

# Preventive measures outlined for aflatoxins

COLLEGE PARK, Md. - To date, no federally approved procedure exists for detoxifying corn or other grain, which has been contaminated by aflatoxins. But grain producers can practice common-sense sanitation and preventive measures to help minimize the extent of contamination. These include:

### HARVESTING

-Harvest corn promptly when mature. Where drying equipment is available, this operation can begin when kernels reach 22 to 25 per cent moisture.

-Install filler plates between threshing cylinder bars and adjust cylinder to lowest speed and widest clearance that will give adequate shelling. Less cracking occurs at low cylinder speeds; such damage encourages mold growth and insect damage.

-Adjust the combine to maximum cleaning of moist trash or green matter. Consider the use of a rotary screen grain cleaner at the bin to remove weed and trash and cracked kernels before corn goes into storage.

-Do not hold high-moisture corn in wagons or other similar holding areas longer than six hours. High-moisture corn awaiting drying should be placed in a "holding bin" and have air forced through it to keep it cool.

-Regularly clean out corn which collects in auger wells and dump pits. Such corn can be a ready-made source of mold contamination.

### STORAGE

-Make sure storage bins are in proper repair to prevent moisture leaks. Remove all debris in and around storage areas. Use a recommended insecticidal spray before grain is put into bins.

-Ideally, corn should be dried to 12 per cent moisture for absolutely safe storage. But economic considerations dictate a compromise of 13 or 14 per cent. A 15-per cent moisture level is even permissible - but should be considered risky.

-Corn in bins should be aerated regularly during storage to prevent sweating when outside temperatures drop. Do not operate fans, however, during periods of rainfall or high humidity.

-Organic acid grain preservatives will prevent the growth of the *A. flavus* mold which produces aflatoxins, if they are applied properly while grain is being augered into bins. However, grains so treated can be used for only livestock and poultry feed. They cannot be used for human consumption or for seed purposes. Also, these acids are very corrosive to metals, and they should not be used in metal storage bins unless the metal is amply protected.

Poultry producers should consider the following additional precautions with bulk feed storage facilities:

-Seal hatches on feed and grain storage containers. Caulk the seams of feed bins to eliminate rain water. Remember that feed can still become contaminated, even if it is manufactured from aflatoxin-free corn.

-Remove caked, dried and moldy feed from feed-handling systems. This debris can tend to "seed" all material passing over it with mold toxins. After removal, spray all surfaces with a disinfectant solution, such as commercial household bleach and water in a ratio of 1:4. Be sure that the surfaces dry completely before reuse.

-If some probability of aflatoxin contamination exists in poultry feed for broilers, increase the level of protein, energy and vitamins in the ration. Also use a broad-spectrum antibiotic, particularly if any increase in mortality is noticed.

-Feed suspect feed to birds older than three weeks of age. Do not feed it to breeder females or laying hens of any age. Discontinue feeding suspect feed if necropsy findings indicate internal lesions, or liver damage.

Livestock producers can take some hints from the procedures outlined above for poultry. Remember that young stock are more susceptible to aflatoxin poisoning than older animals. The order of susceptibility among farm mammals is: young pigs, pregnant sows, calves, fattening pigs, mature cattle and sheep. Sheep appear to be the most resistant of all farm animals.

Never give feed to dairy cows which has possible aflatoxin contamination. If the feed is suspect, remove suckling calves from their mothers immediately. Should lactating cows accidentally ingest aflatoxin-contaminated feed, keep in mind that the poison will usually disappear from the milk within one week after such feed is removed from the ration.

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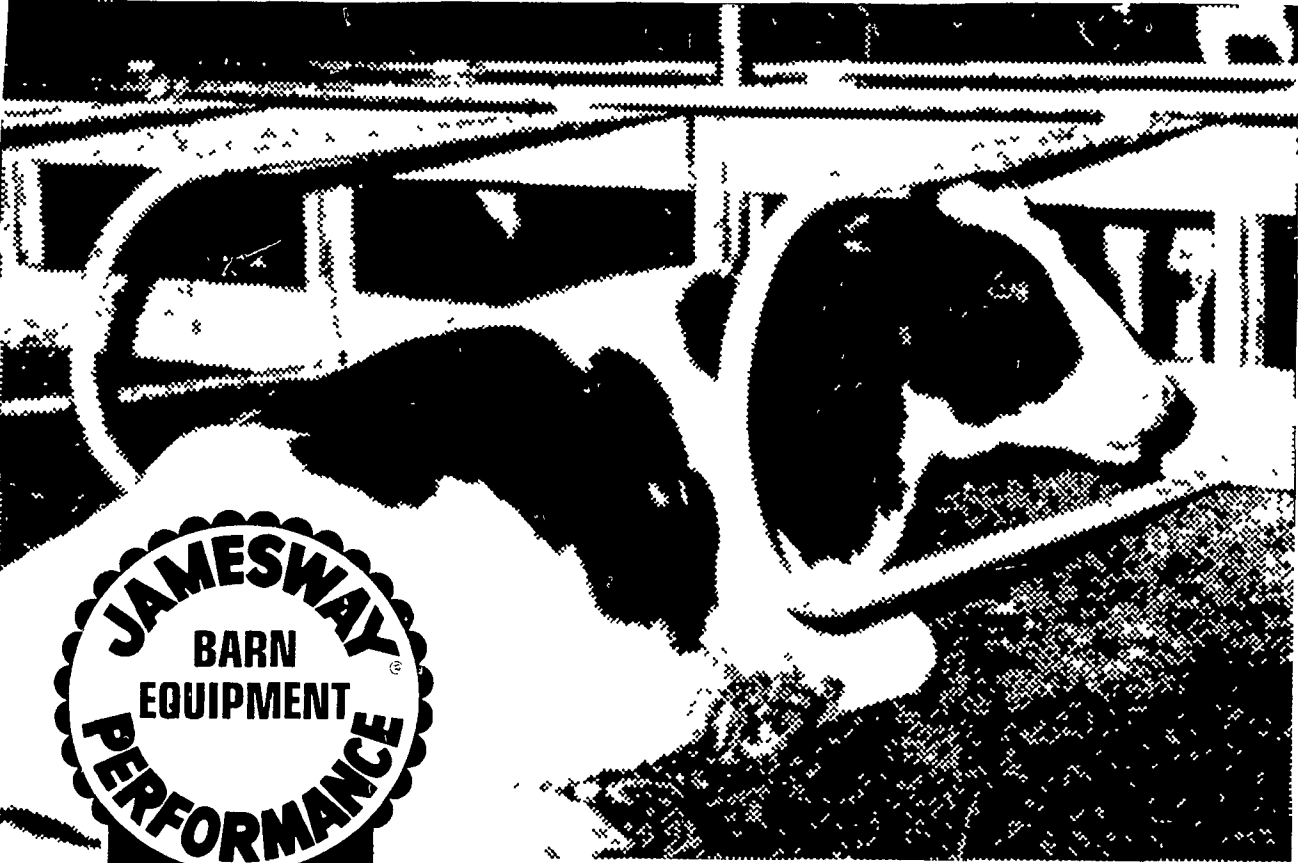
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