

# Drought Damage Can Affect Crop Insurance Yields

Prolonged drought can reduce the quality of a crop as well as the yield. Common quality problems in a drought year include low test weight, damaged kernels, foreign material and the presence of several types of mycotoxins. The type and severity of grain quality problems will affect how the production is evaluated for settling crop insurance claims.

## Multiple Peril Crop Insurance

The most widely used form of crop insurance is known as multiple peril crop insurance, or MPCI. It covers losses from a wide variety of natural causes as well as decreases in market prices.

For MPCI policies the volume of crop delivered is first corrected to a standard moisture percentage, such as 15% for corn and 13% for soybean. The total number of bushels produced is then reported to the insurance agent. However, when grain has been affected by drought the volume of grain may be adjusted for low quality discounts.



Drought damaged corn, photo by Meaghan Anderson

A quality adjustment factor is computed based on three factors:

- If grain receives a “sample” grade due to excessive kernel damage or broken kernels and foreign material, a discount of 8.5% is assigned. Additional discounts may be applied if a musty, sour or otherwise objectionable odor is detected.
- Additional discounts are taken if the grain has a low test weight, beginning at samples testing lower than 49 pounds per bushel for both corn and soybeans, down to 46 pounds for corn or 44 pounds for soybeans.
- Excessive kernel damage, beginning at damage in excess of 10% for corn and 8% for soybeans, up to 35% kernel damage for either crop, results in a further discount.

The quality adjustment factor is equal to the total of the discounts subtracted from 100%. If damage is in excess of the “chart values” for either low test weight or kernel damage, the discount will be based instead on the price discount assessed by the buyer of the grain compared to the local market price on the same day. For example, if the local market price for corn is \$3.20 per bushel and the buyer offers only \$2.40 for damaged corn, the volume of grain reported for crop insurance purposes will be reduced by 25%, equal to the price discount. Production that is not saleable will have a default discount factor of 50%.

## Mycotoxins

Additional discounts may be taken if substances such as aflatoxin, vomitoxin or fumonisin are detected in the grain. Each substance has a separate discount table, ranging up to 40% for aflatoxin and fumonisin and 45% for vomitoxin. Samples tested for aflatoxin must be obtained before grain is placed into storage, either from standing corn or grain coming out of the field, and tested by an approved testing facility.

MPCI policies cover production losses, but not storage losses. No insurance indemnity payments will be made for quality problems discovered after the grain is placed in storage. The [St. Paul office of the Risk Management Agency \(RMA\) fact sheet](#) describes aflatoxin testing procedures and contains a list of approved testing facilities, [https://legacy.rma.usda.gov/fields/mn\\_rso/2016/2016aflatoxin.pdf](https://legacy.rma.usda.gov/fields/mn_rso/2016/2016aflatoxin.pdf).

Corn found to have more than 20 parts per billion (ppb) of aflatoxin will be subject to a quality discount.

The bushels of production at the standard moisture level will be reduced by the sum of the quality adjustment factors to arrive at the “production to count” bushels (Example 1). These bushels will be used to settle claims for any MPCI policy, and to calculate actual production history (APH) yields for future policies.

Details about the quality discounts applied for damaged or tainted grain can be found in

the “special provisions” section of a standard MPCI crop insurance policy. You can also consult your licensed crop insurance agent or insurance provider, or the [Actuarial Information Browser](#), <https://webapp.rma.usda.gov/apps/ActuarialInformationBrowser/Default.aspx>.

### Additional Resources

- RMA fact sheet [Loss Adjustment Procedures for Aflatoxin](#), <https://rma.usda.gov/en/Fact-Sheets/National-Fact-Sheets/Loss-Adjustment-Procedures-for-Aflatoxin>
- [USDA RMA frequently asked questions on crop insurance and drought damaged crops](#), [www.rma.usda.gov/en/News-Room/Frequently-Asked-Questions/Crop-Insurance-and-Drought-Damaged-Crops](http://www.rma.usda.gov/en/News-Room/Frequently-Asked-Questions/Crop-Insurance-and-Drought-Damaged-Crops)
- [ISU Extension and Outreach frequently asked questions on crop insurance coverage for damaged crops](#), <https://blogs.extension.iastate.edu/agdm/2020/07/30/crop-insurance-coverage-frequently-asked-questions/>

### EXAMPLE 1

A truckload of damaged corn contains 1,000 bushels after the moisture content is adjusted to 15% and receives a “sample” grade. Samples show the following quality losses:

Sample grade	discount factor = .085
Test weight = 48.5 pounds per bushel	discount factor = .041
Kernel damage = 16.5%	discount factor = .133
Aflatoxin presence = 30 ppb	discount factor = .100
	Total discount = .359
Quality adjustment factor = $1.000 - .359 = .641$	
Production to count = $1,000 \text{ bushels} \times .641 = 641 \text{ bushels}$ for that load	

The value of the indemnity payment will depend on the type of MPCI policy and guarantee purchased, the indemnity price, the number of acres insured, and (for revenue insurance) the futures price at harvest time.

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