

# Moldy Corn and Soybeans

*By Laura Sweets*

The extended period of cold, wet weather this fall has resulted in many questions and concerns about moldy corn and soybeans. Corn ear and kernel rots were covered in the September 3rd issue of the *Integrated Pest & Crop Management Newsletter* and discolored or moldy soybeans were covered in the October 7th issue of the *Integrated Pest & Crop Management Newsletter*. Please see those issues for more detailed descriptions of mold problems on either corn or soybean.

Since those articles were written it has become evident that Diplodia ear rot and the

Fusarium/Gibberella complex are the most widespread and severe problems on corn. When the husks are peeled back on ears infected with Diplodia, dense white to grayish white mold growth will be matted between the kernels and between the kernels and the husks. In severe cases the entire ear may be grayish-brown, shrunken, very lightweight and completely rotten. Many of the kernels infected with Diplodia are quite lightweight and may be blown out of the combine during harvest. Adjusting the fan speed to remove as much of the shrunken, lightweight

kernels and fine material without removing or damaging good kernels is important.

Fusarium and/or Gibberella many develop on the tips of ears when the husks have not completely covered the ear, around sites of insect damage or in hail-damaged areas on the ear. These fungi tend to produce a whitish-pink to reddish pink mold growth on the ears. These are also the fungi which can produce mycotoxins such as vomitoxin (DON), zearalenone, T-2 toxin, and feed refusal factor. See accompanying article, "Guidelines for Feeding Molds Corn"

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in this issue of the newsletter. Again adjusting the combine to blow out as much of the small, damaged kernels and fine material should be considered.

There have been some questions about aflatoxin and whether that mycotoxin is an issue this year. Aflatoxin is the mycotoxin produced by *Aspergillus flavus* or *Aspergillus glaucus*. These two *Aspergillus* species are problems when hot, dry conditions occur as the corn is silking and beginning grain fill. Most of Missouri did not have weather conditions favorable for the development of *Aspergillus flavus* or aflatoxin this season. Part of the confusion about this may be because *Aspergillus niger* has been fairly common on corn this fall. *Aspergillus niger* produces masses of black, powdery spores on

the tips of ears or around sites of insect damage. *Aspergillus niger* does not produce aflatoxin. Again kernels infected with *Aspergillus niger* may be lightweight and many should be blown out of the combine during harvest.

Adjusting the combine to try and remove as much of the lightweight, mold infected grain as possible without losing or damaging good grain is more important than ever this fall. Also drying grain as quickly as possible to below 15% moisture is important. This should minimize any additional mold growth during storage. Proper ventilation will be critical. Storing moldy corn for as short of time period as possible would be recommended. Stored grain should be checked on a regular basis to make certain hot

spots are not developing and to insure that grain quality is not deteriorating.

Fewer grain quality issues have been reported on soybean. Phomopsis seed decay, purple seed stain and a general brown discoloration of the seed are the main problems thus far. With Phomopsis seed decay and the general brown discoloration of the seed, infected seed may be oblong rather than rounded and lightweight. Again some of this seed may be blown out during harvest. Drying grain as quickly as possible and proper storage of grain will be critical this season.

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