GRAIN INSPECTION HANDBOOK

BOOK II, CHAPTER 11

SUNFLOWER SEED

CHAPTER 11

SUNFLOWER SEED

Tables/Charts

11.1 GENERAL INFORMATION

a. All quantities referenced in this chapter are approximate unless otherwise specified.

b. Use an approved divider to obtain subportions of a sample for analysis unless otherwise specified.

c. For specific Visual Reference Images, see Chapter 1, section 1.2, Visual Grading Aids.

d. Official inspection personnel shall document inspection information during sampling and grading. See book IV, chapter 2.

The inspection process provides various factor information used to determine grade and to provide further information on the condition or quality of the sunflower seed. Each section of this chapter provides details on recording factor information. If requested by the applicant for inspection, additional information may be provided (e.g., an exact count on stones in addition to the percentage by weight, a percentage for a specific type of damage, etc.).

11.2 GRADES AND GRADE REQUIREMENTS

There are no classes or subclasses in sunflower seed. Sunflower seed is divided into two U.S. numerical grades and U.S. Sample Grade. One special grade is provided to emphasize a special condition affecting the value of sunflower seed and is added to and made a part of the grade designation. The special grade does not affect the numerical or sample grade designation.

TABLE NO. 1 - GRADES AND GRADE REQUIREMENTS - SUNFLOWER SEED

Grade	Minimum Limits of -	Maximum Limits of -		
	Test weight per bushel (pounds)	Damaged Kernels		Dehulled Seed (percent)
		Heat Damaged (percent)	Total (percent)	
U.S. No. 1	25.0	0.5	5.0	5.0
U.S. No. 2	25.0	1.0	10.0	5.0

U.S. Sample Grade:

U.S. Sample Grade is sunflower seed that:

(a) Does not meet the requirements for grades U.S. No.1 or 2; or

(b) Contains 8 or more stones which have an aggregate weight in excess of 0.20 percent of the sample weight, 2 or more pieces of glass, 3 or more crotalaria seeds (Crotalaria spp.), 2 or more castor beans (Ricinus communis L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 10 or more rodent pellets, bird droppings, or an equivalent quantity of other animal filth per 600 grams of sunflower seed, or

(c) Has a musty, sour, or commercially objectionable foreign odor (except smut or garlic odor); or

(d) Is heating or otherwise of distinctly low quality.

11.3 GRADE DESIGNATIONS

After completing the analysis, compare the results with the limits for each grade factor specified in table 1. Use the following guidelines when assigning grades.

a. The letters "U.S.",

b. The abbreviation "No." and the number of the grade or the words "Sample Grade",

c. The words "or better" when applicable,

d. The words "Sunflower Seed", and

e. The special grade designation when applicable.

Example: U.S. Sample Grade Sunflower Seed

11.4 SPECIAL GRADE

Infested Sunflower Seed. Sunflower seed that is infested with live weevils or other insects injurious to stored grain.

Example: U.S. No. 1 Sunflower Seed, Infested

11.5 OPTIONAL GRADE DESIGNATION

The Official U.S. Standards for Grain provide for an optional grade designation, commonly referred to as "or better." Upon the request of an applicant, sunflower seed may be certified as U.S. No. 2 or better, U.S. No. 3 or better, etc. An "or better" grade designation cannot be applied to a U.S. No. 1 grade designation.

Example: U.S. No. 2 or better Sunflower Seed

11.6 BASIS OF DETERMINATION

Distinctly Low Quality. The determination of distinctly low quality is made on the basis of the 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, cockleburs, crotalaria seeds, dockage, garlic, live insect infestation, large stones, moisture, temperature, and unknown foreign substance(s), and a commonly recognized harmful or 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 according to procedures prescribed in FGIS instructions.

All Other Determinations. Each determination of heat-damaged kernels, damaged kernels, test weight, and dehulled seed is made on the basis of the grain when free from foreign material. Other determinations not specifically provided for under the General Provisions are made on the basis of the grain as a whole, except the determination of odor is made on either the basis of the grain as a whole or the grain when free from foreign material.

TABLE NO. 2

BASIS OF DETERMINATION		
Lot as a Whole	Factors Determined Before the Removal of Foreign Material	Factors Determined After the Removal of Foreign Material **1/**
Distinctly low quality	Admixture	Damaged kernels (total)
Heating	Distinctly low quality	Dehulled seed
Infested	Infested	Heat-damaged kernels
Odor	Kind of grain	Odor
	Moisture	Test weight
	Odor	
	U.S. Sample Grade factors	

1/ Refer to text. Some factors are determined after the removal of mechanically separated foreign material, and others are determined after the removal of all foreign material.

11.7 DEFINITION OF SUNFLOWER SEED

Sunflower seed is defined as:

Grain that, before the removal of foreign material, consists of 50.0 percent or more of cultivated sunflower seed (Helianthus annuus L.) and not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act.

Other grains for which standards have been established are barley, canola, corn, flaxseed, oats, rye, sorghum, soybeans, triticale, and wheat.

Cultivated Sunflower Seed. Sunflower seed grown for oil content. The term seed in this and other definitions related to sunflower seed refers to both the kernel and hull which is a fruit or achene.

Cultivated sunflower seed includes samples or lots comprised of mixtures of confectionery and oil type seeds or pure confectionery seed, provided the mixture or pure confectionery seed are presented for inspection as sunflower seed marketed for oil content.

Except for the definition of admixture (refer to section 11.19), a hull does not constitute a sunflower seed.

According to the definition, a sunflower seed can be either the hull and kernel (the size of either is irrelevant as long as they are connected) or just the kernel.

The following definitions apply when identifying sunflower seed:

a. Hull (Husk). The ovary wall of the sunflower seed.

b. Kernel. The interior contents of the sunflower seed that are surrounded by the hull.

The terms "kernel" and "meat" are used synonymously.

Basis of Determination. Normally, a visual appraisal of the sample is sufficient to determine if it meets the definition of sunflower seed. However, if an analysis is necessary, make the determination before the removal of foreign material on a portion of 75 grams.

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

a. Another grain for which standards have been established or

b. Not standardized grain. No further analysis is necessary on a sample designated as not standardized grain unless a specific factor test is requested.

11.8 HEATING

Sunflower seed developing a high temperature from excessive respiration is considered heating. Heating sunflower seed, in its final stages, usually produces a sour or musty odor. Care should be taken not to confuse sunflower seed that is heating with sunflower seed 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 or on the basis of the sample as a whole.

Certification. Grade heating sunflower seed as U.S. Sample Grade and record the word "Heating" in the "Remarks" section of the certificate.

11.9 ODOR

Basis of Determination. Determine odor on evidence obtained at the time of sampling or on the sample either before or after the removal of mechanically separated foreign material.

TABLE NO. 3

ODOR CLASSIFICATION EXAMPLES		
Sour	Musty	Commercially Objectionable Foreign Odors
Boot	Ground	Animal hides
Fermenting	Insect	Decaying animal and vegetable matter
Insect (acrid)	Moldy	Fertilizer
Pigpen		Fumigant
Smoke **1**/		Insecticide
		Oil products
		Skunk
		Smoke
		Strong weed

1/ Smoke odors are considered sour only in canola, flaxseed, soybeans, and sunflower seed.

Odors from Heat-Damaged Sunflower Seed. When heat-damaged kernels are present, sunflower seed gives off an odor very similar to smoke. Sunflower seed containing a "smoke" odor is considered as having a "sour" odor unless evidence of a fire-burnt material is present in the lot or the original sample. If evidence of a fire-burnt material is present in the lot or the sample, the smoke odor is considered a commercially objectionable foreign odor.

Commercially Objectionable Foreign Odors. Commercially objectionable foreign odors are odors that are entirely foreign to sunflower seed that 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 sunflower seed contains a fumigant or insecticide odor which prevents the 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 4 hours, or, less if the odor dissipates in less time.

b. Reinspections, Appeal and Board Appeal Inspections. Allow unworked file samples and new samples to aerate in an open container for 4 hours, or less, if the odor dissipates in less time. The 4-hour aeration requirement does not apply when the original work portion was aerated and retained as the final file.

Consider the sample as having a commercially objectionable foreign odor if the fumigant or insecticide odor persists based on the above criteria.

Final Determinations. The inspector(s) is responsible for making the final determination for all odors. A consensus of experienced inspectors is used, whenever possible, on samples containing marginal odors. The consensus approach is not required if no odor or a distinct odor is detected.

Certification. Grade sunflower seed containing a "distinct" musty, sour, or commercially objectionable foreign odor as U.S. Sample Grade. Record the words "Musty," "Sour," or "Commercially Objectionable Foreign Odor" in the "Remarks" section of the certificate.

11.10 MOISTURE

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

Basis of Determination. Determine moisture before the removal of foreign material on a portion of approximately 400 grams.

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

Certification. Record the percent of moisture on the certificate to the nearest tenth percent.

11.11 INFESTED SUNFLOWER SEED

Infested sunflower seed is sunflower seed that is infested with live weevils or other live insects injurious to stored grain.

The presence of any live weevil or other live insects injurious to stored grain indicates the probability of infestation and warns that the sunflower seed 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 sunflower seed is infested. Do not examine the file sample if the work portion is insect free.

Live weevils include rice weevils, granary weevils, cowpea weevils, and lesser grain borers. Other live insects injurious to stored sunflower seed and/or grain include grain beetles, sunflower moths, banded sunflower moths, Indian meal moths, grain moths, and larvae. (See Chapter 1, Section 1.2, Visual Grading Aids.)

Larvae of the red or gray sunflower seed weevil (Smicronyz spp.) are small, white, legless grubs approximately 1/8 inch in size that wander among sunflower seeds. When disturbed, these larvae curl into a ball and remain motionless for minutes. They chew out from inside the sunflower seed and cannot reinfest the seed in storage. Consequently, lots containing sunflower seed weevil larvae are not considered infested. Sunflower seed weevil larvae are considered foreign material.

Basis of Determination. Determine infestation on the lot as a whole and/or sample as a whole. For insect tolerances, see table No. 4.

TABLE NO. 4

INSECT INFESTATION		
Samples meeting or exceeding any one of these tolerances are infested: ***2 lw, or 1 lw + 5 oli, or 10 oli***		
1,000-gram representative sample **1/** (+ file sample if needed)	Lot as a Whole (Stationary)	Online Sample (In-Motion) **2/**
Submitted samples Probed lots D/T sampled land carriers	Probed lots (at time of sampling)	Railcars under the Cu-sum Subsamples for Sacked Grain lots Components for Bargelots **3/** Components for Shiplots **3/**

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

2/ Minimum sampling rate is 500 grams per 2,000 bushels.

3/ Minimum component size is 10,000 bushels.

Key: lw = live weevil, oli = other live insects injurious to stored grain

Certification. When applicable, record the word "Infested" on the certificate in accordance with Section 11.4, Special Grade.

11.12 DISTINCTLY LOW QUALITY

Consider sunflower seed 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 distinctly low quality. This includes a general examination of the sunflower seed during sampling and an analysis of the obtained sample(s).

Large Debris. Sunflower seed containing two or more stones, pieces of glass, pieces of concrete, or other pieces of wreckage or debris too large to enter the sampling device is considered distinctly low quality.

Other Unusual Conditions. Sunflower seed that is obviously affected by other unusual conditions which adversely affect the quality of the sunflower seed and cannot be properly graded by use of the grading factors specified or defined in the standards is considered distinctly low quality.

Sunflower seed suspected of containing diatomaceous earth is considered distinctly low quality unless the applicant specifically requests an examination to verify the presence of diatomaceous earth. If the laboratory examination verifies that the sunflower seed contains diatomaceous earth, then the sunflower seed is not considered distinctly low quality due to diatomaceous earth. Refer to Program Directive 9180.49, Grading and Certification of Grain Containing Diatomaceous Earth and Silica Gel, for additional information regarding the testing of sunflower seed for diatomaceous earth.

Certification. Grade distinctly low quality sunflower seed as U.S. Sample Grade. Record the words "Distinctly Low Quality" and the reason(s) why in the "Remarks" section of the certificate.

11.13 U.S. SAMPLE GRADE CRITERIA

Basis of Determination. Determine U.S. Sample Grade criteria before the removal of foreign material based on a work portion of 600 grams. Table No. 5 shows the criteria and corresponding interpretive line slides, tolerance limits, and the appropriate basis of determination. Consider identifiable pieces of grain, processed grain products (e.g., soybean meal, sorghum grits, corn meal, bulgur, etc.), or feed pellets in grain as foreign material. Unidentifiable materials or material unrelated to grain shall function as "unknown foreign substance."

TABLE NO. 5

U.S. SAMPLE GRADE CRITERIA			
Criteria	*Visual Reference Image*	Number/Weight **1/** *Sample Basis*	Number/Weight **1/** Lot Basis **2/**
Any numerical grading factor		Excess of limit for U.S. No. 2	N/A
Animal filth	OF-Animal Filth	10 or more	N/A
Castor Beans	OF-Castor-Bean	2 or more	N/A
Crotalaria seeds	OF-Crotalaria	3 or more	N/A
Glass		2 or more	N/A
Odor		Presence	N/A
Stones		8 or more and in excess of 0.20% by weight	N/A
Unknown foreign substances **3/**	OF-Fertilizer	4 or more	N/A
Heating		Presence	Presence
Large Debris *		N/A	2 or more
Other unusual conditions *		Presence	Presence

1/ Record count factors to the nearest whole number.

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

3/ Consider feed pellets and processed grain products as foreign material, not unknown foreign substance.

* For Distinctly Low Quality, see section 11.12

Certification. Grade sunflower seed U.S. Sample Grade when one or more of the limits in table 5 are exceeded. Record the reason(s) why in the "Remarks" section of the certificate. Record count factors to the nearest whole number.

11.14 FOREIGN MATERIAL

All matter other than whole sunflower seeds containing kernels that can be removed from the original sample by use of an approved device and by handpicking a portion of the sample according to procedures prescribed in FGIS instructions.

The term "whole sunflower seed" as used in the definition of foreign material is synonymous with the description of a sunflower seed as given in section 11.7.

Basis of Determination. Determine foreign material on 600 grams of the original sample. If the percentage of foreign material is requested, use the following procedures.

Chart 1 - Procedure for Determining Foreign Material

STEP 1. Carter Dockage Tester

a. Insert the Nos. 3 and 8 sieves and the oilseed riddle.

b. Set the air at the standardized setting and the feed control to 7.5

c. Run 600 grams through the dockage tester.

d. Remove sunflower seeds from the material removed by the riddle and add to the cleaned sunflower seed.

e. Aspirated material in the air collection pan is foreign material.

f. Material that passed over the riddle, except for sunflower seeds, is foreign material.

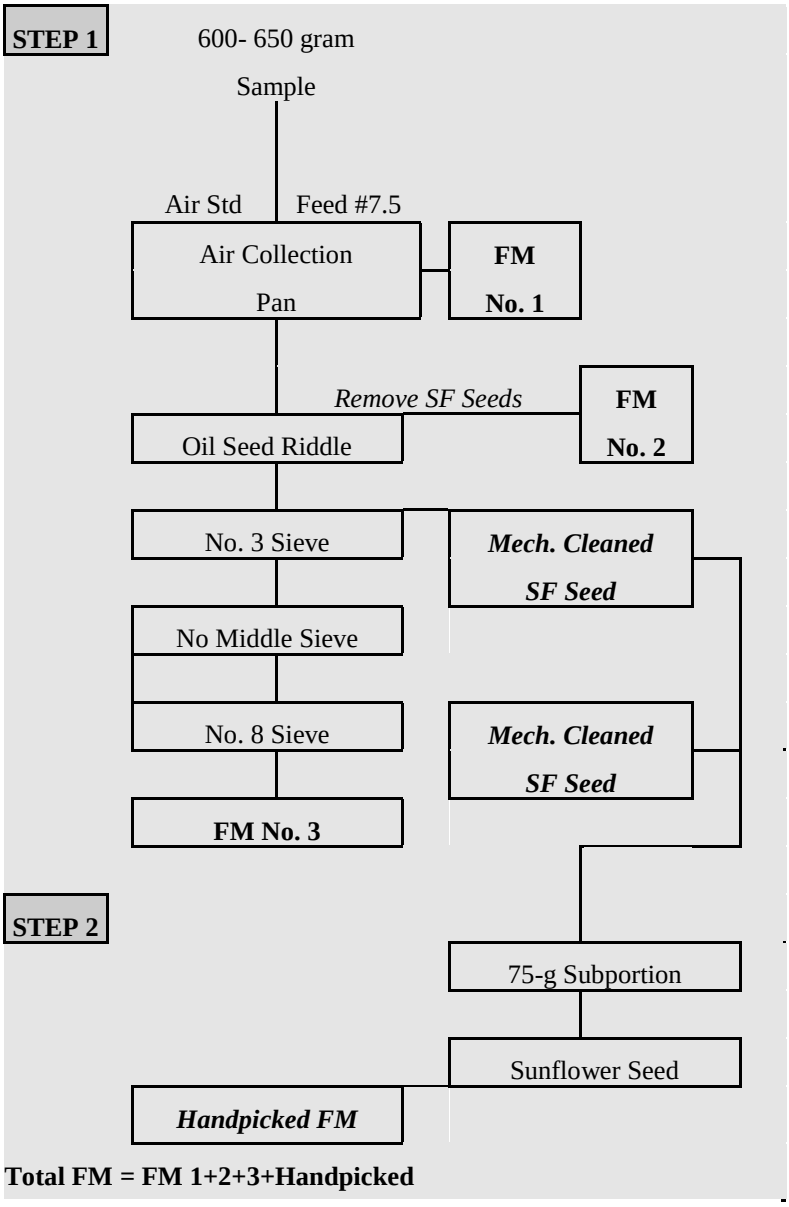
g. Material in the bottom collection pan is foreign material.

STEP 2. Handpick

a. Combine the two mechanically cleaned portions

b. Cut down the cleaned sample to a portion of 75 grams.

c. Handpick the 75-gram portion for foreign material (all matter other than sunflower seed; refer to section 11.7 for definition.



Computing Foreign Material. To compute the percentage of foreign material, the percentage of mechanically separated foreign material is added to the percentage of handpicked foreign material using the following formula:

STEP 1. (weight of mechanically separated foreign material ÷ original sample weight) x 100 = percent of mechanically separated foreign material.

STEP 2. (100 percent - percent of mechanically separated foreign material) ÷ 100 = change of base factor.

STEP 3. (weight of handpicked foreign material ÷ weight of handpicked portion) x 100 = percent of handpicked foreign material.

STEP 4. (Percent of handpicked foreign material) x change of base factor = adjusted percentage of handpicked foreign material.

STEP 5. Percent of mechanically separated foreign material + adjusted percentage of handpicked foreign material = percent of foreign material.

Example

Original sample weight	650 grams
Weight of mechanically separated foreign material	50.00 grams
Weight of handpicked portion	75.20 grams
Weight of handpicked foreign material	0.45 grams

STEP 1. (50.00 ÷ 650) x 100 = 7.69% mechanically separated foreign material

STEP 2. (100% - 7.69%) ÷ 100 = .92 change of base factor

STEP 3. (0.45 ÷ 75.20) x 100 = 0.59% handpicked foreign material

STEP 4. 0.59 x .92 = 0.54%

STEP 5. 7.69% + 0.54% = 8.23% foreign material

STEP 6. Certified as 8.0% foreign material

Ranges of sunflower seed foreign material are reported as follows:

0.25 to 0.74 as 0.5 percent, 0.75 to 1.24 as 1.0 percent, etc.

Certification. Record the percent of foreign material on the work record to the nearest hundredth percent. Record the percent of foreign material on the certificate to the nearest half percent.

11.15 TEST WEIGHT

The weight per Winchester bushel (2,150.42 cubic inches) as determined using an approved device according to procedures prescribed in FGIS instructions.

Basis of Determination. Determine test weight per bushel after the removal of mechanically separated foreign material on a portion of sufficient quantity to overflow the kettle.

The procedures for performing the test weight determination and available services are described in book II, chapter 1, section 1.11.

Certification. Record test weight results on the work record as displayed on the electronic scale or in whole and half pounds. Disregard fractions of a half pound. Record the test weight on the certificate in whole and half pounds. If requested, convert the pounds per bushel (lbs./bu) result to kilograms per hectoliter (kg/hl) using the following formula: lbs./bu x 1.287 = kg/hl and record in the "Remarks" section in whole and tenths.

11.16 PROCESSING THE WORK SAMPLE

At this point, determinations have been made for those factors determined before the removal of foreign material and the percentage of foreign material has been determined. Now divide the work sample into fractional portions for those determinations required after the removal of foreign material. The following chart and table No. 6 illustrate how to divide the sample into fractional parts using the Boerner divider.

CHART 2 - DIVIDING THE WORK SAMPLE

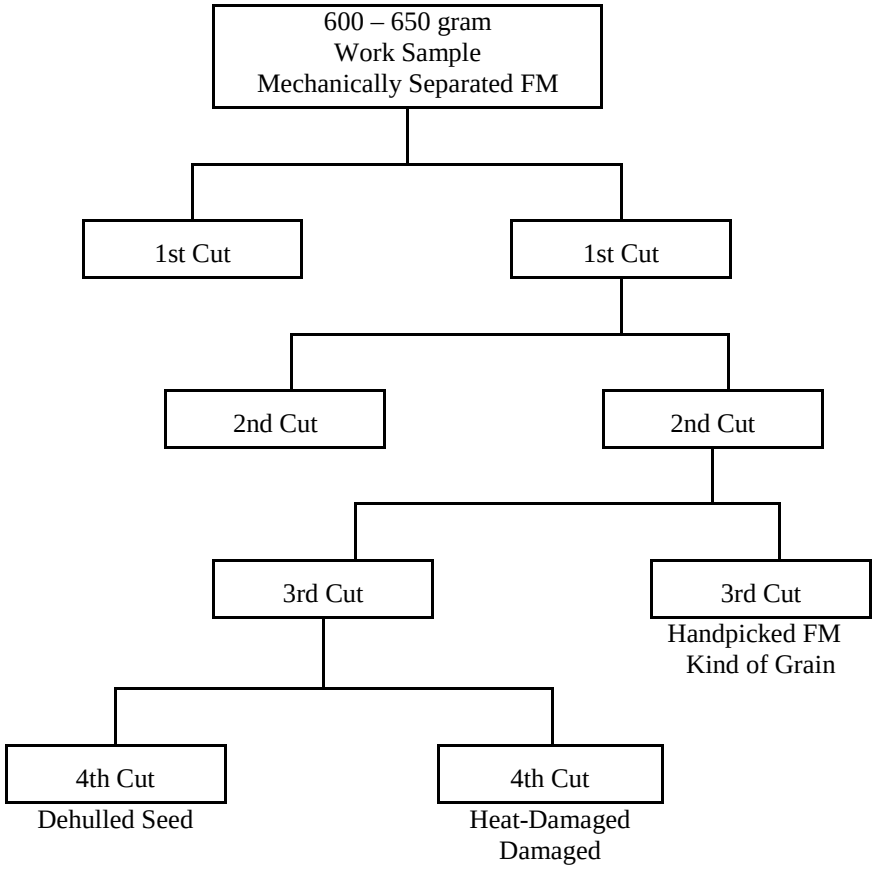


TABLE NO. 6

APPROXIMATE ANALYTICAL PORTION SIZES	
Factors	*Grams*
Admixture	60
Damaged kernels (total)	30
Dehulled seed	30
Handpicked foreign material	75
Heat-damaged kernels	30
Kind of grain	75

11.17 DEHULLED SEED

Sunflower seed that has the hull completely removed from the sunflower kernel.

Basis of Determination. Determine dehulled seed after the removal of mechanically separated foreign material on a portion of 30 grams.

Certification. Record the percent of dehulled seed on the certificate to the nearest tenth percent.

11.18 DAMAGED AND HEAT-DAMAGED SUNFLOWER SEED

Damaged Sunflower Seed. *Seed and pieces of sunflower seed that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, heat-damaged, mold-damaged, sprout-damaged, or otherwise materially damaged*.

Heat-Damaged Sunflower Seed. *Seed and pieces of sunflower seed that are materially discolored and damaged by heat*.

Basis of Determination. Determine damaged and heat-damaged sunflower seed after the removal of mechanically separated foreign material on a portion of 30 grams (± 1.5 grams).

In general, sunflower seed is considered to be damaged for inspection and grading purposes only when the damage is distinctly apparent and of such character as to be recognized as damaged for commercial purposes. Insect-bored kernels are not considered damaged.

Heat-Damaged. Seed and pieces of seed which have been materially discolored and damaged by heat are considered as heat-damaged and are included in the total percentage for damaged sunflower seed. Seeds damaged by heat, either by external heat or as a result of excessive respiration, usually have a dull, dead appearance and are discolored brown or black. (Reference: Visual Reference Image No. SS-2.0 Heat Damage)

Damaged-by-Heat. Seed and pieces of seed which are slightly discolored as a result of heating. (Reference: Visual Reference Image No. SS-1.0 Damage by Heat)

Method of Determination.

a. After the removal of mechanically separated foreign material, examine a 30-gram (± 1.5 grams) portion and remove all damaged seed except heat-damaged and damaged-by-heat seeds.

b. Compute the percentage for the damaged seed removed.

c. Pour the remainder of the 30-gram portion into the barley pearler. (See book II, chapter 1, section 1.14, for general operating procedures.)

d. Set the timer for a standardized pearl (after pearling and aspiration, the pearled sample should weigh 14 to 16 grams). If outside this range, reset the timer and pearl another portion. If the hulls are not removed from the kernels, remove the remaining hulls by hand.

e. Remove the hulls from the pearled portion using the S/J system aspirator.

f. Weigh the pearled portion.

g. Separate the heat-damaged kernels and damaged-by-heat kernels from the sound kernels.

Computing Total Damaged Kernels. Obtain the percentage of damaged kernels by adding the percentage of other damaged kernels, heat-damaged kernels, and damaged-by-heat kernels. Add the results, as shown in the following example, in hundredths (disregard thousandths) and round the sum to the nearest tenth percent.

STEP 1. Weight of other damaged kernels ÷ weight of representative portion after the removal of FM x 100 = percent of other damaged kernels.

STEP 2. 100 percent - percent of other damaged kernels ÷ 100 = change of base factor.

STEP 3. Weight of heat-damaged kernels ÷ weight of pearled portion x 100 = percent of heat-damaged kernels.

STEP 4. Percent of heat-damaged kernels x change of base factor = adjusted percent of heat-damaged kernels.

STEP 5. Weight of damaged-by-heat kernels ÷ weight of pearled portion x 100 = percent of damaged-by-heat kernels.

STEP 6. Percent of damaged-by-heat kernels x change of base factor = adjusted percent of damaged-by-heat kernels.

STEP 7. Percent of other damaged kernels + adjusted percent of heat-damaged kernels + adjusted percent of damaged-by-heat kernels = percent of damaged kernels

Example

Weight of representative portion after the removal of FM	30.58 grams
Weight of other damaged kernels	0.60 grams
Weight of pearled portion	15.78 grams
Weight of heat-damaged kernels	0.16 grams
Weight of damaged-by-heat kernels	1.50 grams

STEP 1. (0.60g ÷ 30.58g) x 100 = 1.96 percent of other damaged kernels.

STEP 2. (100% - 1.96%) ÷ 100 = 0.98 change of base factor.

STEP 3. (0.16g ÷ 15.78g) x 100 = 1.01 percent of heat-damaged kernels.

STEP 4. 1.01% x 0.98 = 0.98 adjusted percent of heat-damaged kernels.

STEP 5. (1.50g ÷ 15.78g) x 100 = 9.50 percent of damaged-by-heat kernels.

STEP 6. 9.50% x 0.98 = 9.31 adjusted percent of damaged-by-heat kernels.

STEP 7. 1.96% + 0.98% + 9.31% = 12.25 (round to 12.3) percent damaged kernels.

Certification. Record the percentage of damaged and heat-damaged sunflower seed on the certificate to the nearest tenth percent.

11.19 OFFICIAL CRITERIA

Admixture and oil content are "official criteria factors" and are determined only on request. They do not affect the grade designation.

Admixture. Admixture consists of all material other than sunflower seed which can be removed from a test portion by handsieving and handpicking. Consider empty hulls and parts of seed as sunflower seed.

The major difference between admixture and foreign material is that hulls and pieces of hulls are not included in admixture. Consequently, the percent admixture will usually be lower than the percent foreign material.

Basis of Determination. Determine admixture on a portion of 60 grams before the removal of mechanically separated foreign material.

Method of Determination. Determine admixture as follows:

a. Place the 60-gram portion on the upper edge of a 5/64 equilateral triangular hand sieve.

b. Hold the sieve at a 10- to 20-degree angle and gently work the material down over the sieve with a side-to-side motion.

c. After sieving, handpick all material other than sunflower seed from the material remaining on top of the hand sieve and add it to the material that passed through the hand sieve.

d. Admixture consists of all material passing through the sieve and all material other than sunflower seed handpicked from the material remaining on top of the sieve.

Certification. Record the percentage of admixture on the certificate to the nearest tenth percent.

Oil Content. The procedure for determining and certifying oil content is described in the Nuclear Magnetic Resonance (NMR) Handbook.