Sampling Downed Corn for Damage

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Abstract
The Derecho storm on August 10 left fields with varying degrees of downed corn. In the weeks following the storm, the condition of the corn plants has worsened and the quality of the corn grain appears to be deteriorating. This deterioration in quality is expected to increase with time.

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The Derecho storm on August 10 left fields with varying degrees of downed corn. In the weeks following the storm, the condition of the corn plants has worsened and the quality of the corn grain appears to be deteriorating. This deterioration in quality is expected to increase with time.

The quality of corn grain at harvest will determine whether a buyer exists in the market and the value of the grain. Do not settle insurance claims before you have the final word on value from the buyer. A projected 100 bushel per acre yield today with no one to accept it at harvest later is still a zero-value yield plus unnecessary harvest expense. This article will address key tips to sample downed corn for damage and other quality issues prior to harvest.

Determine grain quality for settlement just before harvesting the whole field. Quality of grain at harvest can be measured by obtaining a representative sample from strips or other representative portions of the field. There are standard adjustment procedures for identifying representative strips. Obtain a tank sample (field pass) by running the combine in these areas. This will also help the producer to access how well mechanical harvest will occur should they decide to harvest the whole field. Both the producer and the insurance adjuster need to agree that the sample is representative of the area to be adjusted. While ear samples are useful for in-field scouting to estimate quality, grabbing a few corn ears from different parts of the field is not a representative sample for pricing and adjustment purposes. Buyers purchase corn grain by the truck loads and not by individual ears.

Representative samples of damaged grain, as agreed between the producer and adjuster, are best submitted to an Official USDA Grader where the full grade and toxins can be determined as a Submitted Sample. Federal Grain Inspection Service (FGIS) testing is normally more accurate than the rapid tests at grain elevators, and provides better
information for the buyer as well. Once the buyer agrees to accept the grain, based on the results of the submitted sample, the entire field then can be harvested without the burden of having to find a buyer for it. Before submitting the entire sample to the official grader, it may be helpful to test for moisture and test weight with the local elevator. A test weight of 45 lb/bu or less represents potential grain quality issues; and is a simpler test than getting Mycotoxins and Total Damage analysis done. Wet mills and dry mills, where corn is used in food products, may even have a higher test weight cutoff.

Checking for Bright Yellowish-Green Florescence (BYGF) under black light has sometimes been used to indicate the possibility of fungus growth which may result in aflatoxin production. BGYF fluorescence does not indicate the possibility of other mycotoxins nor a quantification of total toxins in grain. The BGYF test is a quick test and requires very little equipment; but is only as an indicator for the presence of aflatoxin. When aflatoxin is possible, this test has value as a rapid screen for whether more detailed testing should be done.

Once the test results are back on the submitted sample and harvest of the field begins, it is normally impractical to test each truck load for toxins. Elevators and processors may decide to use a periodic composite sample (10 lbs or more from a series of trucks) to prove that the average concentrations of toxins in corn received is below limits. Such samples can submitted to a federal grader for toxins while the in-house graders can check for other factors, or they can be used to check the in-house graders on all the quality factors being tested. Composite samples do not identify individual problem loads; more intensive sampling is needed if the composite samples test above market limits for that grain buyer.

Communication is very important in the process as downed corn is harvested. All involved parties need to agree on the part of the field that is representative of the downed corn, how well the sample to be submitted for testing represents the field in question, and how the test results obtained are representative of the conditions in the field. Good communication, sampling, and testing before harvesting the whole field can save a lot of time and energy; and can help in decision making if no buyer exists for the quality shown in the test results.

**Category:** Crop Production

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Crop:

Corn

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