

# GUIDANCE ON FLOOD WATER-DAMAGED GRAIN

## Flooding and Stored Grain

Flood waters have soaked many grain bins on farms and at commercial elevators. With only a few exceptions flood-soaked grain is not useable for feed or food.

## Grain and Grain Products

1. Flood-damaged grain is adulterated grain because of the potential for many contaminants to enter through the water. This grain should be destroyed, never blended. Contact local public health and sanitation officials to determine the best disposal process for your area.
2. Water coming up from tiles, pits, etc., is just as suspect because storm and sanitary sewers are usually compromised in floods. Even field-tile water contains animal waste products, high chemical levels, and other contaminants.
3. Corn will stay at 30% moisture after the water drains off and soybeans about 25% moisture.
4. The moisture will not travel more than a few inches above the flood line.
5. Good grain on top of flooded grain must be removed from the top or side, not down through the damaged grain. Remove all the good grain possible before doing anything with the bad portion.
6. Mycotoxins are likely in rewetted grain. Warm, wet conditions are ideal for mold growth. Soaked grain will spoil within a day or two at summer temperatures. The heat and moisture given off from spoilage moves upward, rapidly affecting the rest of the grain.
7. Rain-damaged grain -- i.e., roof taken off, etc., -- can be saved by drying and cleaning. This grain should be tested for mycotoxins before use. Use reconditioned grain immediately.
8. Take care not to track or mix mud, gravel, etc., from flooded grounds into good grain during salvage operations. These materials are potentially toxic for the same reasons as the floodwaters were.
9. FDA allows for reconditioning -- washing and drying at high temperatures -- in cases where the flood water did not remain long and it is known that the water did not contain contaminants. To know that floodwater was clean would be a rare situation.

## Salvage

In the rare situations where the water was not contaminated, the grain may be reconditioned. To enter commerce reconditioning has to be done with the written consent of FDA. For feed on-site producers have three alternatives:

1. Dry the grain and then feed it immediately.
2. Feed it immediately as wet grain to their livestock.
3. Ensilage the grain for livestock feed.

Decisions need to be made quickly. The good grain should be removed immediately, again not down through the soaked grain. No flooded grain can be sold to the market without approval of FDA, to document its reconditioning and intended use. Uncontaminated, soaked corn can be used as a livestock feed within a day or two. Replace the corn in the animals' current diet with the wet corn and adjust amounts fed for moisture.

Wet, whole soybeans can be fed to cattle, if the soybeans are limited to 10% to 12% of the ration's dry matter. Soybeans substitute well for the protein in soybean meal, but they need to be fed with a vitamin-mineral-additive premix, if substituted for a complete protein supplement. It is not necessary to heat-treat the soybeans for cattle. If adding whole soybeans to diets high in distillers grains, pay attention to the total ration-fat content. For hogs, raw soybeans can only be fed to mature sows. The soybeans need to be heat treated, if fed to younger pigs.

For more information on drying or ensiling the grain, contact your Iowa State University Extension county office.

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