

1967

EC68-127 Sorghum Kernel Damage

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EC 68-127

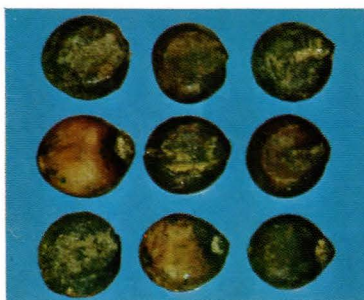


SORGHUM

KERNEL

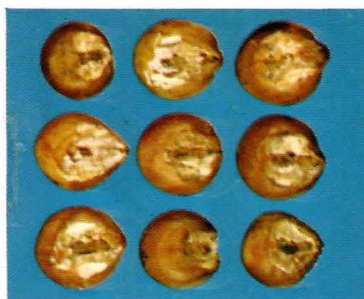
DAMAGE

PRINCIPAL SORGHUM KERNEL DAMAGE



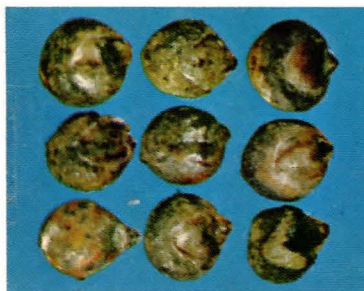
HEAT DAMAGED

Kernels and pieces of kernels of sorghum and other grains which have been materially discolored and damaged by heat.



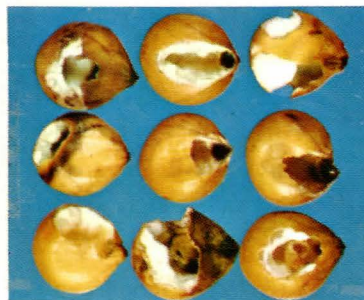
BLACK GERM DAMAGE

Black germ and some mold damage results from grain going out of condition in storage. Damage may be in sufficient quantity to result in a musty or sour odor.



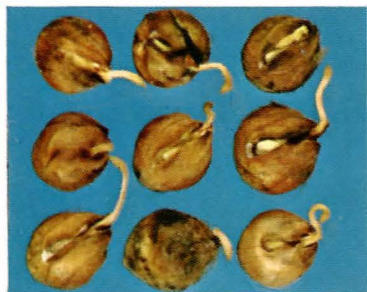
MOLD AND GROUND DAMAGE

Damage as a result of weather or having been on the ground. Care should be taken not to confuse this condition with stains and discolorations resulting from weathering.



INSECT DAMAGE (Weevil Bored)

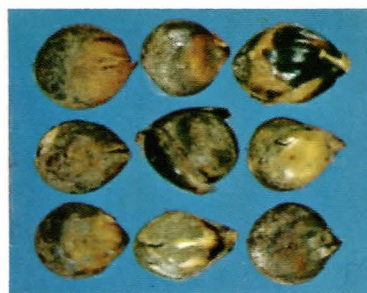
Kernels which have been bored by insects are considered damaged.



SPROUT DAMAGED

Sprouted kernels are considered damaged, but the evidence of sprouting must be conclusive.

OTHER GRADING FACTORS



BADLY WEATHERED

Sorghums which are "*badly weathered*" are graded "Sample grade." "*Badly weathered*" is a grading factor for the determination of "Sample grade" and is not shown on the certificate as a special grade but is shown as a reason for applying "Sample grade."



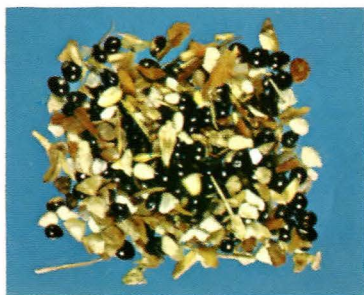
BROKEN KERNELS, FOREIGN MATERIAL AND OTHER GRAINS

Shall be all matter including kernels and pieces of kernels of sorghum except dockage which will pass readily through a $5/64$ triangular hole sieve and all matter other than sorghum which remains on the sieve after sieving.



Other grains. — Barley, corn, cultivated buckwheat, einkorn, emmer, flaxseed, hull-less barley, nongrain sorghum, oats, Polish wheat, popcorn, poulard wheat, rice, rye, soybeans, spelt, sunflower, sweet corn, triticale, wheat, and wild oats.

Nongrain sorghum shall be the seeds of sweet sorghum (sorgo), sorghum-sudan-grass hybrids, sorgrass, broomcorn, Johnson-grass and sudangrass.



DOCKAGE

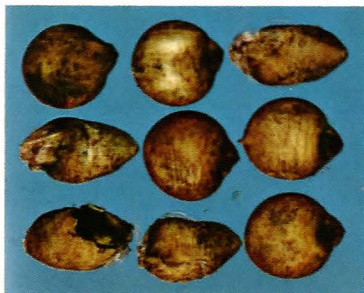
Material that will pass through a $2\frac{1}{2}$ /64-inch round-hole sieve including pieces of sorghum, which may be removed from a test portion of the original sample by use of an approved device in accordance with procedures prescribed in the Grain Inspection Manual.

SPECIAL GRADES



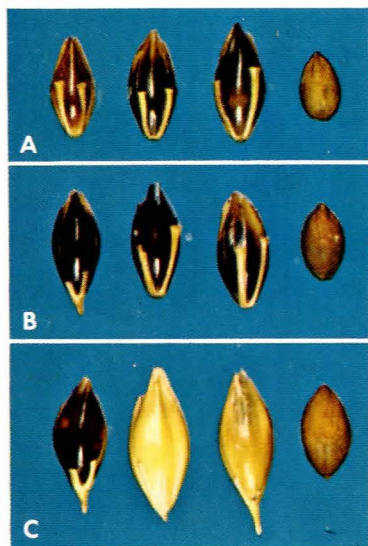
WEEVILY

Sorghum which is infested with live weevils or other insects injurious to stored grain. The word "weevily" is added to and made a part of the grade designation. (More than one live weevil in approximately 1000 grams is an example.)



SMUTTY

Smutty sorghum shall be sorghum the kernels of which are covered with smut spores, or which contains 20 or more smut masses in 100 grams of sorghum. The word "smutty" is added to and made a part of the grade designation.



A. Johnsongrass. Note color and shape. Knob-shaped, sucker mouth rachilla. Smooth and rounded break at base of seed. Margin of germ in hulled seed well defined.

B. Sorghum Alnum. Note similarity to Johnsongrass. Some rachilla knobbed, some broken.

C. Sudangrass. Note shape. Rachilla broken, portion of pedicel adhering to base of seed. Easily distinguished from Johnsongrass.

JOHNSONGRASS AND SHATTERCANE IN SORGHUM

Johnsongrass is a more serious mixture in sorghums than are other non-grain sorghums. It is a troublesome, hard to control weed and is declared a noxious weed in many states. Johnsongrass spreads by seed and by rhizomes. Every effort needs to be made to prevent spreading this weed through seed and feed grains.

Johnsongrass-sorghum crosses, such as sorghum alnum, have seed characteristics almost identical to Johnsongrass. For this reason, the sale of such crop seed is prohibited by law in many states. These Johnsongrass derivatives usually are not serious weeds in themselves. However, since the seed cannot definitely be distinguished from Johnsongrass, it is called Johnsongrass when found in other crop seed or grain and must be handled as Johnsongrass contamination. Therefore, sorghum alnum and similar Johnsongrass derivatives must be considered serious mixtures in seed and grain.

Shattercane resembles black amber sorgo and other sorgos with black glumes. Seeds are about the size of most yellow sorghums. Seed shatters freely when mature and can be a serious weed in sorghum and corn.

EFFECTIVE WEED CONTROL DEPENDS ON THE PREVENTION OF WEED SEED DISTRIBUTION THROUGH SEED AND FEED

GRADE REQUIREMENTS FOR SORGHUM

GRADE	MINIMUM TEST WEIGHT PER BUSHEL	MOISTURE	DAMAGED KERNELS		BROKEN KERNELS, FOREIGN MATERIALS AND OTHER GRAINS
			TOTAL	HEAT- DAMAGED KERNELS	
U.S.	Pounds	Percent	Percent	Percent	Percent
1	57	13	2	0.2	4
2	55	14	5	.5	8
3*	53	15	10	1.0	12
4	51	18	15	3.0	15

U.S. SAMPLE GRADE: Sample grade shall be sorghum which (a) Does not meet the requirements for the grades U.S. Nos. 1, 2, 3, or 4; (b) Contains more than 7 stones which have an aggregate weight in excess of 0.2 percent of the sample weight or more than 2 crotalaria seeds per 1,000 grams of sorghum; (c) Has a musty, sour, or commercially objectionable foreign odor (except smut odor) or (d) Is badly weathered, heating, or distinctly low quality.
*Sorghum which is distinctly discolored shall not be graded higher than U.S. No. 3.

DEFINITION OF SORGHUM

Grain which, before the removal of dockage, consists of 50 percent or more of whole kernels or sorghum (**Sorghum vulgare**) excluding nongrain sorghum and which contains not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act. Whole kernels, for purposes of this determination, shall be sorghum with $\frac{1}{4}$ or less of the kernel removed.

Brown sorghum. — Sorghum with brown pericarps or brown subcoats which contains not more than 10.0 percent of sorghum of other colors.

White sorghum. — Sorghum with white pericarps which contains not more than 2.0 percent of sorghum with pericarps or subcoats of other colors.

Yellow sorghum. — Sorghum with yellow, salmon-pink, red, or white pericarps, or white but spotted pericarps, which contains not more than 10.0 percent of sorghum with brown pericarps or subcoats and which does not meet the requirements for the class White Sorghum.

Mixed sorghum. — Sorghum which does not meet the requirements for any of the classes Brown Sorghum, Yellow Sorghum, or White Sorghum.

Revised by Robert W. Schoeff, Feed and Grain Marketing, Kansas State University, and R. E. "Gus" Page, Extension Economist, Grain Marketing, Oklahoma State University. The authors wish to express sincere appreciation to representatives of the Federal Grain Inspection Service for their assistance.

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