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**MYCOTOXINS —
A REAL AND
SERIOUS PROBLEM
TO POULTRY
PRODUCERS**

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It is well known that crop conditions throughout the U.S. deteriorated rapidly during the months of June and July this past summer due to severe drought conditions.

In addition, recent statements made by the National Broiler Council indicate that current and foreseeable crop conditions do not look promising for achieving a normal harvest, which means higher feed costs and the need to utilize previously stored grain supplies.

This creates potential mycotoxin problems for poultry producers from: 1) utilizing damaged grains from recent crops and 2) utilizing grain reserves which may have been stored improperly and may be moldy.

Mycotoxins, as the word indicates, are toxins produced from

fungi or molds. Mycotoxin-producing fungi are common to the environment and may be found in the soil and air around various crops such as peanuts, rice, wheat, and particularly, corn.

If we discuss corn as an example, the fungal spores settle on the corn silk, germinate, and grow down the silk to the kernels, usually without injury to the plant. However, if the plant is subjected to severe stresses, such as water and nitrogen deprivation during a drought or during inadequate application of fertilizer, the mold can cause problems.

As the plant is being stressed, so is the life cycle of the mold which is utilizing the corn as a nutrient source. The mold attempts to ensure survival of its spores by activating specific biochemical pathways termed "secondary metabolism." During this process, various by-products or secondary metabolites are produced, including mycotoxins. Some of these mycotoxins, such as aflatoxin, ochratoxin, and vomitoxin, are known to be harmful to poultry.

After harvest, grains containing spores are affected by moisture,

humidity, pH, and temperature conditions during processing and storage which stimulates mycotoxin production as well. Other sources of mycotoxins during and after the manufacture of feed are associated with poor holding conditions. This would include improperly maintained and cleaned feed mixing facilities, pelleting mills, delivery trucks, and, at individual farms, feed storage bins and the feed distribution system (feeder troughs, pans, etc.).

Problems arise due to the consumption of the contaminated feed and can generally fall into one of three categories:

(1) Primary acute mycotoxicosis associated with moderate to high levels of consumption, which can result in liver and kidney damage, gastrointestinal dysfunction, increased bruising and hemorrhages (downgrades or condemnments), or mortality.

(2) Primary chronic mycotoxicosis associated with low to moderate levels of consumption, which can result in reduced performance, including reduced body weight, feed conversion, and egg production.

(3) Secondary mycotoxic diseases associated with marginal levels of consumption, which can result in an inadequate immunity, predisposing the birds to other infectious agents.

Since mycotoxin production can occur pre- and post-harvest, poultry producers must continue to

recognize conditions which may allow problems to affect their operations. Producers should also utilize a program of regular inspection in those areas which they can indirectly or directly control.

One such area is the feed and pellet mill, if company owned, or by requesting routine feed quality assurance via laboratory analysis. Other areas include conditions at company owned or contract farms.

Service personnel should educate and instruct growers as to the importance of maintaining clean feed bins and feed handling equipment. After cleaning, a bleach solution can also be used to sanitize the equipment. Flock supervisors should attempt to reduce the mean

residence time of feed in the bin, since fungal and toxin production are time-dependent.

Attention should be directed to the reduction of interacting factors which translates to "good flock management."

There are many different approaches that can be taken with regard to the mycotoxins. Regardless of the approach, the initial step should be acceptance and recognition that mycotoxins exist and can pose serious problems to poultry producers. The second approach should be the adoption and use of a regular inspection program to identify problem areas when they occur.

Tax Issues Under Scrutiny

LANCASTER (Lancaster Co.) — Lancaster Farmland Trust, a non-profit farmland preservation organization, is sponsoring a one-day conference on land preservation at Millersville University on Wednesday, October 9.

Tax issues, conservation easements, and estate planning will be covered in detail. Professionals, interested citizens, and farmers are invited to attend.

"This conference will offer up-to-date, detailed information on tax issues and estate planning for professionals and landowners concerned with preserving land," said Alan R. Musselman, executive director of Lancaster Farmland Trust.

Stephen J. Small will give two seminars titled "Preserving Family Lands" and "Estate Planning." Small is a tax attorney in Boston and well-known conservation tax expert and author. He lectures nationwide on tax incentives for land conservation.

In addition, there will be six workshops on various conservation topics given by local leaders.


To receive a registration brochure and more information call Karen Weiss or June Mengel at the Lancaster Farmland Trust (717) 293-0707. Although registration is open to October 7, space is limited, so please register early.

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