

AFLATOXIN IN BALED CORN

In an attempt to salvage something from drought-stricken corn fields, many growers have baled dried corn plants for use as hay. Whenever the hay contains ears with kernels, there is a risk of aflatoxin contamination. Aflatoxin will only be found in kernels, not in other plant parts.

The extent of aflatoxin contamination in kernels will vary, but can be quite high. For example, during the drought of 2006, aflatoxin levels of kernels from corn fields in north Texas destined for hay production ranged from 590 to 2200 ppb (Fig. 1). These kernels accounted for about one-third of the plant weight.



Fig. 1. Aflatoxin-contaminated ears from a corn field baled for hay.

If livestock feed on stalks and leaves of the hay, as well as kernels, then their intake of

aflatoxin is diluted, since aflatoxin is associated only with the kernels. However, this dilution may be insufficient to allow for certain feed uses, particularly dairy feed.

Without measurements, one can not be sure of the amount of aflatoxin contamination in corn cut for hay. In some fields where few of the plants made ears containing kernels, the amount will be lower. Adding to the uncertainty is the potential for further aflatoxin accumulation after baling if the kernel moisture content is not below 16%. Also, if kernels in the dried hay are re-moistened, the fungus can resume growth and aflatoxin will accumulate in storage.

The light-green, fuzzy growth of *Aspergillus flavus*, the fungus that produces aflatoxin, is shown in Fig. 2. However, kernels without visible *A. flavus* growth can still have aflatoxin.



Fig. 2. Visible colonization of kernels by *Aspergillus flavus*.

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