Grain Inspection Hand Book

Montana Standards

Book 1 – Chapter 4

Buckwheat

GRAIN INSPECTION HANDBOOK
BOOK 1, CHAPTER 4
BUCKWHEAT

INDEX

4.1 - GRADE AND GRADE REQUIREMENTS

Cultivated Buckwheat is divided into two classes that shall be designated by size, large or small.

Cultivated Buckwheat is divided into four numerical grades and sample grade. Special grades are provided to emphasize special qualities or conditions affecting the value of the cultivated buckwheat. Special grades are added to and made a part of the grade designation. They do not affect the numerical or sample grade designation.

Table No. 1 – Cultivated Buckwheat

	Minimum limits of -		Maximum limits of -			
Grade	Test Weight Per Bushel (Large) Pounds	Test Weight Per Bushel (Small) Pounds	Foreign Material 1/ Percent	Heat Damage Percent	Damaged Kernels (Total) 2/ Percent	Defects (Total) 3/ Percent
MT. NO. 1	45.0	48.0	0.5	0.2	2.0	2.0
MT. NO. 2	43.0	46.0	1.0	0.2	3.0	3.0
MT. NO. 3	40.0	42.0	2.0	0.5	4.0	4.0

MT Sample Grade…. MT Sample Grade shall be cultivated buckwheat which-
Does not meet the requirements for MT. NO. 1, 2, 3; or
Contains 5 or more insect damaged kernels per 100 grams; or
Contains 7 or more stones or any number of stones which have an aggregate weight in excess of 2.5 percent (Processed Only) ; or
Contains 1 or more pieces of glass, 3 or more crotalaria seeds, 2 or more castor beans; or
Contains two or more rodent pellets, bird droppings, or an equivalent quantity of other animal filth, two or more particles of an unknown foreign substance, or a commonly recognized harmful or toxic substance (s) per 1-1/8 to 1-1/4 quarts of cultivated buckwheat; or
Has a Musty, Sour, or Commercially Objectionable Foreign Odor; or
Is heating or otherwise distinctly low quality.

1/ Foreign Material is a grading factor in processed cultivated buckwheat only.
2/ Includes Heat Damaged Kernels.
3/ Defects (Total) is a grading factor in processed cultivated buckwheat only. Defect (Total) includes foreign material and damaged kernels (total).

The following factors shall be recorded on all certificated regardless of grade: Dockage, Identify Foreign Material, Moisture, Stones, and Test Weight Per Bushel.

4.2 - GRADE DESIGNATIONS

Use the following guidelines when assigning grades on pan tickets and certificates.

A. The abbreviation “MT”.

B. The abbreviation “NO”. and the number of the grade or the words “Sample Grade”;

C. The applicable special grade(s) in alphabetical order;

D. The word “dockage” and the percentage thereof.

In addition, include the following on the pan ticket and in the “remarks section of the certificate

A. When applicable, the number of insect-damaged kernels.

B. The number of stones.

4.3 - PERCENTAGES

Determine percentages on a weight basis to a nearest tenth percent except for class and ergot. Report ergot to the nearest hundredth percent. The percentage when determining class is recorded to the nearest whole percent. Calculate percent’s by dividing the weight of the material removed by the weight by the weight of the portion used and multiplying by 100.

Table No. 2 – How Factors Are Recorded

NEAREST WHOLE PERCENT	NEAREST TENTH PERCENT	NEAREST HUNDREDTH PERCENT	BY COUNT
Class	Damaged Kernels (Total) Dockage Foreign Material Heat-Damaged Kernels Moisture Stones Test Weight Per Bushel	Ergot	Animal Filth Castor Beans Crotalaria Seeds Garlic Bulblets Glass Insects Large Debris Stones Unknown Foreign Substance(s) Or a Commonly Recognized Harmful or Toxic Substance(s)

4.4 – BASIS OF DETERMINATION

Distinctly Low Quality: The determination of distinctly low quality is made on the basis as a lot as a whole at the time of sampling when a condition exists that may or may not appear in the representative sample and/ or the sample as a whole.

Certain Quality Determinations: Each determination of rodent pellets, bird droppings, other animal filth, broken glass, castor beans, crotalaria seeds, dockage, live insect infestation, large stones, moisture, temperature, garlic, and unknown foreign substance(s), and a commonly recognized harmful toxic substance (s) is made on the basis of the sample as a whole. When a condition exists that may not appear in the representative sample, the determination may be made on the basis of the lot as a whole at the time of sampling.

All Other Determinations: Other determinations nor specifically provided for under the general provisions are made on the basis of grain when free from dockage except the determination for odor is made on either the basis of grain as a whole or the grain when from dockage.

Table No. 3 – Basis of Determination

FACTOR DETERMINED BEFORE THE REMOVAL OF DOCKAGE	FACTORS DETERMINED AFTER THE REMOVAL OF DOCKAGE
Animal Filth Castor Beans Crotalaria Seeds Garlic Bulblets Glass Heating Infested Large Debris Moisture Odor Other Unusual Conditions Unknown Foreign Substance (s) or a Commonly Recognized Harmful or Toxic substance (s)	Class Damaged Kernels (Total) Ergot Foreign Material Heat Damage Kernels Odor Stones Test Weight Per Bushel

A general procedure based on the "basis of determination" definition is followed in the inspection and grading of cultivated buckwheat. However, the procedure may vary according to the test required to determine the grade. The following sections of this chapter are arranged in a logical sequence typically followed in the inspection and grading of cultivated buckwheat.

4.5 – DEFINITION OF CULTIVATED BUCKWHEAT

Grain which, before the removal of dockage consists of 90 percent or more of Cultivated Buckwheat and not more than 10% of other grains. The term "Cultivated Buckwheat" as used in these standards shall include all types and varieties of Cultivated Buckwheat.
Whole kernels are kernels with three-fourths or more of the kernel present

Other grains for which standards have been established are barley, canola, corn, flaxseed, oats, rye, sorghum, soybeans, sunflower seed, triticale and wheat or any other grain that is recognized as a grain.

Basis of Determination: Normally, a visual appraisal of the sample is sufficient to determine if it meets the definition of buckwheat. If an analysis is necessary, make the determination on a representative portion of 50 grams. Determine the percentage of buckwheat and other grains before the removal of dockage. Determine the percentage of whole kernels after the removal of dockage.

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

a. Another commodity for which standards have been established or

b. Not standardized commodity and factor results will be given.

4.6 – HEATING

Cultivated Buckwheat developing a high temperature from excessive respiration is considered heating. Heating cultivated buckwheat, in its final stages, will usually have a sour or musty odor. Care should be taken not to confuse cultivated buckwheat that is heating with cultivated buckwheat that is warm and moist because of storage in bins, railcars, or other containers during hot weather.

Basis of Determination: Determine heating on evidence obtained at the time of sampling.

Certification: Grade heating cultivated buckwheat MT Sample Grade and record the word "Heating" on the pan ticket and in the "Remarks" section of the certificate.

4.7 – ODOR

Basis of Determination: Determine odor on evidence obtained at the time of sampling and on the sample either before or after the removal of dockage.

Table No. 4 – Odor Classification Examples

SOUR	MUSTY	COMMERCIALLY OBJECTIONABLE FOREIGN ODORS
Boot Fermenting Insect (acrid) Pigpen Smoke a/	Insect Ground Moldy	Animal hides Decaying animal & Vegetable matter Fertilizer Fumigant Insecticide Oil products Skunk Smoke (evidence of fire – burnt material) Strong weed

a/ Consider smoke odors as sour unless there is evidence of fire –burnt material.

Musty or Sour Odors: High temperatures resulting from excessive respiration cause cultivated buckwheat to heat and give off a Musty or Sour odor.

Musty or sour odor in cultivated buckwheat includes musty, sour, earthly, moldy, ground odor; or a rancid, sharp, and acrid insect odor. An acrid insect odor (usually referred as "lesser grain

borer" odor) is considered sour. An insect odor other than acrid usually referred to as "bran bugs" odor) is considered musty.

Commercially Objectionable Foreign Odor: Commercially objectionable foreign odor is odors that are foreign to grain and render it unfit for normal commercial usage.

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

Allow the sample to aerate in an open metal container not to exceed four (4) hours; and

If the fumigant odor persists after four (4) hours, consider the sample as having a commercially objectionable foreign odor and grade it accordingly.

Certification: Grade cultivated buckwheat containing a musty, sour or commercially objectionable foreign odor as MT Sample Grade. Record the words "Musty", "Sour", or "Commercially Objectionable Foreign Odor" on the pan ticket and on the certificate.

4.8 – MOISTURE

Water content in grain as determined by approved device.

Basis of Determination: Determine moisture before and after the removal of dockage on a portion of approximately 250 grams.

Certification: Record the percentage of moisture after the removal of dockage on the pan ticket and the certificate to the nearest tenth percent. Record the percentage of moisture before the removal of dockage (field run only) on the pan ticket and the certificate to the nearest tenth percent in the "Results" section of the certificate.

4.9 – DISTINCTLY LOW QUALITY

Consider cultivated buckwheat distinctly low quality when it is obviously of inferior quality and the existing grade factors or guidelines do not properly reflect the inferior condition.

Basis of Determination: Use all available information to determine whether the cultivated buckwheat is of distinctly low quality. Determine distinctly low quality on the lot as a whole or the sample as a whole.

Large Debris: Cultivated buckwheat containing two or more stones, pieces of glass, pieces of concrete, or other pieces of wreckage or debris which are visible to the sampler and too large to enter the sampling devise is considered distinctly low quality.

Other Unusual Conditions: Cultivated buckwheat that is obviously affected by other unusual conditions (including diatomaceous earth) which adversely affects the quality of the cultivated buckwheat and cannot be properly graded by use of the grading factors specified or defined in the standards is considered distinctly low quality.

Certification: Grade distinctly low quality cultivated buckwheat as MT Sample Grade. Record the word "Distinctly Low Quality" and the reason (s) why on the pan ticket and on the certificate.

4.10 – DOCKAGE

All matter other than cultivated buckwheat that can be removed from the original sample by use of an approved device and by handpicking (on field run only). Also, underdeveloped, shriveled and small pieces of cultivated buckwheat kernels removed in properly separating the material other than cultivated buckwheat.

Basis of Determination: Determine dockage on a portion of approximately 1-1/8 to 1-1/4 quarts.

Determining Dockage with the Carter Dockage Tester: Set up the Carter dockage tester as follows:

A. Set the air control at Number 6.

B. Set the feed control at Number 6.

C. Use a Number 35898 riddle in the riddle carriage.

D. Use no sieve in the top sieve carriage.

E. Use a Number 8 sieve in the middle sieve carriage

F. Use a Number 6 in the bottom sieve carriage.

Dockage will then consist of:

A. The material removed by the aspirator (air collection pan).

B. The coarse material, other than cultivated buckwheat, that passed over the riddle (riddle collection pan).

C. The material that passed over the Number 6 sieve except when the material consists of less than 50 percent, by weight, of whole or broken kernels of cultivated buckwheat. When 50 percent or more of whole or broken kernels are found; return the material to the cleaned cultivated buckwheat.

D. The material that passed through the Number 6 sieve (bottom collection pan).

Handpicking the Mechanically Cleaned Cultivated Buckwheat: Cut out a portion of approximately 50 grams from the mechanically cleaned cultivated buckwheat. Remove all matter other than cultivated buckwheat.

Computing Dockage: To compute the percentage of dockage, the percentage of mechanically separated dockage is added to the percentage of handpicked dockage using the following formula:

Step 1 – (Weight of mechanically separated dockage divided by original sample weight) times 100 = percent of mechanically separated dockage.

Step 2 – (100 percent minus percent of mechanically separated dockage) divided by 100 = change of base factor.

Step 3 – (weight of handpicked dockage divided by weight of handpicked portion) times 100 = percent of handpicked dockage.

Step 4 – Percent of handpicked dockage times change of base factor = adjusted percentage of handpicked dockage.

Step 5 - Percent of mechanically separated dockage plus adjusted percentage of handpicked dockage = percent of dockage

Example:	Original sample weight =	1,000 grams
	Weight of mechanically separated dockage =	68.0 grams
	Weight of handpicked portion =	51.7 grams
	Weight of handpicked dockage =	2.64 grams

Step 1 – (68.0 divided by 1,000) x 100 = 6.8% mechanical dockage

Step 2 - (100% minus 6.9%) divided by 100 = .93 change of base factor

Step 3 – (2.64 divided by 51.7) x 100 = 5.11% handpicked dockage

Step 4 – 5.11 x .93 = 4.75% adjusted percentage of handpicked dockage

Step 5 – 6.8% plus 4.75% = 11.55% dockage

To avoid repeating operations, check the dockage for live weevils and other insects injurious to stored grain and sample factors. Live weevils and other like insects injurious to stored grain and sample grade factors are considered dockage but, when present in excessive quantities, are also considered in the determination of the special grades “infested” and “MT Sample Grade” as the case may be.

Certification: Record the percentage of dockage on the pan ticket and the certificate to the nearest tenth percent.

4.11 – TEST WEIGHT PER BUSHEL

Test weight: The test weight is determined using an approved device according to procedures prescribed in FGIS instructions.

Basis of Determination: Determine test weight per bushel on a dockage – free portion ranging in size from 1-1/8 to 1-1/4 quarts.

Certification: Record test weight per bushel on the pan ticket and the certificate to the nearest tenth percent.

4.12 – MONTANA SAMPLE GRADE

Basis of Determination: Determine MT Sample Grade factors, before the removal of dockage on the lot as a whole and/ or a portion of approximately 1,000 to 1,050 grams. When a condition exists that may not appear in the sample, the determination may be made at the time of sampling.

Table No. 5 shows the factors and corresponding line slides, tolerances and the appropriate basis of determination.

Table No. 5 – Montana Buckwheat Sample Grade

FACTORS	LINE SLIDE	NUMBER/WEIGHT LIMITS 1/	BASIS
Any Grading Factor		Excess of limit for MT No. 3	Sample
Animal Filth	OF-1.0	2 or more	Lot/Sample
Castor Beans	OF- 3.0	2 or more	Lot/Sample
Crotalaria Seed 2/	OF- 6.0	3 or more	Lot/Sample
Diatomaceous Earth		Presence	Lot/Sample
Glass		1 or more	Lot/Sample
Heating		Presence	Lot
Insect-Damaged		See section 2.18	Lot/Sample
Large Debris		2 or more	Lot/Sample
Odor		Presence	Lot/Sample
Other Unusual Conditions		Presence	Lot/Sample
Stones		7 or more or any number Excess of 2.5% (processed only)	Lot/Sample
Unknown Foreign Substance(s) Or a commonly Recognized Harmful or Toxic substance(s) 3/	OF-31.0	2 or more	Lot/Sample

1/ Record count factors to the nearest whole number.
2/ Do not confuse crotalaria seeds with velvet leaf seeds which are not harmful to animal life (ILS OF-8.1).
3/ Includes palletized material other than feed pellets which are considered foreign material.
* For Distinctly low Quality, see section 2.9.

Certification: Grade cultivated buckwheat MT Sample Grade when one of more of the limits in Table 5.0 is exceeded. Record the reason(s) why on the pan ticket and in the "Results" section of the certificate.

4.13 - SPECIAL GRADES AND SPECIAL GRADE DESIGNATIONS

Special grades draw to unusual conditions in the grain and are made part of the grade designation.

The definitions and examples of the designations for special grades in cultivated buckwheat are:

A. Ergoty Cultivated Buckwheat: Cultivated buckwheat that contains more than 0.05 percent ergot.

Example: MT No. 3 Cultivated Buckwheat, Ergoty, dockage 1.2%

Ergot is hard, reddish – brown or black grain –like mass of certain parasitic fungi that replaces the kernels of cultivated buckwheat and other grains.

Basis of Determination: Determine ergoty on a dockage – free portion of approximately 250 grams. Ergot also functions as foreign material.

C. Garlicky Cultivated Buckwheat: Cultivated buckwheat that contains in a 1,000 gram portion more than two green garlic bulblets or an equivalent quantity of dry partially dry bulblets.

Example: MT NO. 2 Cultivated Buckwheat, Garlicky, Dockage 0.7%.

Basis of Determination: Determine garlicky before the removal of dockage on a portion of approximately 1,000 grams except in those cases where the garlic bulblets count is in excess of ten green bulblets. When garlic bulblets are in excess of ten green bulblets, use a portion of approximately 250 grams. After determining the count of bulblets on the 250 gram portion, multiply the count by four to obtain the equivalent number of bulblets in 1,000 grams.

Characteristics of Bulblets:

A. Green garlic bulblets are bulblets which have retained all of their husks intact.

B. Dry or partly dry garlic bulblets which have lost all or part of their husks. Consider bulblets with cracked husks as dry.

C. Three dry or partly dry garlic bulblets are equal to one green bulblet. Garlic bulblets apply in the determination of garlicky but also function as dockage or foreign material as the case may be. (Reference: Interpretive Line Slide No's OF- 13.0 an OF – 13.1)

Certification: When applicable, record the word "Garlicky" on the pan ticket and the certificate in accordance the Section 2.2, Grade Designations. Record the number of garlic bulblets in whole and thirds on the pan ticket and the "Remarks" section of the certificate.

Infested Cultivated Buckwheat: Cultivated buckwheat that is infested with live weevils or other live insects injurious to stored grain.

Example: MT. NO. 1 Cultivated Buckwheat, Infested, Dockage 0.0%.

The presence of any live weevil or other lice insects injurious to stored grain found in the work sample indicated the probability of infestation and indicated that the cultivated buckwheat must be carefully examined to determine if it is infested. In such cases, examine the work sample and the file sample before reaching a conclusion as to whether or not the cultivated buckwheat infested. Do not examine the file sample if the work portion is insect free.

Live weevils shall include rice weevils, granary weevils, cowpea weevils and lesser grain borers. Other live insects injurious to stored grain shall include grain beetles, grain moths, vetch bruchids, and larvae.

Basis of Determination: Examine for insects before the removal of dockage.
For specific guidelines, see table 6.

Certification: When applicable, record the word "Infested" on the pan ticket and certificate in accordance with Section 2.2, Grade Designation.

Table No.6 – Insect Infestation Guide

SAMPLE DESIGNATION	INFESTED LEVEL 1/
REPRESENTATIONE SAMPLE – Applies to submitted sample, Lots probe-sampled, and D/T – sampled railcar/trucks. Examine work portion and file sample. (Do not examine file sample if work portion is insect free.)	2 lw * Or 1 lw + 1 oli* or oli
LOT AS A WHOLE (STATIONARY) – Applies at the time of sampling for lots probe-sampled.	Same
LOT AS A WHOLE (CONTINUOUS LOADING) – 2/ Applies to: each railcar when inspected under Cu-Sum. each subsample for sacked grain lots. Each component sample for bargelots and shiplots 3/	Same

* lw = live weevil, oli = Other live insects injurious to stored grain.

1/ Samples containing infestation at these levels are infested.
2/ Minimum sampling rate for online predations is 500 grams per 2,000 bushels.
3/ Minimum component size is approximately 10,000 bushels.

4.14 – STONES

Shall be concreted, earthly, or mineral matter and other substances of similar hardness which will not disintegrate readily in water.

Basis of Determination: Determined stones on a dockage – free portion of 1-1/8 or 1-1/4 quarts.

Certification: Record the number or aggregate weight of stones on the pan ticket and the certification.

4.15 – PROCESSING THE WORK SAMPLE

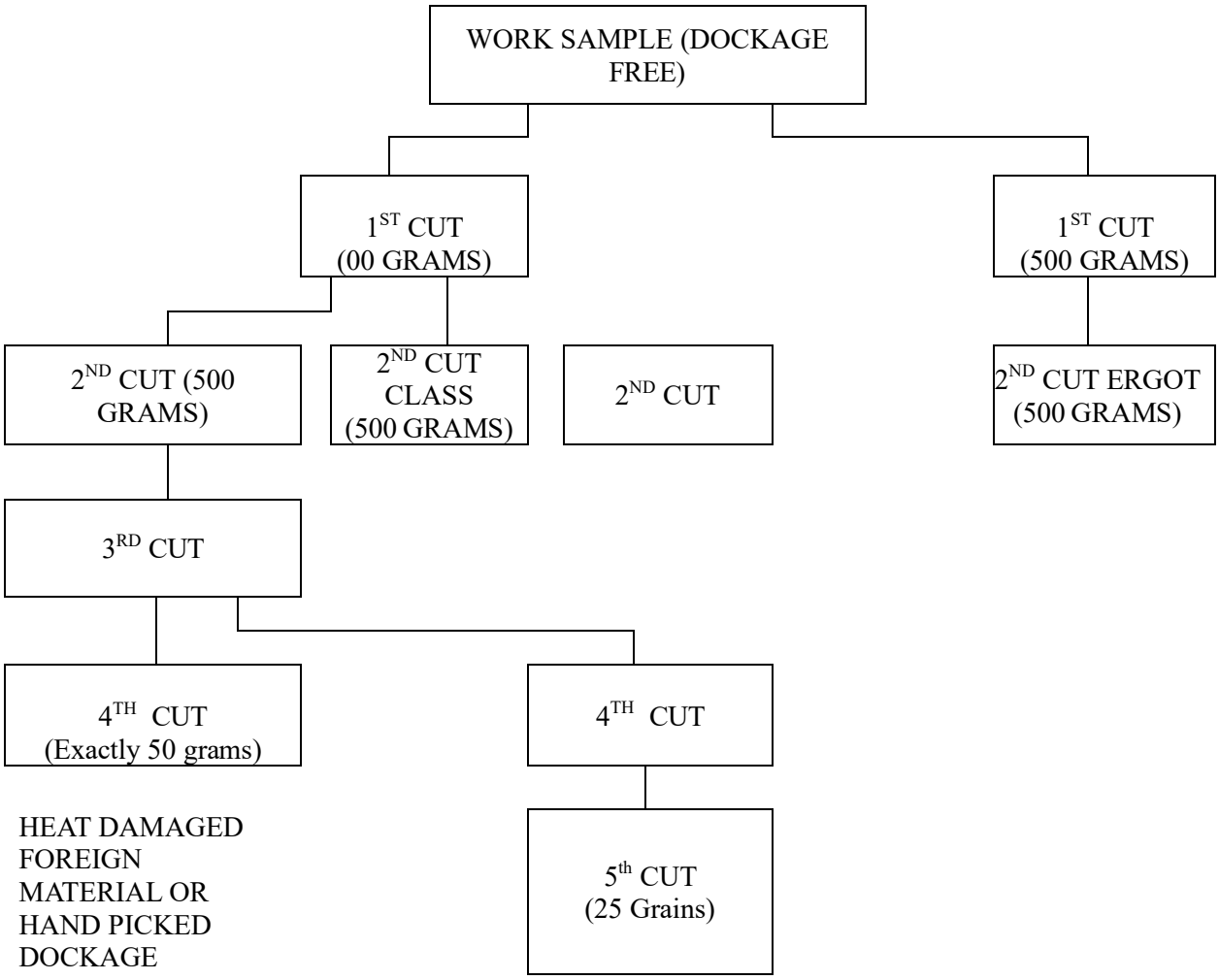
At this point, determinations have been made for moisture, garlic and other tests required to be performed prior to the removal of dockage. The percentage of dockage has been determined, and the sample has been test weighed and examined for stones and other special grad factors. Now divide the work sample into fractional portions for those determinations that are made on a dockage- free sample. Table No. 7 and Chart No. 1 illustrate how the sample is divided into fractional parts using the Boerner divider.

Table No.7 – Approximate Analytical Portion Sizes

FACTORS	GRAMS
Class	250
Damaged Kernels	25
Defects	25
Ergot	250
Foreign Material	50
Garlic Bulblets	1000 1/
Heat – Damaged Kernels	50

1/ Determined before the removal of dockage.

Chart No. 1 – Dividing the Work Sample



NOTE: Sample weights on this chart are approximate.

4.16 – CLASSES OF CULTIVATED BUCKWHEAT

Cultivated Buckwheat is divided into two classes.

1. Large Cultivated Buckwheat: Cultiv**a**ted buckwheat with 80 percent or more buckwheat remaining on top of an 8/64 by ¾ slotted sieve.

   Example: MT NO. 2 Cultivated Buckwheat, Large, Dockage 0.3%.

2. SMALL Cultivated Buckwheat: Cultivated buckwheat with less than 80 percent buckwheat remaining on top of an 8/64 by ¾ slotted sieve.

   Example: MT NO. 1 Cultivated Buckwheat, Small, Dockage 2.6%

Basis of Determination: Determine cultivated buckwheat on a dockage – free portion of approximately 250 grams.

Methods of Determination:

A. Mechanical Sieving Method.

   1. Mount the sieve and bottom pan on the mechanical sieve shaker.

   2. Set the stroke counter for 30 strokes.

   3. Return the material lodged in the perforations to the cultivated buckwheat which remained on top of the sieve.

   4. All material remaining on top of the sieve is “Large” cultivated buckwheat.

   5. All material passing through the sieve is “Small” cultivated buckwheat.

B. Hand Sieving Method.

   1. Mount the sieve on a bottom pan.

   2. Place the 250- gram portion in the center of the sieve.

   3. Hold the sieve level in both hands with elbows close to the sides and the sieve perforations parallel to the direction of movement.

4. In a steady motion, move the sieve from left to right approximately 10 inches and then from right to left.

5. Repeat this operation 30 times.

6. Return the material lodged in the perforations to the cultivated buckwheat which remained on top of the sieve.

    a. All material remaining on top of the sieve is "Large" cultivated buckwheat.

    b. All material passing through the sieve is "Small" cultivated buckwheat.

Certification: Record the percentage of "Large" or "Small" cultivated buckwheat on the pan ticket to the nearest whole percentage and certificate accordingly.

4.17 – Heat Damaged Kernels

Kernels, pieces of cultivated buckwheat kernels and other grains that are materially discolored and damaged by heat (Reference: Interpretive Line Slide No: W- 6.1)

Basis of Determination: Determine heat-damaged kernels on a dockage-free portion of approximately 50 grams.

Certification: Record the percentage of heat-damaged kernels on the pan ticket and the certificate to the nearest tenth percent.

4.18 – DAMAGED KERNELS (TOTAL)

Damaged Kernels: Kernel, pieces of cultivated buckwheat kernels and other grain that are badly ground- damaged, badly weather – damaged, diseased, frost-damaged, heat – damaged, insect – bored, mold-damaged, sprout – damaged or otherwise materially damaged.

Special Insect Damage Analysis: MT Standards for cultivated Buckwheat consider cultivated buckwheat containing 5 or more insect-damaged kernels per 100 grams as MT Sample Grade.

Basis of Determination: Determine damaged kernels on a dockage – free portion of approximately 25 grams.

Insect – Damaged Kernels. Determine insect –damaged kernels on a dockage –free portion of 100 grams. Insect – damaged kernels are kernels bored or tunneled by insect. (Reference: Interpretative Line – Slide No. W-9.0)

Frost – Damaged Kernels: Kernels and pieces of cultivated buckwheat kernels that are distinctly damaged by frost.

Mold – Damaged Kernels: Kernels and pieces of cultivated buckwheat kernels that are weathered and contain considerable evidence of mold. Mold – damaged kernels are characterized by black or grayish spots or blotched on one or both sides of the kernel. (Reference: Interpretive Line Slide No. W-7.0)

Heat- Damaged Kernels: Kernels and pieces of cultivated buckwheat kernels which are materially discolored and damaged by heat. It is necessary, in most cases, to cut the kernels and make a cross-section analysis to determine if the color is reddish-brown, mahogany, or creamy. (Reference: Interpretive Line Slide No. W-6.1.)

Weevil or Insect-Bored: Kernels and pieces of cultivated buckwheat kernels which have been bored or tunneled by insects. (Reference: Interpretive Line Slide No. W-9.0)

Mold-like Substance: Whole Kernels of cultivated buckwheat kernels which are 50 percent or more covered and pieced of kernels which are discolored and covered with a mold- like substance.

Sprout – Damaged Kernels: Kernels and pieces of cultivated buckwheat kernels which have the germ end broken open from germination and showing a sprout or from which the sprouts have been broken off. (Reference: Interpretive Line Slides Nos. W-8.0 and W-8.1.)

Certification:

A. Damaged Kernels. Record the percent and kind of damaged kernels on the pan ticket and the certificate to the nearest tenth percent.

B. Insect-Damaged Kernels. When the cultivated buckwheat exceeds the 5 insect damaged kernels per 100 grams tolerance, grade the cultivated buckwheat as MT Sample Grade and record the number of insect-damaged kernels on the pan ticket and certificate. Include in the remarks section of the certificate “Sample Grade” due to Insect-Damaged Kernels” and the amount of insect – damaged kernels per 100 grams.

4.19- FOREIGN MATERIAL

Foreign Material: Foreign material is all matter other than cultivated buckwheat that remains in the sample after the removal of dockage.

Basis of Determination: Determine foreign material on a dockage-free portion of approximately 50 grams.

Certification: Record the percent of foreign material on the pan ticket and the certificate to the nearest tenth percent.

4.20 ASSIGNMENT OF GRADE

After each determination, record the appropriate results on the pan ticket. After completing the analysis, compare these results with the limits for each grade factor for the appropriate type of cultivated buckwheat as specified in the grade table shown on section 2.1. Following the guidelines in section 2.2 enter the grade in the appropriate space on the pan ticket