



Aflatoxin

is a poisonous chemical produced by a fungus called *Aspergillus flavus*. The fungus is common and can be a problem in corn, cottonseed, peanuts, tree nuts and other starchy feed products. In corn fields, it is often associated with drought stress, while in storage it develops on stored products in wet spots.

Most years, aflatoxin is managed in the U.S. and developed countries using best management practices, but it can be serious in hot, dry years like 1998 and 2010 (Fig. 1) when the problem cost U.S. corn growers millions of dollars.

In developing countries, aflatoxin and other mycotoxins in food and feed is a serious, chronic problem. In animals, aflatoxin poisoning may result in lost weight, liver cancer, or death. In the U.S., the Food and Drug Administration regulates aflatoxin with action levels to govern the marketing of corn and other products (Fig. 2).

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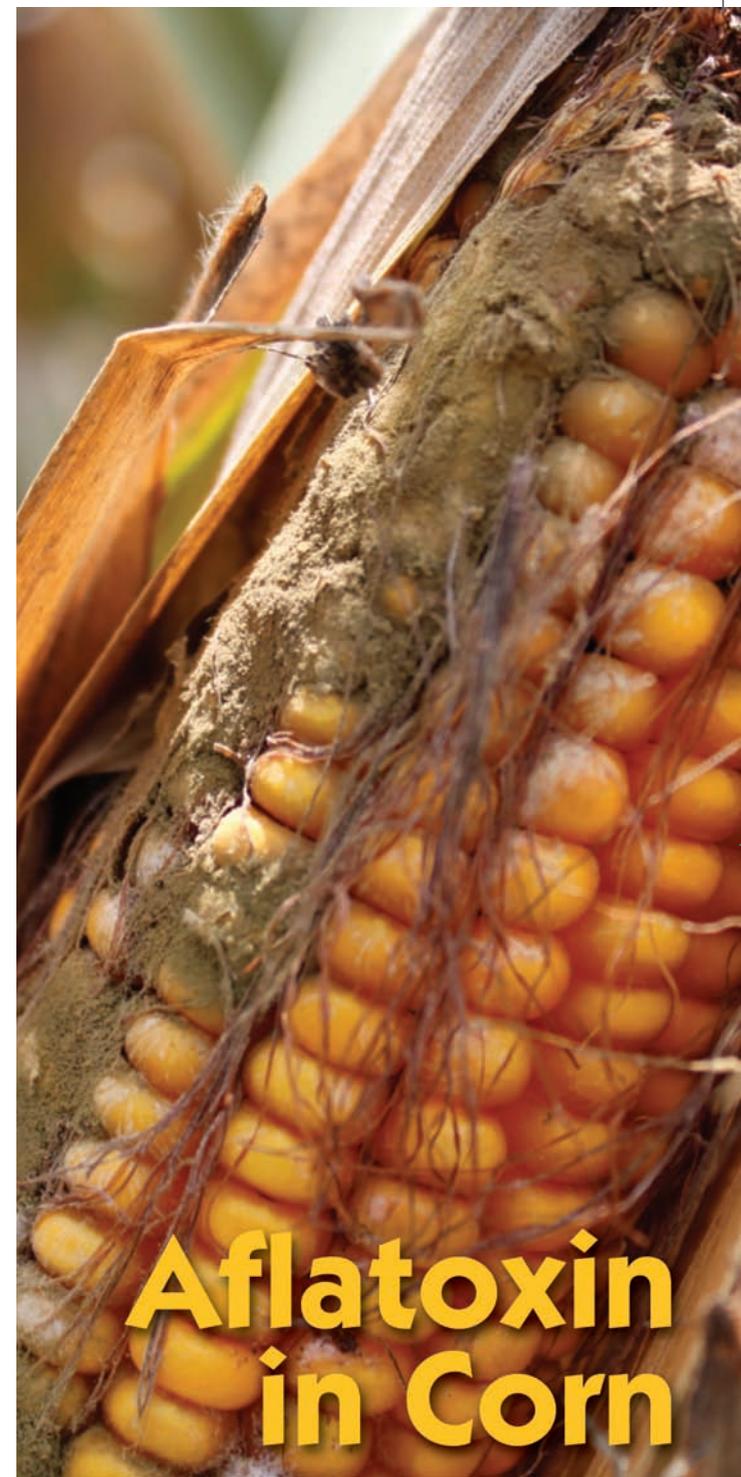


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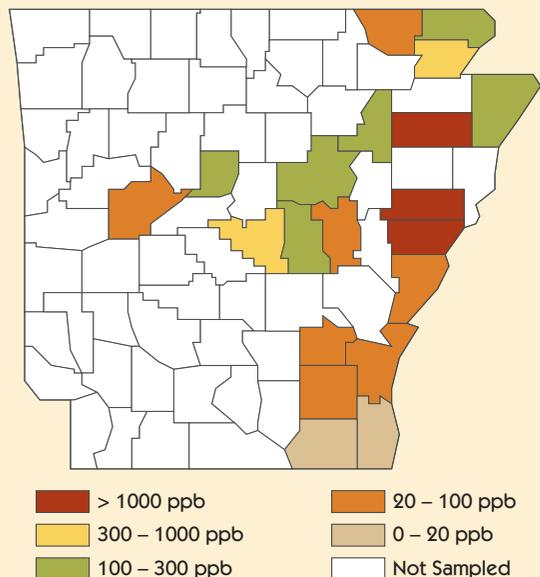


Aflatoxin in Corn

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(Fig. 1)

2010 Aflatoxin Study



* Results represent the highest levels of aflatoxin reported for each county five field survey.

(Fig. 2)

Aflatoxin Action Levels

0.5 ppb	Milk
*20 ppb	Food and feed
100 ppb	Corn for mature poultry, breeding beef cattle and swine
200 ppb	Corn for finishing swine
300 ppb	Corn for feedlot beef

* Corn above 20 ppb cannot be sold across state lines.

Prevent Aflatoxin in the Field

- Plant adapted hybrids previously tested in Arkansas such as Adapted Bt and tight shuck cover hybrids. Avoid short-season northern corn hybrids.
- Plant before April 15, but don't plant too thick.
- Irrigate properly using a system that can handle drought.
- Fertilize properly and control weeds and other stresses.
- Afla-Guard is a new biocontrol agent being tested that suppresses aflatoxin development up to 75 percent. However, severe outbreaks may overwhelm the product.
- Application of Afla-Guard in irrigated fields with little to no stress potential may not be economical. Dryland fields with moderate stress are most likely to benefit enough to recover treatment costs.



Prevent Aflatoxin at Harvest

- Avoid harvesting areas with stressed corn. Set combine to harvest only clean, whole kernels.
- Ideally, harvest above 18 percent moisture, then dry quickly to below 15 percent. Store long-term at 12 percent.
- Do not harvest faster than you can dry or sell corn, and do not let corn sit on trucks more than a few hours.
- Aflatoxin is often associated with light, damaged kernels. Cleaning corn to remove them can reduce aflatoxin if it is not too high.

Prevent Aflatoxin after Harvest

- Clean grain-handling systems before seasonal use with 1 percent fresh bleach.
- For on-farm storage, have the drying capacity to dry to <15 percent moisture within 24-48 hours.
- Do not place clean corn on top of contaminated corn or mix clean with contaminated.
- Maintain air flow through grain until it is dried to avoid respiration heating.
- Check bins for leaks. Aflatoxin may develop in wet spots and contaminate corn when augered out.

Testing for Aflatoxin

- Aflatoxin-contaminated corn may be rejected by the grain buyer, using modern approved test kits. It is illegal to reject corn based solely on black light testing in Arkansas.
- Act 1374 of 1999 in Arkansas gives the State Plant Board the authority to assure testing is appropriate. Report questionable testing or grain buying practices to the Plant Board at (501) 225-1598.
- You can have corn tested at the regional GIPSA-approved aflatoxin testing service:
MidSouth Grain Inspection Service
1390 Channel Ave., Memphis, TN 38109
(901) 942-3216
- For other testing facilities, contact:
USDA/GIPSA, Stuttgart, AR 72160
(870) 673-2508

