NORTHWEST NEW YORK DAIRY, LIVESTOCK & FIELD CROPS TEAM



Molds and Mycotoxins – Tough and Costly Foes

By: Jerry Bertoldo & Jackson Wright

Over the past few months the extremes in weather have produced ideal conditions for mold growth in the corn crop. These members of the fungi family are obligated to live off other living things or on decaying vegetation. They cannot multiply separate from these food sources.

The molds of major concern are routinely found in the soil. From here the spores, or fungal "seeds," become airborne and settle on plants. The mold spores are smaller than pollen grains and easily enter the pollen tubes during silking. Development of a mold

infection within the kernel after pollination is possible. Airborne contamination of the ear by spores during development and maturation is the result of damage caused by insects, birds or mammals. This year, cobs outgrowing husks have resulted in exposed ear tips and mold development. Upright mature ears exposed to rains have a high risk of mold contamination. These last three examples of mold growth are all on the outside of the kernel. Both internal and external kernel mold and often foliar contamination will be present at the time of harvest. Grain crops in general are the most hospitable environment for



molds as opposed to crops that do not sequester starch such as grass, legumes and hay. Within these plants the molds find ample amounts of simple sugars and starch, their favored energy sources.

The growing stage of the mold seldom presents itself as an animal health prob-

lem. It is the nastv chemicals known mycoytoxins as produced by certain molds that are of concern. There are over 350 identified mycotoxins. Common mycotoxins found in dairy feeds are alfatoxins, deoxvnivalenol (DON) or vomitoxin, zearalenone. T-2,

fumonisins, and ochratoxin A.

Continue	on	nage	3
Commune	On	puge	2

Focus Points

Serious Growth, Comfort & Socialization "Herd Calf" Thrives in Group Housing	4
Ask Extension How do I feed cattle outside this winter?	5
2 New Soybean Pests Found in NWNY	7
Farm Business Summary/Analysis Season Right Around the Corner	8-9
Agricultura	10
Regional Meetings & Programs	Back Cover



Jerry Bertoldo Dairy Management

Genesee County 585.343.3040 x 133 (office) 585.281.6816 (cell) grb23@cornell.edu





Nancy Glazier Small Farms Support Yates County 315.536.5123 (office) 585.315.7746 (cell) nig3@cornell.edu



Farm Business Livingston County 585.658.3250 x 112 (office) 585.233.9249 (cell) jih6@cornell.edu





Joan Sinclair Petzen Farm Business Management

Wyoming County 585.786.2251 (office) 585.786.5148 (fax) jsp10@cornell.edu





Mike Stanyard Field Crops & IPM

Wayne County 315.331.8415 x 123 (office) 585.764.8452 (cell) mjs88@cornell.edu



Cathy Wallace Administration

Genesee County 585.343.3040 x 138 (office) 585.343.1275 (fax) cfw6@cornell.edu





Jackson Wright Dairy Management

Ontario County 585.394.3977 x 403 (office) 585.746.3016 (cell) jbw243@cornell.edu





Greg Coffta Hispanic Labor Management Genesee County 585.208.8546 (cell) gic53@cornell.edu



Ag Focus Cornell Cooperative Extension of

Genesee•Livingston•Monroe Niagara•Ontario•Orleans•Seneca Wayne•Wyoming•Yates

Ag Focus is published Monthly by the NWNY Team of CCE / PRO-DAIRY

Editor: Greg Coffta

Contributing Editors: Jerry Bertoldo · Nancy Glazier John Hanchar · Joan Sinclair Petzen Mike Stanyard Jackson Wright

Layout/Design: Cathy Wallace

Postmaster Send Address Changes: NWNY Team—Cathy Wallace 420 E. Main Street, Batavia, NY 14020

Direct all inquiries & correspondence on advertising space and rates to Cathy Wallace, advertising representative at 585.343.3040 x 138 Fax: 585.343.1275

Also Serving

Monroe 249 Highland Avenue Rochester, NY 14620 585.461.1000

Orleans 12690 State Route 31 Albion, NY 14411 585.798.4265

Seneca 308 Main Street Shop Centre Waterloo, NY 13165 315.539.9252

To simplify information, brand names of products may be used in this publication. No endorsement is intended, nor is criticism implied of similar products not named.

Every effort has been made to provide correct, complete and up-todate pesticide recommendations. Changes occur constantly & human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying pesticides.

By law and purpose, Cooperative Extension is dedicated to serving the people on a non-discriminatory basis.

Mission Statement

The NWNY Dairy, Livestock & Field Crops team will provide lifelong education to the people of the agricultural community to assist them in achieving their goals. Through education programs & opportunities, the NWNY Team seeks to build producers' capacities to:

- Enhance the profitability of their business
- Practice environmental stewardship
- Enhance employee & family well-being in a safe work environment
- Provide safe, healthful agricultural products
- Provide leadership for enhancing relationships between agricultural sector, neighbors & the general public.

AG FOCUS NOVEMBER 2011 WWW.NWNYTEAM.ORG

In dairy cows, consumption of mycotoxin contaminated feeds can lead to decreased dry matter intake, reduced nutrient utilization, decreased rumen motility and suppressed immunity – nonspecific symptoms common to many diseases. Over time, this exposure can result in loss of normal function across multiple organ systems; the rumen, intestinal tract, liver, kidneys, nervous system and reproductive tract. Transition cows and young heifers are the most sensitive.

Temperature, moisture, and previous insect activity are the major factors that influence mold growth and subsequent mycotoxin formation post harvest. Mold growth can occur over a wide temperature and pH range. Molds need oxygen and moisture levels of at least 13-14% to grow and 15% to reproduce. Avoiding mycotoxin risk in silage requires best management practices targeted at quickly reducing the pH and eliminating oxygen. In addition, harvesting at the proper moisture content, chopping uniformly at the proper length, filling the silo rapidly, packing the silage sufficiently to exclude air, using fermentation aids and covering the bunk well are important to a stable forage. For grain corn storage moisture should not exceed 14%. It is possible even with properly dried corn to have temperature and condensation variations in bins resulting in "hot spots" of mold growth.

Common fermentation aids include organic acids (propionic or sorbic acids) and silage inoculants that facilitate the production of lactic acid. Acetic acid is a potent stabilizer to the air exposed silage mass at feed out. *Lactobacillus buchneri* is a bacterium now used commonly in inoculants to boost final acetic acid levels in ensiled forages. It is also important to recognize that when a silage mass has a freshly exposed surface, that face is no longer anaerobic and therefore is susceptible to deterioration. The use of defacers, smooth face shaving on bunkers and feeding at least a foot of silage per day out of any silo storage type mimics the old bottom unloading upright benefit – limited air exposure and less deterioration by molds.

If you suspect mycotoxins are negatively impacting herd performance, you may want to consider using mycotoxin binders. Testing sounds like a rational approach to scoping out the threat and needed action, however testing for mycotoxins comes with a number of interesting questions:

- ➡ How representative is the sample that is going to be taken?
- ⇒ Do we take samples of a single feedstuff or the *TMR*?
- ⇒ Do we sample feed that was delivered to the feed bunk a few hours ago to represent what the cows are really eating throughout the day or a fresh batch?
- ⇒ Do we take a sample representing one day's feeding or do we blend samples from several days?
- ⇒ *How often should we analyze samples?*

Unfortunately, mycotoxin binding agents are as different as night and day. Activated charcoal, bentonite clay, aluminum silicate (kaolin) and yeast cell wall extracts are examples of binders. Some are very specific in which mycotoxins they control while others are broader in spectrum. Often it is wiser to include a binder in the ration to head off negative consequences from high risk feeds even if testing is inconclusive. Binder addition in the case of poor performance might affect a turnaround giving evidence to the presence of mycotoxins.

Molds are opportunists. With direct land application of spoiled feeds and less traditional mold board plowing to bury and kill of molds, these organisms have more opportunity to maintain their numbers and be exposed to crops than in the past. Controlling molds at the time of feed storage becomes more important than ever. Being able to control field conditions would be ideal, but that's a bit much to expect.



Serious Growth, Comfort and Socialization – the "Herd Calf" Thrives in Ad-Lib Fed Group Housing

By: John Conway, PRO-DAIRY

Forty four farms in New York and Vermont are known to have some sort of calf group housing system at this time. The largest percent employ acid preserved, ad libitum feeding. Another good percent utilize automated or "robot" feeders where desired milk or milk replacer intake levels are programmed in. A smaller percent use New Zealand style mob feeders to feed 2 or more times per day. Like anything new in the dairy realm, producers latch on to the concept (principles) and use ingenuity to put things into play (practices). We took an in-depth look at how 3 NNY farms that adapted or built facilities to glean the benefits of group housing and ad libitum fed acidified milk or milk replacer.

Beller Farms near Carthage, NY likely have the most experience (since 2006) with farm fabricated self feeders. Like many farms growing incrementally, dedicated space for baby calves was in a state of flux until early in 2011. While Bellers jumped on the learning curve with calves in group pens and free access to acidified milk replacer, wet calves spent the better part of 12 - 18 months back in an old tiebarn, utilizing the self feeder as a 3 times per day mob feeder. Since they've experienced the "full-bore" system before and after a partial (3x) system, they know performance is optimized in the full ad-lib system. Calves now have an airy barn with natural (curtains, open ridge) ventilation in summer and positive pressure "tube" ventilation in winter. Since the positive pressure fans are stingy on electricity use and a flow-through breeze isn't guaranteed, they do run the tube system in the warm months as well. That assures air mixing and moving at calf level. Digestive disorders are pretty much non-existent. Respiratory problems are <1%. Acidified milk replacer is mixed in a milk room in the corner of the barn and manually transferred into the feeder barrels. Calves trickle into a group maxed out at 6 calves and then are weaned as a group based on the youngest. To see the rest of the story & pictures go to: www.nwnyteam.org. Ag Focus tab, November.



Ask Extension...

How do I feed my cattle outside this winter? By: Nancy Glazier

This question was posed to Brett Chedzoy, Sr. Resource Educator - Ag & Natural Resources for the South Central NY Ag Team. He has an Angus herd on his farm in Schuyler Co. Below are his comments.

The two components where we've made the greatest gains in winter feeding efficiency on our farm are by reducing human and mechanical energy inputs (my time and tractor time). Two years ago we transitioned to outwintering and "bale grazing". This strategy can be used in different ways on different farms, but in our own case we lay out a two-day supply of hay in each paddock and then rotate the cows the same as during the grazing season. Cows are moved to sheltered wooded areas

before storms and to sacrificial paddocks during thaws. The cows appear to be happier and healthier by moving around all winter versus being confined to a muddy barnyard for months at a time. Another benefit is that we are able to rejuvenate selected paddocks each year through concentrated feeding of hay (nutrients), followed by light frost seeding in the spring. Even without frost seeding, a

vibrant sward of grass and forbs will return by midsummer if care is taken to temporarily remove animals during soft ground conditions.

Paying attention to ground conditions is a big part of outwintering/bale grazing. The grazier needs to be willing to look at the forecast every few days and plan ahead. Some yards or sacrificial paddocks must be left in reserve for when things are soft and soggy – but the hay can be put out in advance and the animals can walk themselves there when needed. The same applies when a winter storm hits.

Every winter is different, but the last two have been quite exceptional for being able to keep the cows out on pasture without problems. The only time we pulled them into a sacrificial area was during the March mud season, which lasted more than a month this spring (2011). In our case, the mud season pasture is the old gravel pit on the pasture that we lease from the neighbor. There are several paddocks on high ground in this location, and we try to load them up with 3 days' worth of hay so that we can go ~ 12 days without having to worry about getting in with a tractor if the ground stays soft. For up to two days, there doesn't seem to be much more wasted hay than a 1-day supply. If we keep them in a paddock for three days, we add an extra bale to the two-day amount to compensate for greater waste (10 bales instead of 9).

Even on pastures with lower, heavier soils, graziers should strive to do at least part of their winter feeding out on pasture during frozen ground



conditions. Every bale that is fed on pasture is that much less manure to clean up in the spring and one more dose of fertility where it matters most. Since we started outwintering two years ago, the ringworm in our herd (which was quite problematic) has virtually disappeared.

Poignant advice from Nancy:

Another strategy would be to focus bale-grazing on one

pasture that needs improvement. By spring the pasture may be a mess and ready for renovation, either frostseeding or tillage and seeding, depending on the amount of pugging and wasted hay left. This pasture will be delayed for spring-summer grazing. Bales can be placed in the pasture and separated by temporary fencing to give the cattle limited access to the bales. The challenge comes with deep snow; the fence may get buried, and someone needs to get there to drop the fences when time for access to the next set of bales. If excess hay is available, temporary fence may not be needed. Wind protection is important, too. More hay will be wasted with this system, and hay may be too valuable to waste this season!



Two New Soybean Pests Found in NWNY

By: Mike Stanyard

As if growing soybeans was not hard enough, two new pests are looking to make it even more challenging. The two potential pests, one a disease the other an insect, were identified for the first time in NY this summer in the Finger Lakes Region. Both were found while routinely scouting commercial soybean fields for other insects and diseases. Neither was at a high enough level to be causing economic losses. What are these new pests?

Soybean Vein Necrosis Virus (SVNV)

I first observed leaf symptoms (orangish blotches



around the veins) in mid - A u g u s t while looking at a field with Phytopthora i n f e c t e d plants. I knew it was something I had never

seen before and I sent Gary Bergstrom some pictures to see if it was a disease or something environmental. Gary confirmed that this was SVNV through samples sent down to the University of Arkansas.

Soybean Vein Necrosis Virus is a relatively new disease. This virus was discovered in 2008 in Tennessee and Arkansas and has since been confirmed recently in Delaware, Maryland, and Pennsylvania. This virus is vectored (transferred from plant to plant) by thrips. Thrips are small insects which feed on the undersides of leaves much like aphids and spider mites. Since it is a relatively new disease, it is not clear whether or not it impacts yield. There is very little known about the virus or how to control it at this point but resistant varieties is a probable solution. More details on SVNV can be found at http:// arkansasagnews.uark.edu/5423.htm.

Trochanter Mealybug

The Trochanter Mealybug was first reported feeding on soybean roots in Kentucky in 2008. This mealybug is a small soft-bodied insect related to scale insects. They have a waxy coating which gives them a bright white appearance. It has piercing-sucking mouthparts and feeds on plant juices. Females live their whole lives feeding and reproducing on the roots of its host. Males are winged and have a short lifespan, dying after reproducing. Trochanter mealybugs have been found primarily feeding on legumes such as alfalfa, red and white clover and soybeans. They have also been collected on corn, Johnsongrass and sorghum roots.

In 2009, Ohio State entomologist Ron Hammond discovered that mealybugs were causing soybean plants to display potassium-like deficiency symptoms. Soybean plants that were showing leaf yellowing were not K deficient. Mealybugs were found on the roots when they dug up the plants.

I found these mealybugs on September 29 in Yates County. It was during a soybean tag team with some dairy producers. We were digging up plants to look at nodulation when one of the growers asked about the small white things next to the nodules. I recognized them from articles I had read online. The soybean plants were not showing any signs of potassium deficiency and looked perfectly healthy. This field was corn the year before and had a history of alfalfa. Plenty of hosts out there to keep these bugs going from year to year.

The discovery of both of these pests should not be alarming. Right now I just want you to all be aware of what they look like so we can watch for increases in populations in the future.



Farm Business Summary/Analysis Season Right Around the Corner

By: John Hanchar

R isk management continues to be a common challenge faced by farm business owners, and a prominent element in agricultural policy development and debate. Risk management tools and their availability continue to receive emphasis.

Summary

- Sound financial planning and control are keys to successfully managing agricultural risks.
- The next few months present good opportunities to evaluate your financial management practices.
- The NWNY Dairy, Livestock, and Field Crops Program has the capacity to work with a variety producers as they seek to improve their business' financial management practices.

Risk

Risk is variability in outcomes. Agricultural risks relate to production, market (price), legal, human resources, and financial aspects of the business. For farm businesses, production, prices (both output and input), production, and financial outcomes among others vary. Results are not known with certainty. The ability to meet cash obligations in a timely manner, the ability to generate profits, and other financial outcomes are not known with certainty -- they vary over time.

Sound Financial Planning and Control are Keys to Successfully Managing Risks

An overall strategy for successfully managing financial risk should include sound financial planning and control.

Financial planning is using financial information to answer the following questions:

- \Rightarrow Where is the business now?
- \Rightarrow Where do you want it to be?
- ➡ How will you get the business to where you want it to be?

Financial planning practices include:

- generating financial statements (balance sheet, cash flow statement, and income statement)
- using results to identify strengths and weaknesses

• developing projections, including those associated with proposed changes to the farm business.

Financial control involves measuring financial condition and performance over time to determine whether or not the business is achieving desired results, and if not asking "Why not?" to identify and implement needed changes.

As the end of the year draws near, the next few months present good opportunities to examine your business' financial management practices. As a farm business owner, you have financial objectives and goals, written hopefully, or unwritten. These direct your efforts. Do you measure the financial condition of your farm business using the balance sheet? Do you measure financial performance using the cash flow statement and income statement? If you don't measure financial management factors, then how do you expect to successfully manage the business toward achieving desired financial results?

The statement "If you can't, or don't measure it, then you can't manage it" with its emphasis on measuring outcomes underlies the value and need for sound financial management, especially as it relates to successfully managing risks.

Business Summary and Analysis Tools

Cornell University Cooperative Extension's Dairy Farm Business Summary (DFBS) Program

⇒ The objective of the DFBS Program is to allow producers to analyze their production and financial situation, set future goals, and make sound financial decisions.



- ⇒ The DFBS also allows producers to compare their business performance to other dairy producers.
- ⇒ The summary and analysis for each farm includes analyses of profitability, balance sheets annual cash flows and repayment ability, capital and labor efficiency as well as analyses of the cropping and dairy aspects the business.

The DFBS program is a preferred financial management tool for summary and analysis for dairy farm businesses of all kinds.



Financial Statements for Agriculture Program

- FISA is a computer based spreadsheet program that can be used by all types of farm businesses to achieve an objective similar to the one above for the DFBS Program.
- In practice, FISA's ability to provide for peer to peer comparisons is limited.
- The summary and analysis for each farm includes analyses of profitability, balance sheets, annual cash flow and repayment, as well as some capital efficiency measures and analysis. The program does not summarize and analyze production aspects of the business.

Farm Business Summary and Analysis with the NWNY Team

If you are interested in improving your farm business' ability to practice sound financial management, then please contact me to learn more about some of the tools available and their value and, or to discuss plans for completing a farm business summary and analysis for 2011. Owners of all types of farm businesses are encouraged to contact me.



<u>Agri*cultura*</u>

by: Greg Coffta

uring times of high milk prices or low milk prices, scouting for ways to improve income in the milking parlor is a wise way to spend a little time. Many cooperatives pay producers based on a scale of milk quality, so naturally if a dairy operation is seeking more income, an obvious method is to improve quality. Producers are implementing various strategies for improvement, which include milking parlor and routine evaluations, changing routines, changing equipment, updating equipment, improved mastitis monitoring and overall vigilance. It's easy to get caught up in a whirlwind of systematic changes only to be left wondering which strategies are and are not working. It's also easy to waste a lot of capital and time. Before adopting a costly or potentially risky change, consider providing training to your Spanish-speaking milking crew in order to improve current and continued milk quality. After all, they live in the heart of the dairy operation- it's important that they too develop an understanding of milk quality and prices.

The first step is to provide an educational meeting to inform Spanish-speaking employees about milk quality topics, such as somatic cell count, bacteria count, mastitis, treated cows, milk components, etc. If you haven't yet provided training to your milking crew,

don't assume that they already understand or that they don't need to understand. It is important that they develop a knowledge of the job and the reasoning behind the procedures; both for improvement and so that they are capable of making good, independent decisions when you are not readily available for advice. Look around for agribusinesses or extension programs that exist in the area that can provide these services. Try to find a program that offers support for dairy farms that employ Spanish-speakers, which includes a wide range of dairyspecific training programs, meeting facilitation and document creation in Spanish. Another option might be to work with your milk testing lab. They may have a bilingual staff member that can tailor a training program with a parlor evaluation, laboratory analyses and other specialized services.

Along with milker training, continued follow-up is essential to ensure that employees are adhering to procedures and that they understand protocols. A regular staff meeting is an excellent forum to discuss these topics and to address the unforeseen issues that will certainly arise. At the staff meeting, always a include time to discuss the somatic cell count (SCC), and keep the information posted in the break room for the employees to review. Use the SCC to set goals and benchmark progress. Create Standard Operating Procedures and post them conspicuously around the parlor and milkhouse. Remember, however, that SOP's are most effective when they are introduced to the employees as part of training and then periodically revisited in staff meetings. Finally, once some gains have been made, consider introducing a quality milk bonus to motivate and reward employees for producing quality milk, which also builds a sense of positive interdependence amongst your milking employees. A clear understanding, a clear goal and a sense of teamwork will help your milkers be highly productive.





NWNY Dairy, Livestock & Field Crops Team Cornell Cooperative Extension 420 East Main Street Batavia, NY 14020 NON-PROFIT ORG. PRSRT STD US POSTAGE **PAID** BATAVIA, NY PERMIT NO. 40

Postmaster Dated Material Please Expedite



Save the Date...

November 2011

7-8 Northeastern Silvopasture Conference, Harbor Hotel, 16 N. Franklin Street, Watkins Glen, NY 14891

December 2011

16 2011 NYS Dry Bean Advisory Committee Meeting, 9:30 a.m.-3:00 p.m., LeRoy Country Club, 7759 E. Main Rd./Rt 5, LeRoy, 1.5 DEC & CCA credits available, Lunch Reservations <u>Required by: Monday, December 12th,</u> Contact: Carol MacNeil: 585.313.8796 or crm6@cornell.edu

On-farm Renewable Energy Generation Workshop

November 17, Synergy Farm, 6534 Lemley Road, Wyoming, NY

10:00 a.m. - 2:00 p.m. Registration Fee: \$10.00 (for lunch) To register or for more information contact: Jenny Pronto: 607.227.7943 or email: jlp67@cornell.edu

Group Housed Dairy Calf Systems Symposium

December 1, Doubletree Hotel, Syracuse, NY

10:00 a.m. - 4:30 p.m.

Registration Fee: \$160.00

For information on speakers, agenda, registration & hotel, plus farm tours

Go to www.ansci.cornell.edu/prodairy/calfsystems

Farm Tours: Click on Facility Tours, Download tour registration, Western New York Tours

(give's address and description of tour)

HURRY! Space is limited.

"Cornell University Cooperative Extension provides equal program and employment opportunities."