

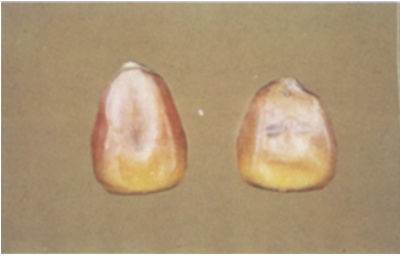
L-216

Corn Kernel Damage



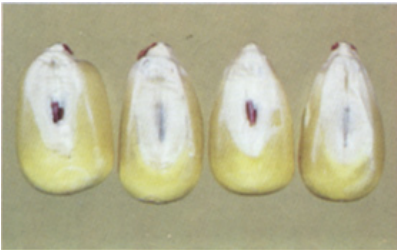
Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

PRINCIPAL CORN KERNEL DAMAGE



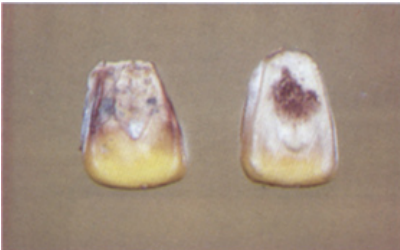
BLUE-EYE MOLD DAMAGE

A germ affected with blue-eye mold, regardless of amount, shall be considered damaged.



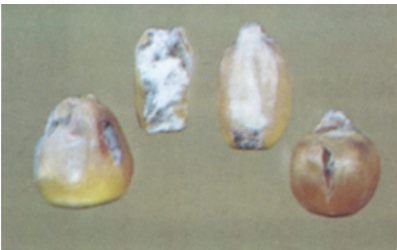
PURPLE PLUMULE (NOT DAMAGE)

The outward appearance is similar to blue-eye mold, but the coloring is due to genetic or varietal characteristics and is not damage.



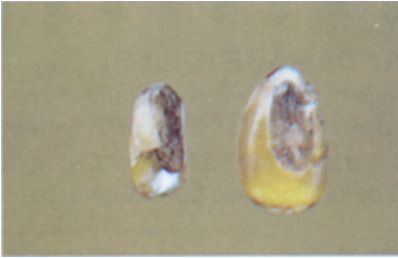
COB-ROT DAMAGE

The presence of a distinct discoloration or rotting caused by a fungus that attacks ears of weakened plants. A kernel containing cob-rot shall be considered damaged without opening the kernel.



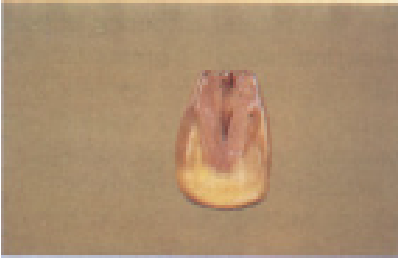
MOLD DAMAGE

When a kernel of corn has been chipped or broken exposing the starch, it becomes susceptible to mold. Kernels which have mold on the exposed part of the kernel shall be considered damaged.



DIRT (NOT DAMAGE)

Whole or broken kernels which have dirt on the exposed part of the kernel. Do not confuse dirt with mold.



GERM DAMAGE

Kernels of corn which are slightly discolored by respiration or heat shall be considered damaged but not heat damaged.



HEAT DAMAGE

Kernels of corn which are materially discolored by excessive respiration, with the dark discoloration extending out of the germ through the sides and into the back of the kernel, shall be considered heat damaged.



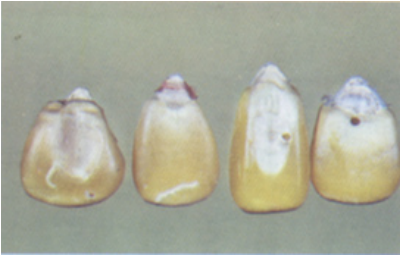
DRIER DAMAGE

Kernels which have a discolored, wrinkled, and blistered appearance; or which are puffed or swollen and slightly discolored and which often have damaged germs; or whose seed coats are peeling off or have already peeled off; or which have a cracked or checked appearance resulting from external heat caused by artificial drying methods



HEAT DAMAGE (DRIER)

Kernels of corn which are puffed and swollen and materially discolored by external heat caused by artificial drying methods shall be considered heat damaged.



INSECT DAMAGE

Kernels which bear evidence of boring or tunneling indicating the presence within the kernels of insects and kernels in which noticeable weevil-bored holes have been eaten shall be considered damaged. Kernels which have been partially eaten by insects or rodents but which are entirely free from refuse, webbing, insects, or other forms of damage shall be considered sound kernels.



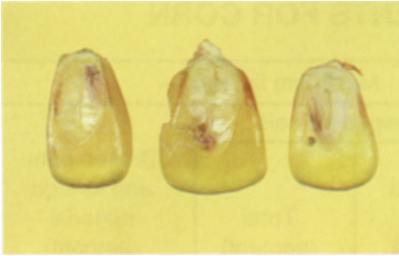
SURFACE MOLD (BLIGHT)

Kernels of corn which have mold caused by corn leaf blight on them shall be considered damaged.



SPROUT

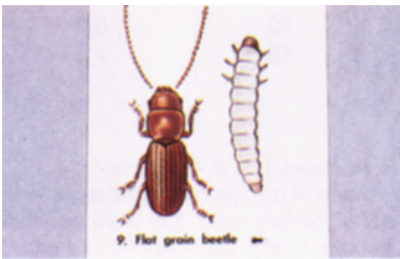
Kernels of corn which are sprouted shall be considered damaged.



MOLD DAMAGE (PINK EPICOCUM)

A germ affected with mold caused by a fungus regardless of amount, shall be considered damaged.

SPECIAL GRADES



INFESTED CORN

Corn that is infested with live weevils or other live insects injurious to stored grain. Corn will be considered infested if the representative sample, or lot as a whole (stationary), or component sample (continuous loading/unloading of ships and barges) contains two or more live weevils, or one live weevil and five or more other live insects injurious to stored grain, or ten or more other live insects injurious to stored grain.

OTHER GRADING FACTORS

Distinctly low quality. Corn which is obviously of inferior quality because it contains foreign substances, or because it is in an unusual state or condition, and which cannot be graded properly by use of other grading factors. Distinctly low quality shall include any object too large to enter the sampling device; i.e., large stones, wreckage, etc. Corn which is distinctly low quality shall be graded U.S. sample grade.

The factor distinctly low quality is by nature not susceptible to measurement by weight or count. However, the following guidelines are prescribed:

Large stones, etc. Corn 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 are too large to enter the sampling device shall be considered distinctly low quality.

Diatomaceous earth. Corn which contains diatomaceous earth shall be considered distinctly low quality.

Broken corn. All matter that passes readily through a 12/64 round-hole sieve and over a 6/64 round-hole sieve.

Foreign material. All matter that passes readily through a 6/64 round-hole sieve and all matter other than corn that remains on top of the 12/64 sieve.

GRADE REQUIREMENTS FOR CORN

Grade	Minimum test weight per bushel (pounds)	Maximum limits of—		
		Damaged kernels		Broken corn and foreign material (percent)
		Heat damaged kernels (percent)	Total (percent)	
U.S. No. 1	56.0	0.1	3.0	2.0
U.S. No. 2	54.0	0.2	5.0	3.0
U.S. No. 3	52.0	0.5	7.0	4.0
U.S. No. 4	49.0	1.0	10.0	5.0
U.S. No. 5	46.0	3.0	15.0	7.0

U.S. Sample grade-

U.S. Sample grade is corn that:

- (a) Does not meet the requirements for the grades U.S. Numbers 1, 2, 3, 4, or 5; or
- (b) Contains stones which have an aggregate weight in excess of 0.10 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), 8 or more cockleburs (*Xanthium* spp.) or similar seeds singly or in combination, or animal filth in excess of 0.20 percent in 1,000 grams; or
- (c) Has a musty, sour, or commercially objectionable foreign odor; or
- (d) Is heating or otherwise of distinctly low quality.

CORN

Grain that consists of 50 percent or more of whole kernels of shelled dent corn and/or shelled flint corn (*Zea Mays* L.) and not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act.

Yellow Corn Corn that is yellow kerneled and contains not more than 5.0 percent of corn of other colors. Yellow kernels of corn with a slight tinge of red are considered yellow corn.

White Corn Corn that is white kerneled and contains not more than 2.0 percent of corn of other colors. White kernels of corn with a slight tinge of light straw or pink color are considered white corn.

Mixed Corn Corn that does not meet the color requirements for either of the classes yellow corn or white corn and includes white-capped yellow corn.

ACKNOWLEDGEMENTS

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Authors: Dr. Kim Anderson and Dr. Phil Kenkel, Department of Agricultural Economics, Cooperative Extension Service, Oklahoma State University.

Gail Calkins, USDA, GIPSA, FGIS, Wichita, KS.

For additional copies contact:

Kim Anderson
513 Ag Hall
Oklahoma State University
Stillwater, OK 74078-0505
(405) 744-6082

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