color Lentils. *Lentils that are practically free from discoloration and have the uniform natural color and appearance characteristics of the predominating lentil type.*

Fair Color Lentils. *Lentils that are lightly to moderately discolored from storage or other causes to the extent they cannot be considered of good color.*

Poor Color Lentils. *Lentils that are severely discolored from storage or other causes to the extent they cannot be considered of fair color.*

Color must be determined after the removal of dockage, defective lentils, and foreign material.

a. Determine color on a representative portion of approximately 60 grams for small seeded lentils and 125 grams for large seeded lentils after the removal of dockage, defective lentils, and foreign material.

b. Available interpretive line prints (ILP) serve as the basis for this general appearance assessment.

NOTE: When determining color, ignore obvious contrasting classes (CCL) if the overall color of the predominating and contrasting lentils is of a good natural color.

c. Evaluate bleached lentil samples using either the Pardina or Regular lentil ILP for color and compare the amount of bleached out lentils to the amount of oxidized lentils. The intensity must contrast to the normal lentil color.

d. Using the ILP for non uniform lentils, determine the amount of discolored lentils required in a sample to affect color. The intensity of the discolored lentils may be lighter if the lentils contrast with the remainder of the sample.

e. Lentils that are discolored by dust or a slight amount of dirt, which can be removed by processing methods, must be considered as “good color.”

NOTE: One of the most common causes of discoloration of lentils is excessive heat, so-called “sunburned lentils” which are characterized by dark brown or reddish casts. Long storage may also produce discoloration and prevent the lentils from being considered of good color.

f. When dockage-free lentils are determined to be other than “good color,” record this information on the work record and result section of the certificate. Lentils that are “fair” in color must grade no higher than U.S. No. 2. Lentils that are “poor” in color must grade no higher than U.S. No. 3.

7.28 U.S. SAMPLE GRADE CRITERIA

Basis of Determination. Determine U.S. Sample Grade criteria on the lot as a whole and/or the representative sample as a whole. Table 2 shows the criteria and corresponding tolerance limits, and the appropriate basis of determination.

TABLE 2

U.S. SAMPLE GRADE CRITERIA			
Criteria	**Visual Reference Image**	**Number/Weight[1]**	
		Sample Basis	**Lot Basis[2]**
Any numerical grading factor		Excess of limit for U.S. No. 3	N/A
Moisture		more than 14.0%	N/A
Animal filth	Animal Filth	2 or more	2 or more
Deer/Elk Pellets		1 or more	1 or more
Broken Glass (any size)		Presence	Presence
Live Insects		2 or more	2 or more
Metal Fragments		2 or more	2 or more
Odor		Presence	Presence
Insect Webbing or Filth		2 or more	2 or more
Heating		Presence	Presence

[1] Record count factors to the nearest whole number.
[2] The entire sample of a submitted sample is considered as the lot.

Certification. Grade dockage-free lentils “U.S. Sample Grade” when one or more of the limits in table 2 are exceeded. Record the reason(s) why in the “Results” section of the certificate. Record count factors to the nearest whole number.

7.29 DISTINCTLY LOW QUALITY

Distinctly Low Quality. *Whole lentils which are obviously of inferior quality because they are stained by an unknown foreign substance or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s) or because they are in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.*

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

b. Lentils that are obviously affected by unusual conditions which adversely affect the quality of the lentils, such as unknown foreign substance, or treatment with a fungicide, must be considered to be "distinctly low quality."

c. Record the words "Distinctly Low Quality" and the reason(s) why in the result section of the certificate, and grade the lentils "U.S. Sample grade."

7.30 VISUAL REFERENCE IMAGES

Visual Reference Images (VRI) (Table 3) are used to ensure consistent and uniform application of grading lines and illustrate types of damage in conjunction with written descriptions.

Table 3

Visual Reference Images	
INTERPRETIVE LINES	**GENERAL APPEARANCE**
BLIGHT (ASCOCHYTA) DAMAGE	REGULAR GOOD COLOR (UNIFORM)
DAMAGED BY HEAT	REGULAR FAIR COLOR (UNIFORM)
DIRT / GRIME	REGULAR GOOD COLOR (NON-UNIFORM)
FROST DAMAGE	REGULAR FAIR COLOR (NON-UNIFORM)
HEAT DAMAGE	PARDINA GOOD COLOR (UNIFORM)
INSECT STUNG DAMAGE	PARDINA FAIR COLOR (UNIFORM)
MOLD DAMAGE	PARDINA GOOD COLOR (NON-UNIFORM)
SKINNED	PARDINA FAIR COLOR (NON-UNIFORM)
SPROUT DAMAGE	

GRADES AND GRADE REQUIREMENTS FOR DOCKAGE-FREE LENTILS

Grading Factors	Maximum percent limits of: Grades U.S. Nos.[1]		
	1	2	3
Defective Lentils			
Total[1]	**2.0**	**3.5**	**5.0**
Weevil-Damaged Lentils	**0.3**	**0.8**	**0.8**
Heat-Damaged Lentils	**0.2**	**0.5**	**1.0**
Foreign Material			
Total[2]	**0.2**	**0.5**	**0.5**
Stones	**0.1**	**0.2**	**0.2**
Skinned Lentils	**4.0**	**7.0**	**10.0**
Contrasting Lentils[3]	**2.0**	**4.0**	**>4.0**
Inconspicuous Admixture	**0.5**	**0.8**	**1.0**
Minimum Requirements for Color	**Good**	**Fair**	**Poor**

U.S. Sample grade must be lentils which:

a. Do not meet the requirements for the grades U.S. Nos. 1, 2, or 3; or

b. Contain more than 14.0 percent moisture, live weevils, or other live insects, metal fragments, broken glass, or a commercially objectionable odor; or

c. Are heating, or distinctly low quality.

[1] Defective lentils total is weevil-damaged, heat-damaged, damaged, and split lentils combined.

[2] Foreign material total includes stones.

[3] Lentils with more than 4.0 percent contrasting lentils must grade no higher than a U.S. No. 3.

CHAPTER 8
FEED PEAS

Contents

8.1 DEFINITIONS 3

8.2 GRADES AND GRADE REQUIREMENTS 3

8.3 WORK RECORD 3

8.4 REPRESENTATIVE PORTION 3

8.5 WORK SAMPLE 3

8.6 FILE SAMPLE 3

8.7 PERCENTAGES 4

8.8 LABORATORY SCALES 4

8.9 PRELIMINARY EXAMINATION 4

8.10 BASIS OF DETERMINATION 4

8.11 PROCEDURES 5

8.12 DISTINCTLY LOW QUALITY 6

8.13 HEATING 6

8.14 MOISTURE 7

8.15 ODOR 8

8.16 HEAT-DAMAGED PEAS 9

8.17 NON-PEA MATERIAL 9

8.18 INERT MATERIAL 9

8.19 BROKEN GLASS 10

8.20 METAL FRAGMENTS 10

8.21 ANIMAL EXCRETA 10

8.22 COMBINATION THRESHER RUN/FEED PEA INSPECTION REQUEST 10

8.1 DEFINITIONS

Feed Peas. *Dry peas intended for feed purposes.*

8.2 GRADES AND GRADE REQUIREMENTS

The grades and grade requirements for feed peas are shown in the United States Standards for Feed Peas and in the Attachment, “Grades and Grade Requirements for Feed Peas,” to this chapter.

8.3 WORK RECORD

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 either form FGIS-981, “Pea and Lentil Laboratory Ticket” or form FGIS-982, “Pea and Lentil Sample Ticket.” Cooperators must use a similar form.

8.4 REPRESENTATIVE PORTION

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

8.5 WORK SAMPLE

A representative portion of peas (approximate size - 1,000 grams) that is used to make all determinations.

8.6 FILE SAMPLE

a. A representative portion of peas (approximate size - 1,000 grams) that may be used in conjunction with the work sample, when needed. File samples may also be used for monitoring, and appeal inspection purposes.

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

8.7 PERCENTAGES

a. Percentages are determined on the basis of weight and are rounded as follows:

(1) When the figure to be rounded is followed by a figure greater than or equal to 5, round to the next higher figure; e.g., report 6.36 as 6.4, 0.35 as 0.4, and 2.45 as 2.5.

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

b. Record factor results to the nearest tenth percent.

8.8 LABORATORY SCALES

Weigh work portions and separations from work portions using an approved grain test scale with an appropriate division size. See Equipment Handbook, Chapter 2.

8.9 PRELIMINARY EXAMINATION

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

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

8.10 BASIS OF DETERMINATION

All factor determinations will be made upon the basis of the sample as a whole except for heat-damaged peas. The determination for heat-damaged peas is based on a 250 gram portion after the removal of non-pea material.

8.11 PROCEDURES

Follow a systematic factor examination procedure. The order of procedure may vary depending on the specific inspection service request (i.e., combined thresher-run/feed pea inspection request). However, a general order of procedure for feed peas is:

a. Use an approved divider to process the representative sample into three representative portions: a work sample, file sample, and moisture portion.

b. Examine the work sample for the presence of sample grade criteria and distinctly low quality.

c. Remove the coarse non-pea material (e.g., sticks, pods, mud lumps/dirt, and other matter larger than peas) from the work sample. Sieves may be used as an aid in the separation process. If pods contain peas, remove the peas and return to sample.

d. Calculate the percentage of coarse non-pea material.

e. Separate out the coarse inert material from the coarse non-pea material and calculate the percentage of coarse inert material.

f. Divide out a 250-gram portion from the sample after the removal of coarse" non-pea material. Using a 5/64-triangular sieve, remove any fine material present. The material passing through the sieve functions as fine non-pea material.

g. Calculate the percentage of fine non-pea material.

h. Separate any pea material from the non-pea material remaining on top of the 5/64 sieve. Seed coats are considered as pea material.

i. Separate any inert material present in the non-pea material which remains on top of the 5/64 sieve and calculate the percentage of inert material.

j. Combine all inert material fractions to determine "total" inert material.

k. Combine all non-pea material fractions, including any inert material, to determine "total" non-pea material.

l. Determine the percentage of heat-damaged peas.

8.12 DISTINCTLY LOW QUALITY

Dry peas which are obviously of inferior quality because they are stained by an unknown foreign substance; or because they otherwise contain a known toxic substance(s) or an unknown foreign substance(s); or because they are in an unusual state or condition, and which cannot be graded by use of other grading factors provided in the standards.

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

b. Peas that are obviously affected by unusual conditions which adversely affect the quality of the peas, such as animal excreta or other filth, unknown foreign substance, or treatment with a fungicide, must be considered to be “distinctly low quality.”

c. Record the words “Distinctly Low Quality” and the reason(s) why in the “Results” section of the certificate, and grade the peas “U.S. Sample grade.”

8.13 HEATING

Determine heating on evidence obtained at the time of sampling or on the basis of the sample as a whole.

a. Feed peas that develop a high temperature from excessive respiration are considered heating.

b. Advanced stages of heating feed peas will usually have a sour or musty odor.

c. Care should be taken not to confuse feed peas that are heating with feed peas that are warm and moist because of storage in bins, railcars, or other containers during hot weather.

d. When applicable, show the term “Heating” on the work record and result the certificate, and grade the feed peas “U.S. Sample grade.”

8.14 MOISTURE

Water content in feed peas as determined by an FGIS approved device in accordance with FGIS procedures.

a. Upon request or when deemed necessary, determine moisture on a representative portion of approximately 350 grams of feed peas.

b. Refer to the Moisture Handbook for information on determining moisture.

NOTE: If a representative portion of the original sample of feed peas was not placed in a moisture proof container at the time of sampling, promptly do so upon arrival at the laboratory. Seal the container with a friction or screw top lid to preserve the moisture. The use of open containers, paper containers, and similar containers for holding moisture samples is prohibited.

c. Record the percent of moisture on the work record and results section of the certificate to the nearest tenth percent. If the moisture results exceed 15.0 percent, grade the feed peas “U.S. Sample grade.”

8.15 ODOR

Odors in feed peas are classified as: musty, sour, or commercially objectionable foreign odors.

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

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

(2) **Sour**. A sour odor must be any odor that is rancid, sharp, or acrid.

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

(a) Fumigant or insecticide odors are considered commercially objectionable odors if they linger and do not dissipate. When a sample of peas 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 odor if the fumigant or insecticide odor persists based on the above criteria.

b. When peas are determined to be musty, sour, or have a commercially objectionable odor, record the type of odor on the work record and the result section of the certificate, and grade the feed peas “U.S. Sample grade.”

8.16 HEAT-DAMAGED PEAS

Whole and pieces of dry peas which have been materially discolored as a result of heating.

a. Determine heat-damaged peas on a representative portion of approximately 250 grams after the removal of non-pea material.

b. Record the percent of heat-damaged peas on the work record and the result section of the certificate to the nearest tenth percent.

8.17 NON-PEA MATERIAL

All material that passes through a 5/64 triangular sieve and all material other than peas, excluding seed coats, but including inert material, remaining in the sieved sample.

Note: Include insects as non-pea material.

a. The determination of non-pea material is a two step process. Coarse non-pea material is determined on the basis of the 1,000 gram work portion. All other non-pea material is determined on the basis of a 250 gram portion after the removal of coarse non-pea material.

b. Record the percent of non-pea material on the work record and the result section of the certificate to the nearest tenth percent.

8.18 INERT MATERIAL

Inert material is all non-vegetative material such as stones, and hard and soft earth pellets remaining in the sieved sample.

a. The determination of inert material is a two step process. Large (coarse) inert material is determined on the basis of the 1,000 gram work portion. Inert material approximating the size of peas is determined on the basis of a 250 gram portion after the removal of “fine” non-pea material.

b. Record the percent of inert material on the work record and the result section of the certificate to the nearest tenth percent.

8.19 BROKEN GLASS

a. Determine broken glass on the basis of the lot as a whole and/or the representative sample as a whole.

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

c. When applicable, show the term “Broken glass” on the work record and result section of the certificate, and grade the feed peas “U.S. Sample grade.”

8.20 METAL FRAGMENTS

a. Determine metal fragments, such as metal filings or metal shavings, on the basis of the lot as a whole and/or the representative sample as a whole.

b. Sufficient evidence of metal fragments must be:

(1) Two or more metal fragments in the lot as a whole or the work sample; or

(2) One metal fragment in the work sample and one or more in the file sample.

c. When applicable, show the term “Metal fragments” on the work record and result section of the certificate, and grade the feed peas “U.S. Sample grade.”

8.21 ANIMAL EXCRETA

a. Determine animal excreta on the basis of the lot as a whole and/or the representative sample as a whole.

b. Record the percentage of animal excreta on the work record and in the result section of the certificate. Samples containing 0.02 percent or more of animal excreta are graded as “U.S. Sample grade.”

8.22 COMBINATION THRESHER RUN/FEED PEA INSPECTION REQUEST

Applicants may, as part of an original “thresher-run” pea inspection service, request to have a feed pea quality inspection performed concurrently. Applicants must inform official inspection personnel of the particular feed pea factor(s) that they want analyzed.

If such a request is received, it is possible to perform both inspections using the same work sample. **Perform the thresher-run inspection first in accordance with the procedures outlined in the Pea and Lentil Handbook, Chapter 3.**

In order to assess the feed pea quality criteria and efficiently separate the pea from the non-pea material, the sample must be further processed using one of the following methods:

a. Hand Sieving Method.

(1) Using an approved shaker or hand sieve, sieve (20 strokes) the thresher–run dockage with a 5/64” triangular sieve. For samples containing high amounts of dockage, stacking a 12/64” round-hole sieve on top of the 5/64” will aid in separating small peas, splits/chips, and weed seeds; thus reducing the time required for hand adjustment.

(2) All material passing through the sieve, including any fine pea or inert material, is considered non-pea material.

(3) Remove any small peas, split peas, or pea parts (e.g., seed coats) remaining on top of the sieve(s) and return them to the cleaned sample. Also separate any peas that may be present in pods, returning them to the cleaned sample as well.

(4) Separate any inert material which may be present from the non-pea material remaining on top of the sieve.

(5) Review the thresher-run “foreign material” portion and hand adjust it to remove any detached seed coats that may be included and return to the cleaned portion. At the same time, separate any inert material present and combine with the “coarser” inert materials found above.

(6) Review all pea and non-pea material fractions and examine them for the presence of animal excreta, glass, and metal fragments.

(7) Re-evaluate the percent heat damage, when appropriate, to include any heat damage peas present in the thresher-run dockage.

b. Dockage Machine (recommended for high dockage samples):

(1) Set up the Carter Dockage Tester as follows to assist in the separation of pea/non-pea material from thresher-run dockage:

(a) Set air control to 9 (highest setting) and feed control to 8.

(b) Use no riddle.

(c) Insert a No. 3 (12/64 round-hole) sieve in the top sieve carriage.

(d) Insert a No. 6 (5/64 triangular) sieve in the middle sieve carriage.

(e) Use no sieve in the bottom sieve carriage.

(2) Material removed by the air and passing through the No. 6 sieve is considered non-pea material, except for seed coats. Seed coats are considered pea material and must be removed from the air component when present.

(3) Hand adjust the material passing over the No. 3 and 6 sieves to remove any small peas, splits, seed coats, or peas from any pods that may be present in the dockage.

(4) Examine the non-pea material which passed over the No. 3 and 6 sieves for inert material and separate from the other “non-pea” material.

(5) Review the “foreign material” portion and hand adjust it to remove any detached seed coats that may be included. At the same time, separate any inert material present and combine with other inert materials found above.

(6) Review all pea and non-pea material fractions and examine them for the presence of animal excreta, glass, and metal fragments.

(7) Re-evaluate the percent heat damage, when appropriate, to include any heat damage peas present in the thresher-run dockage.

c. Record the requested feed pea factor result(s) in the result section of the certificate below the “Thresher-run” inspection results. Use the following statement in the “Remarks” section to list the feed pea factor(s). “The sample contained (insert percentage) of (insert factor) when graded according to feed pea standards.”

For example: an applicant requests an analysis for non-pea material, according to the feed pea standards, in addition to the thresher-run results on the certificate. The certificate issued for the sample/lot would list the thresher-run results then the statement “The sample contained 2.9 percent of non-pea material when graded according to feed pea standards.”

d. Additional factor analysis fees are applicable for feed pea factors analyzed on thresher-run samples.

GRADES AND GRADE REQUIREMENTS FEED PEAS

Grading Factors	Grade U.S. No. 1
	Maximum percent:
Inert material	**1.0**
Heat-damaged peas	**1.0**

U.S. Sample grade are feed peas which:

(a) do not meet the requirements for the grade U.S. No. 1; or

(b) contain more than 15.0 percent moisture; or

(c) contain 0.02 percent or more animal excreta; or

(d) contain metal fragments; or broken glass; or

(e) have a musty, sour, or commercially objectionable odor; or

(f) are heating or of distinctly low quality.

CHAPTER 9
CERTIFICATION

Contents

9.1 GENERAL 3

9.2 LOT INSPECTION CERTIFICATE 3

9.3 SUBMITTED SAMPLE INSPECTION CERTIFICATE 4

9.4 DIVIDED-LOT CERTIFICATE 4

9.5 PARTIAL INSPECTION CERTIFICATE 6

9.6 CORRECTED CERTIFICATE 7

9.7 DUPLICATE CERTIFICATE 9

9.8 MULTIPLE GRADE CERTIFICATE 10

9.9 INSPECTION DATE INFORMATION 10

9.10 REMARKS INFORMATION 11

9.11 SHIPPER AND CONSIGNEE INFORMATION 11

9.12 CARRIER OR CONTAINER INFORMATION 11

9.13 CONTAINER MARKINGS INFORMATION 13

9.14 LOCATION INFORMATION 15

9.15 QUANTITY INFORMATION 15

9.16 FACTOR INFORMATION 16

9.17 GRADE DESIGNATIONS 17

9.18 APPROVED STATEMENTS 17

9.19 AUTHORIZATION TO AFFIX NAMES 19

9.20 VOIDED CERTIFICATE 19

9.21 CERTIFICATE DISTRIBUTION 20

COMMODITY INSPECTION CERTIFICATE FGIS-993 21

INSTRUCTIONS FOR COMPLETING FORM FGIS-993 22

COMMODITY INSPECTION CERTIFICATE FGIS-994 23

INSTRUCTIONS FOR COMPLETING FORM FGIS-994 24

9.1 GENERAL

a. Official certificates issued and not superseded under the Act and the regulations are receivable by all offices and all courts of the United States as prima facie evidence of the truth of the statements stated thereon.

b. A certificate must be issued for each lot or submitted sample inspection of peas and lentils whether for kind, class, grade, factor analysis, equal-to-type, or other quality designations as defined in the standards or instructions, or for any other approved services performed.

c. The information shown on the certificate must be taken from the work record and the application for service.

d. Cooperators may use FGIS forms and certificates or their own forms and certificates. All forms and certificates must be approved by FGIS prior to use.

e. Service providers are required to provide electronic records into FGIS Online Certificate (CRT) except class Y weights and Official Commercial Inspection Service (OCIS) even though hand written certificates are still permitted.

9.2 LOT INSPECTION CERTIFICATE

a. A lot inspection certificate must be issued to show quality and other service results for an identified lot of peas or lentils based on a sample drawn by official personnel. An inspection for quality may include kind, class, grade, factor analysis, equal-to-type, or any other quality designation as defined in the standards or instructions. Other services that may be shown on the certificate are: checkweighing, checkloading, checkcounting, condition of food containers, plant approval and observation of loading.

b. An unqualified lot inspection certificate must not be issued as representing an identified lot unless the entire lot is accessible for sampling and a representative sample can be obtained.

c. If only part of a lot is accessible for sampling, a lot inspection certificate may be issued based on a representative sample obtained from the accessible portion, provided that the certificate is qualified by printing or stamping the words “PARTIAL INSPECTION” thereon (see section 8.5.)

9.3 SUBMITTED SAMPLE INSPECTION CERTIFICATE

a. A submitted sample inspection certificate must be issued to show the results of an inspection for quality of peas or lentils based on a sample submitted by an applicant. An inspection for quality may include kind, class, grade, factor analysis, equal-to-type, or any other quality designation as defined in the standards or instructions.

b. Each submitted sample inspection certificate must clearly state that the results of the inspection apply only to the sample described by the certificate and not to the lot from which the sample may have been taken.

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

NOTE: In the case of thresher-run dry peas or lentils, any identification may be used which, in the opinion of the inspector, will not lend itself to fraudulent or other misuse.

9.4 DIVIDED-LOT CERTIFICATE

a. Divided-lot certificates are multiple certificates issued for specified quantities which comprise a lot for which an original lot inspection certificate has been issued, surrendered and voided.

b. When peas or lentils are offered for inspection and are certificated as a single lot, the applicant may exchange the lot certificate for two or more divided-lot certificates.

c. Requests for divided-lot certificates must be made, in writing, to the office that issued the outstanding certificate, by the applicant who made the initial request.

d. Divided-lot certificates must be issued within five business days of the outstanding certificate date and before the lot's identity has been lost. FGIS field office managers may, on a case by case basis, waive these requirements when necessary to facilitate trade.

e. Requests for divided-lot certificates must show:

(1) The pea or lentil quantity to be shown on each divided-lot certificate.

(2) Name and address of each consignee, if any.

(3) Load order number, purchase authorization number, reference number, contract number, letter of credit identification, or similar identification required for each individual consignee.

f. Prior to issuing a divided-lot certificate, the original inspection certificate must be in the custody of the cooperator or FGIS field office and be marked “VOID-SURRENDERED FOR DIVIDED-LOT CERTIFICATES.”

g. If official personnel determine that the condition of the affected peas or lentils have changed since the original inspection, the request for divided-lot certificates must be dismissed.

h. Show the same information, inspection date, and statements on each divided-lot certificate, including approved statements that were shown on the superseded certificate. Additionally, show on each divided-lot certificate the following:

(1) On the original and all copies, show the completed statement “This commodity was officially inspected and/or weighed as an undivided lot of XX.”

On a commodity weight certificate (original and all copies), show the completed statement “This commodity was officially weighed as an undivided lot of XX.”

(2) On the original, show the term “Divided-Lot Original,” and on the copies, show the term “Divided-Lot Copy.”

(3) The same serial number as shown on the superseded certificate with a consecutively numbered suffix (for example, 1764-1, 1764-2, 1764-3, etc.). Inspection certificates have preprinted serial numbers. The preprinted number must be “X’ed” out and replaced with the superseded certificate number and the serially numbered suffix.

(4) The pea or lentil quantity requested on the application. No divided-lot certificate must be issued which shows, individually or collectively, a pea or lentil quantity in excess of the quantity shown on the superseded original certificate.

(5) At the request of the applicant, a separate consignee, load order number, purchase authorization number, reference number, contract number, letter of credit identification, or similar identification may be shown on each divided-lot certificate. This information must be furnished by the applicant, in writing, and identical information must be shown on the superseded certificate or on a letterhead document attached to the superseded certificate.

(6) The markings on packaged pea or lentil containers will be shown according to procedures in section 8.13 of this chapter. The markings shown on the superseded certificate must be shown on each divided-lot certificate with the number of containers for each marking.

i. If checkweighing is performed as part of the original inspection, the estimated average gross, tare, and net weights determined during the original service must be used to determine the estimated total gross, tare, and net weights to be shown on the divided-lot certificate.

j. After divided-lot certificates have been issued, further dividing or combining is prohibited except with the approval of the GIPSA Administrator. These limitations do not apply when a corrected certificate must be issued.

9.5 PARTIAL INSPECTION CERTIFICATE

a. There may be circumstances when the entire lot is not accessible or a representative sample cannot be obtained. In such instances, official personnel will issue the inspection certificate stating the estimated quantity of the peas or lentils in the accessible portion and that the inspection is limited to the accessible portion. Conspicuously show in the heading of the inspection certificate, the words "PARTIAL INSPECTION." However, FGIS Online Certificate (CRT) users may show the phrase in the "remarks section."

b. For bulk peas or lentils in bins and shipholds that are sampled by a 12-foot bulk trier that does not reach the bottom of the lot, a partial inspection certificate must be issued. Show the following statement "Top feet sampled. Bottom not sampled" in the Remarks section of the certificate.

NOTE: Do not issue a partial inspection certificate for bulk peas or lentils in barges or hopper cars that are sampled by a 12-foot bulk trier that does not reach the bottom of the lot. Show the following statement "Top feet sampled. Bottom not sampled." in the "Remarks" section of the certificate. However, the Bottom not sampled statement is not required when sampling hopper cars for phytosanitary/export purposes using a 12-foot bulk trier that is completely inserted in the product.

c. If bulk or sacked peas or lentils, which are offered for inspection at rest in a container, are loaded in such a manner that it is possible to secure only a door-probe, shallow-probe, door-sack-probe, or surface-sack-probe sample(s); or if the lot of peas or lentils are not trimmed or otherwise does not have a reasonably level surface, the carrier or container will be considered to be "heavily loaded" and a partial inspection certificate issued.

(1) If a partial inspection is made, the peas or lentils must be sampled as thoroughly as possible with an approved trier. The inspection certificate issued must have the words "PARTIAL INSPECTION" conspicuously shown in the heading of the certificate.

(2) In addition, the certificate must show the type of sample(s) obtained. The type of sample(s) must be described as "door-probe," "shallow- probe," "door-sack-probe," or "surface-sack-probe" samples; and, in the case of packaged peas or lentils (including sacked peas or lentils), the approximate number of containers accessible for sampling and the approximate number of containers in the lot must be shown in the space provided for quantity on the certificate; e.g., "800/100-pound polypropylene sacks, part of an undivided lot of 1,250 sacks."

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

(a) Door-probe sample. A sample taken with an approved trier from a bulk pea or lentil lot which is loaded so close to the top of the carrier or container that it is possible to insert the trier only in the peas or lentils in the vicinity of the door or hatch of the carrier or area in the container in which the peas or lentils are located.

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

(c) Door-sack-probe sample. A sample taken with an approved trier from a sacked pea or lentil lot which is loaded so close to the top of the carrier that it is possible to insert the trier only in the pea or lentil sacks in the vicinity of the door or hatch of the carrier or area in the container in which the sacks are located.

(d) Surface-sack-probe sample. A sample taken with an approved trier from a sacked pea or lentil lot which is so loaded or placed that it is possible to insert the trier only in the peas or lentils in the sacks in the upper portion, sides, or ends of the lot.

9.6 CORRECTED CERTIFICATE

a. The accuracy of the statements and information shown on official certificates must be verified by the individual whose name or signature, or both, is shown on the official certificate or by the authorized agent who affixed the name or signature, or both. Errors found during this process will be corrected according to this section. The term “errors” includes errors of commission or omission and are not limited to errors of commission or omission attributed to official personnel. Such errors may be attributed to the applicant for inspection.

b. Only official personnel or their authorized agents may make corrections, erasures, additions, or other changes to official certificates.

c. No corrections, erasures, additions, or other changes may be made which involve identification, quality, or quantity.

d. If errors are found prior to issuance, the errors may be corrected by either:

(1) Issuing a new certificate (the incorrect certificate must be marked "VOID"); or

(2) Making corrections subject to the following requirements:

(a) The corrections must be neat and legible.

(b) The corrections must be initialed by the individual who corrects the certificate.

(c) The corrections and initials are shown on the original and all copies.

e. If errors are found on an official certificate at any time up to a maximum of one year after issuance, the errors must be corrected by obtaining the incorrect certificate and replacing it with a corrected certificate. When the incorrect certificate cannot be obtained, a corrected certificate may be issued superseding the incorrect one.

(1) Written or verbal notice of error must be issued to the applicant and respondents.

(2) The original of the incorrect certificate must, if possible, be obtained and clearly marked "VOID."

(3) The original and the copies of the corrected certificate must be issued to the same applicant and respondents who received the certificate found incorrect.

(4) The corrected certificate must show the identical information and statements as shown on the incorrect certificate except:

(a) The correct statement or information must be shown instead of the incorrect or omitted statement or information.

(b) The corrected original certificate must show the term "Corrected Original" and the corrected copies must show the term "Corrected Copy."

(c) The original and the copies must show, in the space provided for remarks, the following completed statement: "This certificate is corrected as to (reason for correction) and supersedes Certificate No. (superseded certificate number), dated (date of superseded certificate)."

(d) If the incorrect certificate cannot be obtained, the statement "The superseded certificate identified has not been surrendered" must be clearly shown in the space provided for "Remarks." Official personnel must exercise other such precautions as may be necessary to prevent the fraudulent and unauthorized use of the superseded certificate.

(e) A new serial number must be shown.

(5) No corrected certificate must be issued for a certificate which has been superseded or altered in any manner other than as prescribed in this section without approval of the appropriate FGIS field office manager.

(6) The provisions of this section must be applicable to all types and levels of inspections.

9.7 DUPLICATE CERTIFICATE

a. Upon request, a duplicate certificate may be issued for a lost or destroyed official certificate.

b. Requests for duplicate certificates must be filed:

(1) In writing and in English;

(2) By the applicant who requested the service covered by the lost or destroyed certificate;

(3) With the office that issued the initial certificate; and

(4) With a statement by the applicant that the original certificate has been lost or destroyed; if lost, that diligent effort has been made to find it without success.

c. The same information and statements, including approved statements, which were shown on the lost or destroyed certificate, must be shown on the duplicate certificate. Duplicate certificates must show:

(1) The term “Duplicate Original” and the copies must show “Duplicate Copy.”

(2) The original and the copies must show, in the space provided for “Remarks,” the following completed statement: “This duplicate certificate is issued in lieu of a (lost or destroyed, as applicable) certificate.”

(3) The serial number must be “X’ed” out and the lost or destroyed certificate serial number typed on the certificate.

d. Duplicate certificates must be issued as promptly as possible.

e. Duplicate certificates must not be issued for certificates that have been superseded or issued in any manner other than prescribed in this section unless otherwise approved by the appropriate FGIS field office manager.

f. The provisions of this section must be applicable to all levels of certificates.

NOTE: With CRT there is no need for duplicates due to FGIS maintaining the original certificate in the Inspection Data Warehouse (IDW). If a copy is needed, it can be printed as many times as needed.

9.8 MULTIPLE GRADE CERTIFICATE

a. When peas or lentils are offered for inspection as one lot and are subsequently found to contain portions that are distinctly different in class, quality, or condition, the peas or lentils in each portion must be sampled, inspected, and graded separately, but the results must be recorded on one certificate.

b. The certificate must include the approximate quantity or weight of each portion, the location of each portion in the carrier, and the grade and factor information on the peas or lentils in each portion.

   (1) Enter an estimate of the quantity of the larger portion and the grade of that portion on the certificate first, followed by an estimate of the remainder of the lot and the grade assigned to that portion. For hopper cars, include the identification of the compartment(s).

   (2) Factor information must be entered in the proper sequence and must be related to a particular portion and its position in the carrier.

9.9 INSPECTION DATE INFORMATION

a. The inspection date (or date of issuance or date of service) is the day on which an inspection is completed as shown in the detailed work records. In the case of lot inspections where the analysis, for good reason, is not performed or not completed until the day following the sampling, the certificate may be dated either the day the lot was sampled or the following day when the inspection was completed.

b. A uniform lot which requires more than one day to sample may be certificated as one lot, provided no undue delay occurs in completion of the lot.

   (1) There must be a reasonably continuous operation taking into consideration weather and other conditions which might interfere in the completion of the lot.

   (2) If reasonably continuous inspection service is not maintained, one lot inspection certificate must be issued for the portion inspected prior to the break in inspection service; and one lot inspection certificate must be issued for the portion inspected after the break in inspection service (or after each additional break in inspection service.)

   (3) “Reasonably continuous inspection service” may include inactive periods of not more than 88 consecutive hours.

c. Divided-lot certificates must be dated the same date as shown on the original certificate.

9.10 REMARKS INFORMATION

a. The space provided for “Remarks” is for showing information which will facilitate marketing. No statement may be shown which is known to be false or misleading. Remarks may include information, such as warehouse receipt numbers, loan numbers, load order numbers, container markings, seal numbers, and approved statements.

b. The reverse of certificates may be used for showing pertinent information and approved statements. If used, show the statement “(see reverse)” or “(continued on reverse)” conspicuously on the front of the certificate. On the reverse of the certificate, show “Continuation of (applicable space continued from).”

NOTE: Requests for special statements which are substantially different from approved statements, or which are not approved, must be referred to the appropriate FGIS field office manager for approval.

9.11 SHIPPER AND CONSIGNEE INFORMATION

Certificate forms do not have a preprinted space for showing the name and address of a shipper or consignee. This information may be shown in the space provided for “Remarks.” Showing this information is not mandatory, it must only be shown when requested.

NOTE: When divided-lot inspection certificates are requested with different consignees for each divided-lot certificate, all consignees must be shown on the surrendered original certificate.

9.12 CARRIER OR CONTAINER INFORMATION

a. Carrier, container, and seal identification may be shown on lot inspection certificates and on submitted sample inspection certificates.

b. Care should be taken to ensure that the proper identification information is recorded.

c. For lot inspections, official personnel must obtain identification information personally. Do not transcribe the information from the application or other documents supplied by the applicant or others.

d. 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 certificate the peas or lentils 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.

(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. For example, if SEAU12345-9 is printed on the container, the identification would be SEAU12345 unless the applicant requested that the "-9" be shown.

(7) Storage bin identification may be taken from information shown on the bin or from other reliable sources.

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

9.13 CONTAINER MARKINGS INFORMATION

Most packaged peas and lentils 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 peas or lentils than what is actually in the container. All other times, the marking may be shown upon request of the applicant. Show such markings on certificates as follows:

a. Uniform Markings.

(1) When container markings are uniform for an identified pea or lentil 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 SMOOTH GREEN DRY PEAS PRODUCT OF U.S.A. KB, INC. MOSCOW, ID

(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 SMOOTH GREEN DRY PEAS over PRODUCT OF U.S.A. over KB, INC. over MOSCOW, ID

U.S. NO. 1 SMOOTH GREEN DRY PEAS/PRODUCT OF U.S.A./KB, INC./ MOSCOW, ID

b. Nonuniform Markings.

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

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

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

c. Nonuniform Markings - With Uniform Sublot Markings.

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

(2) In such instances, a record will be kept of the number of sacks of each set of uniform markings contained within the overall lot; and such information may be shown in the space provided for remarks on 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: LENTILS/Product of U.S.A./Jones Co./Spokane, WA/(Reverse) LARENCO MARQUES

4,800 sacks marked: LENTILS/Product of U.S.A./Smith Inc./Moscow, ID/(Reverse) LARENCO MARQUES

d. Tag Markings. When containers are tagged with identifying markings, the tag information may be shown in the space provided for “Remarks” on the certificate substantially as follows:

Tag Markings: EXPORT/PEAS/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 in the “Remarks” section one of the following statements:

“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 pea and lentil companies, exporters, and shippers have registered trademarks (brand names) for commodities packaged by or for them. Such markings may contain art work, 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/PEAS/SOUTH AFRICA

9.14 LOCATION INFORMATION

a. The space identified as “LOCATION” is provided to show the city and state where an inspection is performed. The place of inspection (e.g., warehouse) may also be shown.

b. Applicants for inspection may request that the place of inspection not be shown. This request is frequently made by pea and lentil exporters or their representatives who may enter into purchase contracts with several pea and lentil facilities to fulfill a sales contract commitment for a larger export cargo shipment. In such instances, the place of inspection is not needed by the applicant, would not facilitate efficient and orderly marketing of the peas or lentils, and is not required to be shown. However, the place, city, and state where the inspection was performed must be shown on all inspection work records.

9.15 QUANTITY INFORMATION

a. On lot inspection certificates, the space identified as “QUANTITY” is provided to show the quantity of peas or lentils in the lot that is inspected.

(1) The lot quantity may be stated in terms of carlot, trucklot, trailerlot, or in pounds, or by container type and capacity and whether the peas or lentils are in bulk or packaged.

NOTE: The statement of quantity serves as a part of the lot identity and is not to be construed as a certificate of weight or quantity. In stating the quantity, the words “VENDOR COUNT” (or VENDOR WEIGHT, in the case of a bulk lot) must follow the size of the lot, except when the applicant requests that a lot of sacked peas/lentils be checkloaded, checkweighed, or checkcounted and the certificate so states.

(2) Typical statements of quantity are as follows:

1,000 100-pound new, double polypropylene sacks
1,000 50-kilogram new jute sacks
1,000 110.23-pound sacks (50 kilograms) or (50 kilos)
55,000 100-pound sacks
1 carlot (bulk)
1,000,000 pounds (bulk)
1,100 60-pound cases of 6/10-pound cellophane bags
875 48-pound paper balers (24/2-pound poly. bags)
1,000 30-pound cases of 30/1-pound polyethylene bags

b. On submitted sample inspection certificates, the space provided for quantity must be used to show the approximate sample quantity in terms of weight or volume. No submitted sample inspection certificate must be issued which shows, directly or indirectly, the quantity of peas or lentils in the lot from which the sample may have been taken.

c. When using CRT, both Quantity/Weight and Unit of Measure (UoM) are used to fill in the quantity field.

(1) Quantity/Official Weight is either the count, or the weight of the unit(s).

(a) If the lot has been officially weighed, enter the weight in the "Quantity/Official Weight" field.

(b) If the lot has not been officially weighed, enter the count of the unit(s) or carrier(s).

(2) UoM is to be used for determining the weight of count.

(a) To show a weight use Bushels, Grams, Metric Tons, Pounds, or Quarts.

(b) To show the count use Bales, Bargelot, Carlot, Containerlot, or Trucklot.

9.16 FACTOR INFORMATION

a. Each official certificate must show the class, grade (when applicable), and any other quality designation according to the U.S. Standards for Dry Peas, Split Peas and Lentils, all factor information requested by the applicant, and all grade determining factors for peas and lentils graded below U.S. No. 1.

NOTE: A factor must be considered to be a quantified physical or chemical property identified in official standards, specifications, information abstracts, contracts, or other documents whose measurement describes a specific quality of a commodity.

b. Factor information must be shown on the certificate in alphabetical or numerical order, as warranted.

(1) Show factor information on lot inspection certificates by typing the full factor title (no abbreviations) followed by the applicable designation (the percentage, the count, or other quality descriptions).

(2) Show factor information on submitted sample inspection certificates by typing either the full factor title or the factor abbreviation (or code), followed by the applicable designation (the percentage, the count, or other quality descriptions). The meaning of each abbreviation used must be preprinted on the reverse of the submitted sample inspection certificate.

9.17 GRADE DESIGNATIONS

a. Show the grade designation for all classes of peas or the class Lentils in the following order:

(1) The letters “U.S.”;

(2) The number of the grade or the words “Sample grade,” as warranted;

(3) The words “or better” when applicable and requested by the applicant prior to inspection;

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

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

(b) Under Option 1, peas or lentils offered for inspection are certificated as a specific grade; e.g., “U.S. No. 2 Smooth Green Dry Peas.”

(c) Under Option 2, peas or lentils offered for inspection would be certificated as being a specific grade “or better;” e.g., “U.S. No. 3 or better Smooth Green Dry Peas.”

(4) Each applicable special grade; and

(5) The class.

9.18 APPROVED STATEMENTS

The following statements may be shown on official inspection certificates when deemed appropriate. The wording of these statements may be modified provided the meaning is not altered and the statements are approved by the appropriate FGIS field office or federal-state office manager. These statements, when used, must be shown in the Remarks section of the certificate unless otherwise stated.

NOTE: Any information requested by the applicant for inspection which is known to be false or misleading must not be shown.

a. “The official sample was apparently free of insect infestation at the time of grading.”

b. “Container markings apparently meet contract specifications.”

c. “Quality except for (factor(s)) would grade (grade and kind).”

d. “Amount through _____ sieve, _____ percent.”

e. “Damaged _____ peas percent, including _____ of dirty peas.”

f. “These dry peas are green in color.”

g. “Container examination meets all requirements of U.S. Standards for Condition of Food Containers.”

h. “A brine solution was used in the inspection of this lot or sample of peas to determine weevil-damaged peas.”

i. “Foreign material consists of (type of material).” (Use general terms for the type of material; e.g., dirt and weed seeds).

j. “The applicant states these Split Peas were processed from _____ variety Whole Dry Peas.”

k. “Damaged (peas/lentils) _____ percent; consisting of percent of (type of damage) (peas/lentils).”

NOTE: Use common descriptive terms to identify types of damage; e.g., “Damaged peas 5 percent; consisting of 2 percent insect-damaged peas, 1 percent frost-damaged peas, and 2 percent other damaged peas.”

l. “A representative of the USDA witnessed the fumigation of the above-identified lot on (date).”

m. “The applicant states the kind and amount of fumigant was (quantity of fumigant used) of (type of fumigant).”

n. “The lot (was or was not) inspected to determine the fumigation results.”

o. “The official sample drawn to determine effectiveness of fumigation apparently was free of insect infestation.”

p. “The official sample drawn to determine effectiveness of fumigation indicated insect infestation.”

q. This commodity was fumigated according to official procedures.

r. The commodity in carriers (identification) was fumigated according to official procedures.

s. “Other material includes estimated (whole percent) of grain.”

t. These lentils would have graded U.S. No. (grade) lentils except for (e.g., defective lentils, skinned lentils, and split lentils).

u. The lot meets U.S. Standards for Condition for Food Containers.

v. “Variety stated by applicant to be _____ .”

w. “Dockage breakdown results were estimated using hand sieves.”

x. Not heating and no musty, sour, or commercially objectionable foreign odor.

y. Grade results based on file sample. All other results are those of the original inspection service.

NOTE: Upon applicant request, the statements below may be recorded in the remarks section of the certificate for Thresher Run Peas and/or Lentils.

z. After the removal of dockage, this lot would have graded U.S. No. (grade) (Smooth Green/ Smooth Yellow Dry Peas/Lentils) under the U.S. Standards for dockage free (peas/lentils).

or

After the removal of dockage, this lot would have graded U.S. No. (grade) (Smooth Green/ Smooth Yellow Dry Peas/Lentils) under the U.S. Standards for dockage free (peas/lentils) except for (factor(s)).

9.19 AUTHORIZATION TO AFFIX NAMES

a. Official personnel’s name or signature, or both, may be affixed to official certificates which are prepared from work records signed or initialed by the person whose name will be shown. The agent affixing the name or signature, or both, must:

(1) Be employed by a cooperator or FGIS;

(2) Have been designated to affix names or signatures, or both; and

(3) Hold a power of attorney from the person whose name or signature, or both, will be affixed. The power of attorney must be on file with the employing cooperator or FGIS, as appropriate.

b. When a name or signature, or both, is affixed by an authorized agent, the word “By” and the initials of the agent must appear directly below or following the name or signature of the person.

EXAMPLE: “Walter Jacobs by nc.”

9.20 VOIDED CERTIFICATE

Each official certificate which is rendered useless through clerical error or by being superseded by another certificate must be conspicuously marked “VOID.” If a certificate is rendered useless through clerical error, the original of the certificate must be retained by the office. If a certificate is superseded, the original of the superseded certificate must be filed, if surrendered, with the copy of the superseded certificate.

9.21 CERTIFICATE DISTRIBUTION

a. The original and one copy of each certificate must be distributed to the applicant or the applicant's order. In addition, one copy of each certificate must be filed with the office providing the inspection; and, if the inspection is performed by a cooperator, one copy must be forwarded to the appropriate field office. If requested by the applicant prior to issuance of the certificate, additional copies, not to exceed a total of three copies, must be furnished at no extra charge.

b. In addition to the aforementioned distribution requirements, one copy of each appeal certificate must be distributed to each interested person of record or the interested person's agent and to the cooperator or FGIS field office that issued the superseded certificate.

c. When more copies of a certificate are requested than can be furnished from one numbered set, copies may be made by using a copying machine or using the copies of another set by voiding the original and writing across it the reason for voiding. (For example: "Extra copies requested by applicant for Certificate No. L-2222." An additional fee for extra copies must be charged according to the applicable fee schedule.)

COMMODITY INSPECTION CERTIFICATE FGIS-993

FORM FGIS-993
JAN 97

UNITED STATES DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE
AGRICULTURAL MARKETING ACT OF 1946

Approved OMB No. 0580-0013

COMMODITY INSPECTION CERTIFICATE

ORIGINAL

US-MWFO-1-00008
NOT NEGOTIABLE

OFFICIAL WHITE CERTIFICATE

EXAMPLE ONLY – NOT FOR OFFICIAL USE

1 **LEVEL OF INSPECTION:** Original

2 **ISSUED AT:** MOSCOW, ID

3 **DATE OF SERVICE:** March 14, 2014

4 **IDENTIFICATION:** WAREHOUSE LOT

5 **LOCATION:** Moscow, ID

6 **QUANTITY:** (this is NOT a weight certificate) 93,000 Pounds

7 **TYPE OF MOVEMENT:** Out

8 **DATE SAMPLED:** March 14, 2014

9 **METHOD OF SAMPLING:** Bag Trier

10 **GRADE AND COMMODITY:** U.S. No. 1 Lentils

11 **RESULTS:**
Damaged Lentils 0.4 %
Defective Lentils (Total) 0.7 %
Split Lentils 0.3 %
Skinned Lentils 0.1 %

12 **REMARKS:**
Vendor's count: 960-100 lb. poly bags
Bags Marks: RCA-1414

END OF REMARKS

FEDERAL GRAIN INSPECTION SERVICE · U.S. DEPARTMENT OF AGRICULTURE

I CERTIFY THAT THE SERVICES SPECIFIED ABOVE WERE PERFORMED WITH THE RESULTS STATED.

13 **APPLICANT NAME:** Lentils B Best

14 **NAME OR SIGNATURE:**

15 **ISSUING OFFICE:** FGIS - Moscow Suboffice

This certificate is issued under the authority of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.), and the regulations thereunder (7 CFR 868.1 et seq.), and is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. [illegible] Federal Laws.
WARNING: Sec. 203(h) of the Agricultural Marketing Act of 1946 [illegible] certificate, or aid, assist, or be party to such actions, is subject to a fine of not more than $1,000 or imprisonment [illegible] such services shall be accomplished without discrimination as to race, color, religion, sex, national origin, age, or handicap.
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 valid OMB control number for this information is 0580-0013. The time required to complete this recordkeeping requirement is an average 17 hours per recordkeeper annually, including the time to retain such records, and to notify, disclose, and report to third parties such recordkeeping requirements.

EXAMPLE ONLY – NOT FOR OFFICIAL USE

INSTRUCTIONS FOR COMPLETING FORM FGIS-993
"COMMODITY INSPECTION CERTIFICATE"
(LOT INSPECTION CERTIFICATE)

(1) Enter the level of inspection performed; i.e., original, appeal, or Board appeal.

(2) Enter the name of the city and state of the field office or cooperator's office issuing the certificate; e.g., Spokane.

(3) Enter the inspection date.

(4) Enter the lot's identification.

(5) Enter the location (place name, city, and state) of the commodity.

(6) Enter the quantity of the peas or lentils in the lot.

(7) Enter the type of movement, i.e., local, out, export.

(8) Enter the date sampled.

(9) Enter the method of sampling, i.e., bag trier, probe.

(10) When applicable, enter the grade designation.

(11) Enter the inspection results and the results of all factor determinations.

(12) When applicable, under the term "REMARKS" enter any required or approved statements.

(13) Enter the applicant's name, city and state.

(14) Enter the name or signature or both, of the person who issued the certificate and, if affixed by an authorized agent, the word "By" and the agent's initials.

(15) Enter the name of the issuing office.

COMMODITY INSPECTION CERTIFICATE FGIS-994

FORM FGIS-994
JAN 07

UNITED STATES DEPARTMENT OF AGRICULTURE
FEDERAL GRAIN INSPECTION SERVICE
AGRICULTURAL MARKETING ACT OF 1946

Approved OMB No. 0580-0013

COMMODITY SUBMITTED SAMPLE INSPECTION

ORIGINAL

OFFICIAL PINK CERTIFICATE

US-MWFO-1-00009
NOT NEGOTIABLE

EXAMPLE ONLY – NOT FOR OFFICIAL USE

1 **LEVEL OF INSPECTION:** Original

2 **ISSUED AT:** MOSCOW, ID

3 **DATE OF SERVICE:** March 27, 2014

4 **IDENTIFICATION:** SAMPLE 123

NOT OFFICIALLY SAMPLED

5 **GRADE AND COMMODITY:** U.S. No. 2 Mixed Dry Peas

6 **RESULTS:**

Weevil Damaged 0.0 %
Bleached 2.1 %
Cracked Seedcoats 2.0 %
Moisture 12.3 %
Smooth Yellow Dry Peas 94.9 %
Damage 0.8 %
Splits 0.1 %
Foreign Material 0.0 %
Smooth Green Dry Peas 5.1 %

7 **REMARKS:**

END OF REMARKS

FEDERAL GRAIN INSPECTION SERVICE · U.S. DEPARTMENT OF AGRICULTURE

8 The sample identification and inspection results shown on this certificate are assigned only to the quantity in the sample and not to any identified carrier, container, or lot from which the sample may have been taken.

I CERTIFY THAT THE SERVICES SPECIFIED ABOVE WERE PERFORMED WITH THE RESULTS STATED.

APPLICANT NAME: ABC

9 **NAME OR SIGNATURE:**

10 **ISSUING OFFICE:** FCIS - Moscow Suboffice

This certificate is issued under the authority of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1624 et seq.), and the regulations thereunder (7 CFR 868.1 et seq.), and is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. This certificate does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal Laws.
WARNING: Sec. 203(h) of the Agricultural Marketing Act of 1946 provides that whoever, in connection with the issuance of this certificate, or aid, assist, or be party to such actions, is subject to a fine of not more than $1,000 or imprisonment [illegible] governing such services shall be accomplished without discrimination as to race, color, religion, sex, national [illegible]

EXAMPLE ONLY – NOT FOR OFFICIAL USE

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 valid OMB control number for this information is 0580-0013. The time required to disclose this recordkeeping requirement is to average 83.206 hours per recordkeeper annually, including the time to retain such records, and to notify, disclose, and report to third parties such recordkeeping requirements.

INSTRUCTIONS FOR COMPLETING FORM FGIS-994
"COMMODITY CERTIFICATE"
(SUBMITTED SAMPLE INSPECTION CERTIFICATE)

(1) Enter the level of the inspection performed, i.e., original, appeal, or Board Appeal.

(2) Enter the name of the city and state of the field office or cooperator's office issuing the certificate; e.g., Moscow, Idaho.

(3) Enter the date of inspection.

(4) Enter the submitted sample's identification.

(5) When applicable, enter the grade designation.

(6) Enter the inspection results and the results of all factor determinations.

(7) When applicable, under the term "REMARKS" enter any required or approved statements, e.g., 1,280 grams in paper bag.

(8) Enter the applicant's name.

(9) Enter the name or signature, or both, of the person who issued the certificate and, if affixed by an authorized agent, the word "By" and the agent's initials.

(10) Enter the issuing office.

CHAPTER 10
REVISION HISTORY

Contents

Change No: 4 July 15, 2014 2

Change No: 3 April 28, 2014 2

Change No: 2 December 31, 2002 2

Change No. 1 October 1, 2002 2

Change No. 0 August 1, 1998 2

Change No: 4 July 15, 2014

This Issuance Change transmited revisions to Chapter 3, Thresher-Run Peas and Chapter 4, Dockage-Free Peas of the Pea and Lentil Handbook (Reference: 79 FR 42755). It adds the term and definition for “fair color yellow peas” (sections 3.28 and 4.29). This revision also changes the minimum requirement for color for U.S. No. 2 from “Good” to “Fair”; and revises the attachment, “Grades and Grade Requirements for Dockage-free Peas, to reflect these changes.

Revises the Color section to incorporate General Appearance Interpretive Line Prints (ILP) and clarifying the procedure for color determination.

Change No: 3 April 28, 2014

The Pea and Lentil Handbook was revised to include standard changes, directives, program notices, policy bulletins, Board of Appeal and Review (BAR) Questions and Answers and other changes, (edits, and enhancements) to the Pea and Lentil program. The changes reflect events that have evolved since the last handbook revision dated 8/1/98.

Change No: 2 December 31, 2002

This Issuance Change transmited revisions to Chapter 7, “Dockage-Free Lentils”, of the Pea and Lentil Handbook (Reference: 67 FR 30354). It adds the term and definition for “immature lentils” to damaged lentils (section 7.20); adds the term and definition for “contrasting lentils” (section 7.23); changes the definitions for “good color lentils” and “fair color lentils”, and adds the term and definition for “poor color lentils” (section 7.27). This revision also changes the minimum requirements for color for U.S. No. 3 from “Fair” to “Poor”; and revises the attachment, “Grades, and Grade Requirements for Dockage-free Lentils”, to reflect these changes. It also corrects other miscellaneous typographical errors and formatting.

Change No. 1 October 1, 2002

The split peas grading chart was revised to correct a mistake, the U.S. No. 1 grade limit for split bleach peas was erroneously shown as 0.5 percent, it should be 1.5 percent.

Change No. 0 August 1, 1998

HB-1, Inspection Handbook for Dry Peas, split Peas, and Lentils, was revised and renamed to update and simplify the sampling, inspection, and certification procedures for thresher-run and dockage-free peas, split peas, and lentils.