



**FOCUS  
ON  
DAIRY**

**Penn State Cooperative Extension  
Capitol Region Dairy Team**

**MYCOTOXINS:  
SILENT THIEVES**

**Dr. Arlen Mills  
Capitol Region  
Extension Veterinarian  
Lebanon**

As we start a new feeding season each year, I enjoy asking producers what changes or response they have noticed to the new year's feed.

One factor of the new feeds which is not readily noticeable may be the levels of mycotoxins. Problems related to high mycotoxin levels are usually not so drastic as to be quickly noticed, with most toxic reactions appearing as poor weight gain, reproduction problems, reduced feed intake, and reduced milk production.

Some other symptoms which have been reported to be related to mycotoxin levels include higher than normal incidence of metabolic diseases such as ketosis, DA's retained placenta, intermittent diarrhea, and pregnant cows displaying heats.

I have had several calls asking if mycotoxin problems are increasing. To answer this, remember first that mycotoxins are dose related. A small amount may cause no concern, with problems only becoming evident at higher amounts.

In the last 25 years or so, we have almost doubled the intake of the dairy cow while the size of the cow has stayed about the same. This results in a much higher dose of mycotoxin per pound of animal, even if feed levels have stayed the same. Higher intake of toxins coupled with the increased stress of higher milk production could be blamed for an apparent increase in mycotoxin problems.

Some of the primary toxin producing fungi found in feed include *Fusarium*, *Penicillium*, and *Aspergillus*. Several toxins of concern are produced by *Fusarium* and include vomitoxin (DON), fumonisin, Zearalenone, and T-2. Actually, there may be hundreds of toxins produced but these are toxins which have been identified and are routinely tested for.

All fungi have three critical environmental requirements to grow. These are 1) temperatures above freezing, 2) moisture above 20 percent, and 3) oxygen. Limiting any one of these three requirements will reduce or prevent the growth of fungi, hence the formation of toxins. Limiting temperature and moisture may be difficult, so limiting oxygen in ensiled feeds is key. Oxygen is like a light switch, turning toxin production on and off during storage.

Much of the toxin may be formed in feeds before harvest. The longer corn is allowed to stand in the field after maturity, the greater the likelihood of toxin development. In the case of corn silage, corn harvested after frost is at even greater risk of toxin contamination. Remember that the level of toxins is usually greater in the cob than in the ker-



**Dr. Arlen Mills**

nel and levels are not decreased by ensilement.

Just as you would not eat moldy food, a good rule to follow is to not feed moldy hay, haylage, or corn to your animals. There is no way to distinguish between toxic and nontoxic fungi by sight. However, the absence of visible mold does not guarantee that a feed is safe. Dangerous levels of mycotoxins can accumulate earlier during growth of the crop and often will not be visible.

Once mycotoxins are present in feeds, there are no practical means of decontamination. It may be diluted out with clean feed to an acceptable level or one of several binders may be tried. If the change is successful, increased feed intake and milk production are usually evident within a matter of days. I have also seen situations where one absorbent did not work but another did the job.

Review the following check list of practices that may assist in preventing mycotoxin problems:

- Purchase corn and grain varieties resistant to disease and insects.
- Harvest corn and haylage at the recommended maturity and moisture levels for your storage system.
- Do not let corn stand in the field after maturity or a killing frost.
- Be sure chopper knives are sharp and cutting at the correct length to pack properly.
- Harvest crops as quickly as possible, pack well to exclude oxygen, and cover or seal.
- Since toxins are water-soluble, do not allow rain to wash through upper layers of spoiled feed.
- Discard obviously spoiled feed or layers of feed.
- Clean out leftover feed from feed bunks before adding more feed.
- Match the rate of silage removal from the silo face with the size of the herd. This is 4 to 6 inches for bunker silos and 3 to 4 inches for upright silos.

With your veterinarian and nutritionist, consider the use of a toxin absorbent if a problem is identified.

Mycotoxin problems are usually hard to identify and may be even harder to fix. Don't let mycotoxins rob you of profits.

# Shepherding Skills Win Honors For York Fair Youth

**JOYCE BUPP**

*York Co. Correspondent*  
**YORK (York Co.)** — Tasha Flory, 14-year-old Red Lion youth exhibitor, topped a field of contestants for the champion showman honors during York Fair competition. Reserve champion showman was Rebecca Butt, New Park.

Topping the fitting contest was champion Tony Haugh, Red Lion, over reserve fitter Brandy Bankert, Red Lion.

It was a winning week for the Flory family, with Travis Flory exhibiting the supreme champion ewe in the junior sheep breeding show. The champion ewe represented the commercial sheep class in the supreme runoffs. Supreme junior division ram was the Southdown, exhibited by Sara Doyle, Red Lion.

All the Cheviot and Montadale honors, including all champion ribbons, in the junior sheep breeding show went to Tony Haugh. Matt Bankert, Hanover, dominated the Dorset classes, taking champion ram, champion and reserve champion ewe, and the reserve champion ram was exhibited by Julia Vadas, Stewartstown. Hampshire honors all went to Lexie Grove, Dover.

Andrew Bankert, Hanover, took all the Shropshire breed awards and Rebecca Butt, New Park, earned the Suffolk breed honors with her flock. Corriedale awards all went to Eric Bankert, including the supreme wool breeds champion ram. The Bankerts and Doyles dominated the Southdown classes, with Sara Doyle's winning ram over the re-

serve shown by Kelly Jo Bankert, Red Lion. Brandy Bankert, Red Lion, exhibited the champion Southdown ewe, with Sarah Doyle in the reserve champion slot.

Sarah Doyle snagged another ram champion title in the commercial sheep class over the reserve champion exhibited by Andrew Keating, Hanover. Travis Flory's supreme ewe bested Sarah Doyle's reserve in the commercial sheep classes. Mary Zeigler, York, had the champion natural color ram, while Emily Butt, New Park, took the natural colored champion ewe ribbons, over reserve winner Djamel Leharani, Glenville.

In the open sheep breeding classes, John Eaton and Melissa Trostle, Windsor, took supreme champion ram honors with their Cheviot winner, along with all other champion ribbons in the breed category. Dorset ram honors were split by Hollystone Farm, Paoli, with the champion, and Barry and Bruce Snyder, Kutztown, reserve. Hollystone also took both ewe champion titles.

Matt Trostle, Red Lion, dominated the Hampshire breed, exhibiting the champion ram and ewe, and reserve champion ewe. Melana Lovell, Linden, took reserve champion ram honors in the Hampshire runoffs. Repeating his junior division performance, youth exhibitor Tony Haugh took all honors in the Montadale open class show.

Shropshire champion ram, ewe, and reserve ewe were all exhibited by Amanda Lynn Miller,

Bernville. Andrew Bankert won the reserve champion ram rosette. Champion fleece honors went to Sheepberry Farms, Halifax, also winning the reserve place with natural colored fleece. Reserve fleece honors were also awarded to Wayne Beare, Hershey, for white open fleece, and to Briana Kelly, Wellsville, for open fleece.

Champion Southdown ram was exhibited by Sarah Doyle, over the reserve champion of Amanda Lynn Miller. Miller exhibited the champion and reserve champion Southdown ewe, as well. Suffolk champion and reserve ram honors went to Denny Haugh, Red Lion. Rebecca Butt exhibited the champion Suffolk ewe, with the reserve champion ewe title won by Melana Lovell, Linden.

A partial list of junior fitting and showmanship placings follows:

- JUNIOR SHEEP FITTING AND SHOWMANSHIP**  
16 and up fitter: 1. Brandy Bankert. 2. Travis Flory. 3. Rick Jones.  
Age 13-15 fitter: 1. Tony Haugh. 2. Tasha Flory. 3. Matthew Bankert.  
Age 10-12 fitter: 1. Andrew Bankert. 2. Emily Butt. 3. Dalton Flory.  
Age 8-9 fitter: 1. Courtney Flory. 2. Andrew Keating.
- CHAMPION FITTER**  
Tony Haugh
- RESERVE CHAMPION FITTER**  
Brandy Bankert
- 16 and up showmanship: 1. Rebecca Butt. 2. Travis Flory. 3. Brandy Bankert.  
Age 13-15 showmanship: 1. Tasha Flory. 2. Matthew Bankert. 3. Kim Long.  
Age 10-12 showmanship: 1. Andrew Bankert. 2. Dalton Flory. 3. Emily Butt.  
Age 8-9 showmanship: 1. Courtney Flory. 2. Andrew Keating.
- CHAMPION SHOWMAN**  
Tasha Flory
- RESERVE CHAMPION SHOWMAN**  
Rebecca Butt



**PLANNING AHEAD  
FOR CONSTRUCTION  
PROJECTS**

**Shelly Dehoff  
Agriculture/Public Liaison**

Are you considering expanding your current animal operation? Are you considering building a manure storage or a new equipment shed? Have you allowed yourself enough time to get all the permits that you need, and still be able to complete your project on time?

How much is "enough time"? That is a difficult question to answer. If you are planning to build a manure storage facility, or a new building, but are not planning to change the numbers of animals on your operation, time should still be allowed to meet certain township requirements. It

is also important that you allow time for professionally engineered designs for manure storage facilities that meet the Pennsylvania Technical Guide Standards, or equivalent.

If you are planning an animal expansion that requires an approved Nutrient Management Plan or a federal Concentrated Animal Feeding Operation (CAFO) permit, you will need to increase the time required, substantially.

Most townships in Pennsylvania require a building permit to construct anything on your property. Your first step should be to check with your township and find out what is required to obtain a building permit. Requirements vary greatly. Check for other ordinance and zoning issues. You may have setbacks that you need to comply with, or additional township permits.

You may need an erosion and sedimentation (E&S) plan approved by your county conservation district. If you plan to dis-

turb more than 1 acre of ground or if runoff from the construction site will discharge into a stream, an NPDES E&S permit may be required. Check with your local conservation district for specifics.

If you are undergoing a large change in your operation, a Land Development Plan may be required by the township. Hiring an experienced, knowledgeable professional should make this experience smoother and easier for you.

If you are planning to increase your current animal numbers or are planning to add an animal type not on your operation, you will need to check with your county conservation district to determine if you will need a certified Nutrient Management Plan. You may also need to apply for a federal CAFO permit. It is very important to hire experienced, knowledgeable professionals to assist with the permitting process. If a manure storage facility is part of the CAFO operation, there are additional permits required, which are issued at the same time the CAFO permit is issued.

The length of time required to obtain a CAFO permit varies greatly. Assume it will take approximately three months to have a certified nutrient management plan completed. If the operation already has a current, approved nutrient management plan, it will probably take 4-6 months to get a CAFO permit. The CAFO permitting process takes longer if the operation is in a High Quality (HQ) watershed, or if there is extensive public outcry. Public outcry can easily lengthen the process to a year or more. Don't forget to plan for a few months for actual construction, too.

Adequate planning and being sure you have a complete understanding with your township as to what is required will help major or minor construction projects at your farm be completed smoothly and reasonably on time.

**2003-2004 PENNSYLVANIA HOLSTEIN ASSOCIATION  
CALENDAR OF EVENTS**

OCTOBER 12	1 00P M BEAVER-LAWRENCE COUNTY SUMMER PICNIC, COACHMENS CLUB, NEW CASTLE, PA
OCTOBER 24	7 00P M LEBANON COUNTY ANNUAL MEETING TULPEHOCKEN UCC CHURCH, RICHLAND, PA
NOVEMBER 8	11 00A M NITTANY LION FALL CLASSIC SALE AG ARENA, STATE COLLEGE, PA
NOVEMBER 22	PACK-HERD COMPLETE DISPERSAL SALE RICHARD & MARILYN PACKARD FARM, TROY, PA
NOVEMBER 22	7 30P M MERCER COUNTY ANNUAL MEETING HEMPFIELD FIRE HALL, GREENVILLE, PA
FEBRUARY 6-8	2004 PA JUNIOR HOLSTEIN CONVENTION FOUR POINTS SHERATON INN, GREENSBURG, PA
FEBRUARY 19-21	2004 PA HOLSTEIN CONVENTION FOUR POINTS SHERATON INN, GREENSBURG, PA
FEBRUARY 21	10 00A M PA HOLSTEIN CONVENTION SALE FOUR POINTS SHERATON INN, GREENSBURG, PA
APRIL 16	7 00P M WESTERN PA SPRING SPECTACULAR SALE 4-H PARK, MERCER, PA