AGRICULTURAL NEWS

Chemung, Schuyler, and Steuben Counties

Volume 92 **October 2011** **No.10**

Agricultural Plastic Container Recycling Oct. 13 & 14, 2011

US Ag Recycling Inc. will be picking up agricultural plastic containers throughout New York State in the month of October, 2011. The service is **free** to farmers and provides an environmentally friendly alternative to burning or throwing away agricultural containers. Farmers are being "Green" by demonstrating product stewardship. In Steuben County Cornell Cooperative Extension and The Steuben County Landfill will host a site for US Ag Recycling to pick up ag plastic from our area farmers.

Agricultural producers and custom applicators all around western New York State are recycling their triple – rinsed plastic containers from agricultural crop protection products such as specialty pest control, crop oils, surfactants, micro-nutrient/fertilizer, and/or adjuvant products. US Ag Recycling Inc. offers an environmentally "green" convenient option for disposing of their empty containers.

US Ag Recycling is a contractor for the industry funded Ag Container Recycling Council (ACRC) who in 2008 celebrated 100 million pounds of agricultural plastic containers recycled from across the United States. Today ACRC averages 8 million pounds collected each year. Collected containers are ground into chips and recycled as corrugated plastic field drainage pipe and other ACRC approved products. That's farmers helping to keep plastic out of the landfills.

Containers accepted are HDPE #2 plastic containers only, ranging from less than 1 gallon to 55 gallon barrels. Only the large 250 gallon shuttle totes must be cut into 2 foot wide pieces and free of any hardware. Cutting tanks in this manner facilitates proper cleaning and inspection, reduces storage area, and allows for direct feed into the granulation machine. To be acceptable for recycling, plastic containers must be empty, clean, uncapped, and dry. To help store containers until pick up time, large bags that hold 50 to 60 – 2.5 gallon containers are available for free upon registration.

Containers can be dropped off to the Steuben County Landfill (Turnpike Road, Bath) **October 15 & 16** from 8am – 3pm. You do not need to pre-register for this event. Please contact Cornell Cooperative Extension at 6-7-664-2300 for more information.

Mold & Mycotoxins-Animal Mgmt. Strategies	Pg. 3
2011 Corn Silage-A Mixed Bag	Pg. 4
Maximizing Forage Quality in Bunk Silos	Pg. 5
Sampling Feeds for Mold & Mycotoxin Analysis	Pg. 6
Interpreting Mold Count Information	Pg. 8
Ear Mold Issues in Corn	Pg. 8
Handling Frost Damaged Soybeans	Pg. 9
The Brown Marmorated Stink Bug	Pg. 10
Dehorn Calves With Paste	Pg. 10
Crossbreeding Is a Good Idea	Pg. 11
Dairy Market Watch	Pg. 13

Cornell Cooperative Extension

Steuben County

Trading Post

For Sale –

- Corestone silo 20 x 70
- Harsh Mixer Stationary Mod 290/232bu with electronic scale 41 auger s.s. bottom
- 1 Mod 30 N.H. 1000 rpm blower
- Brillion 10' seeder
- Lock up's 44' cow/70' calf
- 8 Boumatic Claws
- Large quantity of J.D. 1¼ black plastic 160 psi
- Houle 21' manure pump/agitator 540-3 pt.
- 20' Bager ring drive silo unloader
- Plate cooler universal 81 plates expandable
- Hydraulic bale grabber for front end loader
- 9 Energy Free waters
- Reel Augie Portable Mixer mod 2300 w/ hay max kit
- 25.4 ton feed bin Schuld model # 90D12
- Small square bale bedding chopper 8 hp engine
- Calf supplies refractometer/dehorner butane/clostrometer
- Digital thermometer electronic/rechargeable
- Set of freeze branding irons 0-9

Call 607-857-4610; Chemung, NY

Help Wanted: Herdsman for small (40 cow) registered Jersey (breeding) dairy set up for grazing. Partnership potential available. Please send resume to: Resume, PO Box 102, Kanona, NY 14856

For Sale: Heifer/Beef quality hay – 4 x 4 round. Also, **bedding** – 4 x 4 round and small squares. Phone: 607-566-8477

For Rent: Dairy Farm-Ideal for Jersey (or smaller breed) breeding operation. 38-tie stall barn with pipeline milking system. Please call: 607-776-1711.

For Sale: Dry bales – 600-700 lbs., Balage-700-800 lbs., Square bales-35 lbs., Mulch hay for bedding (200 bales of 2010 hay). Phone and address: Dick Bossard, Route 70, Howard, 607-566-2347.

Steuben County
Agricultural News
USPS-133

Subscription price $15.00 per year as part of the annual enrollment in the Agricultural Program.

The Cornell Cooperative Extension Office is located on the first floor of the Steuben County Office Building, 3 East Pulteney Square, Bath, NY 14810. Office hours: 8:00 a.m. to 4:30 p.m. Monday through Friday. Phone 607-664-2300 Fax 607-664-2303

Postmaster, send change of address to: Steuben County Agricultural News, Cornell Cooperative Extension, 3 East Pulteney Square, Bath, New York 14810

Upcoming Events

October 4 – Know Your Cuts, Human Services Complex, 323 Owego Street, Room 120, Montour Falls, NY, 6:30 to 8:30pm. Gain a clear understanding of the different processing options and cuts of meat available so you can provide specific directions to your butcher and communicate with confidence to your customers. So join us and learn how to talk shop with your favorite processor. Steve Coolican of Cooly's Butcher Bay will instruct the class.

To cover the costs of the workshop, registration is $10/person, or $15 per farm. You can register on-line at http://knowyourcuts.eventbrite.com. **Space is limited, so please register early.** For questions or alternative registration, please contact CCE Schuyler County at 607-535-7161.

October 12 – Livestock Gross Margin For Dairy Webinar, CCE Office, Steuben County Office Building, 11:00 am-1:30 pm. Pro-Dairy and NYSDAM are hosting LGM-Dairy webinars during the first two weeks of October featuring Dr. Brian Gould, Univ. of Wisconsin, a leading expert in LGM-Dairy crop insurance. Dr. Gould's website provides a great deal of information about dairy risk management options being discussed at the national level, including LGM-Dairy. See: http://future.aae.wisc.edu

For further information contact Jim Grace at 607-664-2316.

November 5 – Southern Tier Maple School, Tyrone Fire Hall, Route 226, Tyrone, NY, 9:15am to 12:30pm. Care and Management of the Sugarbush, Research Updates and Getting Ready for 2012, Grading and Filtering to Maximize Quality and Value. A $5 donation at the door is appreciated to cover workshop costs. Pre-register

November 7,8 - Northeastern Silvopasture Conference, Watkins Glen Harbor Hotel, 16 N. Franklin Street, Watkins Glen, NY. A two-day conference devoted to sustainable woodland grazing in the Northeastern US. Learn how Silvopasturing can improve the health, performance and viability of livestock and forestry systems. Intended participants include: Conservation Professionals and Foresters, Graziers, Woodland Owners, Extension and University Faculty, Students, Ag Support Agency Personnel & Rural Community Development Advocates. The early registration rate is $89 which covers conference meals (breakfast, lunch and breaks). The normal rate of $129 will apply after October 23rd. The conference is sponsored by Cornell Cooperative Extension. Speakers are funded through the generosity of the conference partners. Space is limited, so please register early by visiting: http://nesilvopasture.eventbrite.com or call Schuyler CCE at 607-535-7161 for alternative registration.

Molds and Mycotoxins – Animal Management Strategies

L. E. Chase and T.R. Overton
Department of Animal Science
Cornell University

The presence of molds and mycotoxins in feeds can be a cause of concern for dairy and livestock producers. Even though these can be a problem in some situations, they **should not be** the first area examined when animal feed related problems develop. What do we know about the effects of molds and mycotoxins on dairy animals? There are numerous limitations and gaps in the information available. These include:

- Very little controlled research has been conducted with dairy cattle.
- The majority of the research trials use varying levels of 1 mycotoxin added to a "clean" ration to evaluate animal responses.
- In the field, it is highly likely that a number of mycoctoxins may be present in the suspect feed. There are hundreds of mycotoxins that exist in nature.
- The effects of mycotoxins on ruminants may be less severe than for monogastric animals.
- There may be some partial degradation of mycotoxins in the rumen.
- Naturally contaminated feeds may produce a more severe response than a "pure" mycotoxin.
- Field problems may be associated with lower mycotoxin levels than problem levels determined using a single mycotoxin.

What are the animal signs associated with mold or mycotoxin problems? The most common signs are listed below. It is important to remember that most of these signs are **not specific** only for molds and mycotoxins.

- Reduced feed palatability or feed intake.
- Reduced milk production in lactating dairy cows.
- Depressed milk fat test
- Reduced growth rates in replacement heifers.
- Increased incidence of metabolic disorders.
- Depressed immune system function.
- Lower body condition scores.
- Dull, rough hair coats.
- Increased incidence of digestive disorders (off-feed, etc.).
- More variable manure consistency. An increased incidence of loose manure or diarrhea may be observed.
- Cows may not respond well to veterinary treatments.

How do molds and mycotoxins cause these problems? There are 4 primary methods in ruminant animals. These are:

- Changes in nutrient content, absorption and metabolism of nutrients.
- Alteration of rumen microbial activity.
- Changes in endocrine/neuroendocrine function.
- Suppression of the immune system.

What strategies can be used to lower the impact of molds and mycotoxins in dairy herds? The following section assumes that other factors have been checked and that molds and/or mycotoxins are still a suspected problem.

1. Consider feeding less of the suspect feed. In some cases, it may be advisable to stop using this feed.
2. Physically remove and discard any feeds with visible mold growth.
3. If possible don't use any of the suspect feed in rations for close-up dry cows or early lactation cows.
4. Consider adding a mold inhibitor to the TMR (total mixed ration). These products will not

decrease the molds or mycotoxins already present in the feed. However, they can slow or inhibit any additional mold growth from the time the feed is mixed until it is consumed.

5. Consider adding one of the commercial binders to the ration.
   - There is very limited data on their effectiveness.
   - Many of these have only been tested against aflatoxin.
   - FDA does not approve the addition of these for mycotoxin control.
   - There are a large number of products on the market.
   - It is difficult to predict which product will work in a specific situation.
   - You may need to try more than 1 product.
6. If you do add a binder, feed it for 2-3 weeks. Changes in feed intake or manure consistency may be the first index that the binder is working.

2011 Corn Silage – A Mixed Bag

Rick Grant
Miner Institute

Corn silage is a major forage on most northeastern dairy farms, and with the strange growing season we've had, many farmers are wondering how the 2011 corn silage crop will feed. What will literally "come out of the bag?" I'll focus on silage digestibility because of its association with energy content, feed intake potential, and milk production.

Let's start with the basics. Corn is a grass with grain attached. So, whole-plant digestibility reflects digestibility of the stover (i.e. NDF) and the grain (i.e. starch). The stover-to-grain ratio determines the feeding value and reflects the growing environment, hybrid genetics, and harvesting method (such as high chopping). Unlike other forages, corn's whole-plant NDF content may actually decrease as the plant matures due to grain fill that offsets NDF accumulation in the stover, but Wisconsin data confirm that NDF digestibility predictably decreases by ~10 units as the plant moves from ½ milk line to black layer and beyond.

When assessing forage quality, we often focus on NDF and its digestibility, but starch actually comprises the majority of the energy value of corn silage. For typical corn silage hybrids, Dr. Dave Mertens (recently retired from the U.S. Dairy Forage Research Center in Madison, WI) reported that 65% of the digested nutrients come from starch and other non-fiber constituents with a range of between 58 and 72%. In northern climates, Dr. Pete Van Soest has suggested lowering total dry matter digestibility by 0.4 units for each percentage of grain less than 40%. Grain or starch content is a function of maturity at chopping, genetics, and cutting height. Starch digestibility is affected by maturity, moisture content when ensiled, degree of kernel processing, and time in the silo prior to feed-out (optimally 3 to 4 months).

So far we've discussed one factor that affects corn silage feeding value – proportion of grain. The second major factor is the growing environment. Corn silage grown under warmer, wetter conditions will be more highly lignified and less digestible. A cooler or drier growing season will often result in greater silage digestibility. Michigan State research showed that the same corn hybrids grown in the same plots over two years differed in NDF digestibility by 6.5 percentage units (the drier year having higher NDF digestibility). Cooler temperatures, especially at night, inhibit secondary cell wall development and improve digestibility. Work by Mertens found that growing conditions prior to silking affected plant height, yield, and NDF digestibility whereas growing conditions after silking had a greater effect on grain yield and total DM digestibility. After silking, accumulated growing degree days (i.e. temperature) may be most important in determining corn silage digestibility because of enhanced grain yield.

With cool and wet weather, lignification increases which indicates that the negative effect of excess water overrides the positive effect of cooler temperatures. In fact, Cornell research found that over 80% of variation in digestibility is explained by rainfall (actually soil moisture) and GDD (temperature) with rainfall being more important than temperature.

This year has been a mixed bag weather-wise…Generally, wetter conditions during stalk development depress fiber digestibility and drier conditions enhance digestibility. So can we expect lower NDF digestibility with less grain (starch) content due to dry weather after silking? Some immature, frosted, and wet corn silage as well due to late planting? Time will tell – this year more than ever, forage analyses will be critical to properly feeding your corn silage crop. There appears to be lots of variation by region – so consider your particular growing conditions with a focus on the moisture and temperature that your crop experienced; then you may not be so surprised by what the forage analyses tell you in a few months!

Maximizing Forage Quality In Bunk Silos

Rebecca Harrison, Quirine Ketterings, Joe Lawrence, Frans Vokey, Ron Kuck, & Patty Ristow
Nutrient Management Spear Program, Cornell University

Introduction

Proper storage of forages is key to both high quality and quantity of homegrown feeds. To produce high quality forages, best management practices (BMPs) must be applied from land preparation and planting of the crop through harvest, postharvest management, and feeding. In this agronomy fact sheet, we focus on factors that impact bunk storage performance and present pros and cons of storage density assessment tools.

Ideal Packing Density

High forage density is important because it results in an environment that reduces dry matter (DM) loss by minimizing the oxygen content. The minimum density required to achieve adequate fermentation is 14 lbs DM per cubic foot, although over 20 lbs per cubic foot is achievable and ultimately the higher density, the better.

Figure 1: Concrete blocks and an extra tractor are effective ways to increase packing weight and silage density.

Factors Influencing Density

The quality of stored forage depends on the initial quality at harvest. Harvesting at the proper maturity and DM content is key. For bunk silos, if forages are harvested with a %DM that is too high (>45% for haylage; >38% for corn silage), DM losses from spoilage due to oxygen exposure can be high. When forages are harvested at <35% DM for haylage or <32% for corn silage, there is a risk of clostridial fermentation (problematic when butyric acid levels are at least 0.1% of DM), resulting in a further depletion of nutrients and yield. Dry matter can be determined by chopping some plants and using a "Koster Tester" to determine moisture. Koster Testers can be purchased from many feed suppliers.

An additional factor of importance during harvest time is the forage chop length (particle size distribution). A short chop length minimizes air infiltration in a bunk silo, as it is easier to pack and condense, while long chop length increases effective fiber in a diet. Field chop length can be monitored using a forage particle separator to sieve/separate out the different sized particles. Consult with your nutritionist on factors influencing chop length in your herd.

The delivery rate of the forage while packing the bunk also impacts quality. The slower the delivery rate, the thinner the layer thickness across the bunk. This allows for more packing weight per amount of silage. The best way to estimate optimum maximum filling rate (tons per hour) is to use the "800 rule" where the packing tractor weight available (lbs) is divided by 800. Conversely, one can multiply the filling rate by 800 to estimate the minimum packing weight (lbs) needed.

Table 1: Optimum delivery rate and the total tractor packing weight needed to achieve a minimum density of 14 lbs DM per cubic foot as estimated using the "800 rule".

Total Tractor Weight	Optimum Deliveryl Rate
Tons	*Tons/hour*
5	13
8	19
10	25
13	31
15	38
18	44
20	50
30	75
40	100
50	125
60	150

Last but not least, it is recommended to cover the bunk. Even if the bunk is packed at the right density, storage losses can still be substantial if the storage is not properly covered. Options for horizontal bunk silos include polyethylene plastic, or dual layer oxygen-limiting plastic with a ballast system that prevents lifting of the air barrier from the silage surface. Tire-to-tire coverage is an often used and effective method (be aware of mosquitoes and rodents when using whole tires).

Alternatives are available including gravel-filled bags or cut (half) tires. In recent years, much research has been conducted to find a more efficient method of covering bunks (in cost, ease of labor, and product-efficacy) but plastic weighted with tires or gravel bags continue to be the best option.

Density Assessment
Different methods can be used to determine if a bunk is packed properly. This includes core sampling as well as the use of spreadsheets.

Core Sampling
Density can be measured directly using a probe of known volume to core the face of a bunk. From the volume and mass of a core sample, along with DM content, density can be calculated. For example, if a sample is collected using the DairyOne probe (1.9 inch diameter), with a mass of 280 g (0.44 lbs), at a depth of 10 inches, and 46% DM, the density is 15.5 lbs DM per cubic feet. Although this core sampling method is commonly used, due to safety concerns associated with working around the face of a bunk silo, face sampling is not recommended. Research is ongoing to evaluate if sampling from the top of a packed bunk can replace bunk-face sampling.

Estimating Density
The University of Wisconsin has made available numerous spreadsheets to aid in maximizing forage quality. This is a safer approach and yet reliable approach. The spreadsheets can be accessed online via the web address listed under "Additional Resources" at the end of this factsheet. The calculators use input data such as delivery rate, layer thickness, packing weight, bunk size, and DM to predict bunk density. These spreadsheets have the added benefit of allowing prediction of bunk density before a bunk is created and hence adjustment of the packing methodology.

Additives
Forage additives are often used to stimulate or ensure presence of fermentation acids, and as spoilage inhibitors. Three general categories of additives include: (1) living bacterial inoculants such as *L. buchneri,* which produces lactic and acetic acid during fermentation to control pH and reduce the growth of yeasts and molds, (2) enzymes, and (3) acids such as propionic or acetic acid to reduce pH. Additives are typically applied uniformly over a crop in the chopper box on the harvester, before being packed in a bunk silo. When interested in using an additive, evaluate the different products by requesting data that demonstrate the additives effectiveness for the specific crop of interest.

In Summary
Proper packing and coverage of the storage are essential for proper fermentation of forages in bunk storages. Density assessments can be done to gain knowledge about forage quality potential on an individual's farm. If core sampling is done, take extra care while sampling.

Additional Resources
University of Wisconsin Extension Forage Resources: Harvesting and Storage (includes density calculator).

http://www.uwex.edu/CES/crops/uwforage/storage.htm.
http://www.uwex.edu/ces/crops/uwforage/dec_soft.htm
From Harvest to Feed. Understanding Silage Management. Penn State University. http://pubs.cas.psu.edu/FreePubs/pdfs/ud016.pdf.

Disclaimer
This fact sheet reflects the current (and past) authors' best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this fact sheet does not assure compliance with any applicable law, rule, regulation or standard, or the achievement of particular discharge levels from agricultural land.

Sampling Feeds for Mold and Mycotoxin Analysis

L. E. Chase, Department of Animal Science and **G. C. Bergstrom**, Department of Plant Pathology, Cornell University

One of the most critical components of an investigation of a potential mold/mycotoxin problem is obtaining a **representative** sample for submission to the analytical lab. It is important to realize that this process is difficult and requires some time and planning. There are a number of problems that exist in obtaining a representative sample. These include:

- Molds and mycotoxins are frequently present in small amounts.
- Molds and mycotoxins may not be evenly distributed throughout the feed. They may exist in isolated, small areas of the stored feed.

- Additional growth could occur during shipping to the laboratory.
- Mycotoxins could continue to be produced during storage. Thus, the sample taken today may not be indicative of future levels.

The following sampling procedures are suggested. These were adapted from information published by Penn State.

A. Dry feeds (> 88% dry matter) –

- Take a minimum of 8 – 12 samples at each of 3 – 5 feedings or when feed is removed from the storage structure.
- Mix these samples (from each feeding), save 1 – 2 pounds and store in a cool, dry place. These can be labeled as composite 1,2. etc.
- Mix at least 3 – 5 of the composite samples together. Take a 1-2 pound sample to be sent to the laboratory. You should also retain 1-2 of these samples on the farm in case additional analyses are done later.
- Double bag these samples and keep them cool and dry.
- Ship samples early in the week to arrive at the laboratory Tuesday through Thursday. If shipping overnight or next-day delivery, don't send samples after Wednesday.

B. Wet samples – (Upright silos or bags)

- Take a minimum of 8 – 12 samples at each of 3 – 5 feedings or when feed is removed from storage.
- Mix these samples and save at least 1-2 lbs. Place this sample is a double plastic bag, squeeze out as much air as possible, seal and store in a refrigerator or freezer.
- Mix the 3 – 5 composite samples together. Take at least 2 lbs. of this composited feed for submission to the lab. Double bag this in plastic bags and squeeze out as much air as possible.

C. Wet samples – (Bunker silos)

- The objective is to obtain a representative sample of the entire silo face.
- The preferred method is to scrape feed from the entire width and height of the silo face. Alternatively, you could dig a vertical trench about 1/3 of the distance from each wall.
- Mix the forage in a mixer wagon and sample this for analysis.
- You should do this over 2-4 day period.
- Place the samples from each day in a plastic bag and squeeze out as much air as possible.
- Composite (mix) the daily samples and place a 1-2 pound sample in a plastic bag, squeeze out the air and seal. Double bag the sample.

D. Additional Guidelines

- Save 1 – 2 other samples on the farm in case additional analyses may be needed. These samples should be labeled and frozen.
- Store any wet samples in a freezer until you are ready to send them to the lab.
- Wet samples should always be sent as a frozen sample to the lab.
- You could hand deliver these samples to the lab or ship by overnight mail. If they are shipped, you may need to include an ice pack to keep them frozen.
- Ship samples to arrive at the lab on Tuesday through Thursday.
- **Don't just take a "grab" sample from 1 location on 1 day and send it to the lab.** This is not a representative sample of the stored feed and the results will be limited in value.
- **Check with the specific lab you are using for any sample size, mailing or shipping instructions.**

Interpreting Mold Count Information

L. E. Chase,
Department of Animal Science
and G.C. Bergstrom
Department of Plant Pathology
Cornell University

One analysis available to producers from some forage testing labs is a count of the number of yeasts and/or molds present in feeds. This information provides only a total count but does not provide a breakdown of the type or species in the feed. The information linking the quantity of yeasts or molds in feeds to animal intake or performance is very limited for dairy cattle.

There are a number of factors that are influenced by the presence of molds in silages.

These include:

- Spoilage and dry matter losses.
- Decreased feed energy value (5-10 %?). This may be reflected by lower predicted energy values from forage analysis.
- There may be a decrease in the vitamin and amino acid content of the silage.
- There may be an effect on palatability which could alter dry matter intake.
- There may be an increased incidence of digestive disorders and abortions.
- There may be increased variability in the consistency of the manure.
- There can be an increased rate of heating and spoilage in the silo and feedbunk.

The following guidelines can be used in interpreting mold count information. It is important to remember that these guidelines are "best estimates."

Mold count (per gram)	Guideline[a]
<500,000	Relatively low count, OK to feed
500,000 to 1 million	Relatively safe
1 to 2 million	Feed with caution, discount feed energy value by 5%
2 to 5 million	Discount feed energy value by 5% consider diluting with other feeds. Watch animals for: 1. Dry matter intake variation 2. Digestive upsets 3. Manure consistency
>5 million	Discontinue feeding

[a]Adapted from Mimeo DAS 93-21, Dept. of Dairy and Animal Science, The Pennsylvania State University

Chemung, Schuyler and Steuben – October 2011

Ear Mold Issues in Corn

Alyssa Collins, Plant Pathology; **Greg Roth,**
Grain Crop Management, Penn State

With the recent winds, rains and floods many farmers are dealing with a lot of lodged corn and prolonged periods of wetness. The damage on ears and high moisture conditions that result from this weather provide the ideal situation for ear rots to develop. These diseases can reduce test weight and nutrient values, but equally important, some of the fungi that cause these diseases can produce toxins.

Most common ear rots and their characteristics:

Aspergillus ear rot Color: yellow-green to dark or brown green Good to know: Can produce toxin (aflatoxin); is usually not economically important because it only affects individual kernels, not the entire ear; usually more important in hot, dry conditions

Diplodia ear rot Color: white to grayish, with small black structures produced on husks, kernels, cobs Good to know: Overwinters in infected debris

Fusarium kernel or ear rot Color: whitish-pink Good to know: Can produce toxin (fumonisin); most severe when hot, dry weather occurs at or just after flowering and when tip damage from insect feeding is present; overwinters in debris

Gibberella ear rot Color: reddish, starts at tip and grows down ear Good to know: Can produce toxin (DON and others); associated stalk rot causes reddish-pink coloration inside stalk; caused by same fungus responsible for head scab in wheat--rotate to beans or other non-host next year

Penicillium ear rot Color: green or blue (like bleu cheese) Good to know: Can produce toxin (various types); starts near the tip especially in ears with damage; not typically important for grain corn, but can be problematic for high-moisture corn and silage.

Paul Esker, Plant Pathologist, UW has created a presentation that has more extensive descriptions and pictures at http://www.cropcure.com/Corn%20Ear%20Molds.pdf

Fields that are affected by ear molds are probably best harvested as soon as possible for grain. This is because the best way to stop fungal growth is to dry corn to 13% moisture or less (and less than 70°F). This won't eliminate the mold or toxins already present, but will prevent further growth and toxin production in storage. The longer the crop is in the field, the more opportunity there is for mold to develop and spread.

Since ear corn continues to dry in cribs, it can be harvested at 21% moisture or lower. High moisture ear or shelled corn will heat up in storage and allow molds to spread quickly. Bird, insect or combine damaged kernels are also at higher risk for mold development in storage. If at all possible, try to clean out damaged kernels during harvest and remove fines with a rotary cleaner. Keep good grain separate from highly contaminated grain and test for toxins. It may be possible to feed some of this to animals less sensitive to mycotoxins.

Handling Frost Damaged Soybeans

Charles R. Hurburgh,
Extension Agricultural and Biosystems Engineer,
and **Roger Elmore and Palle Pedersen,**
Agronomists.
Iowa State University Extension

Characteristics of Frost-damaged Soybeans

- Green or elongated yellow soybeans that shrink to smaller than normal size after drying
- Reduced extractable oil content (below 16 percent), difficult extraction of oil, and poor oil quality
- Higher moisture level (by 1 to 2 percent) than indicated by moisture meters
- Slower field drydown

Beans often lose their green color within two weeks of maturity, so allow field drydown if at all possible. This same statement is true of plants that were only partially frosted (generally on upper leaves).

Uses for Frost-damaged Soybeans

Processors will discount green soybeans based on the color definition in the U.S. Grades. The greenness of immature soybeans must be refined out of the oil. Oil from immature beans often contains high levels of free fatty acids, which are causes of rancidity. Meal from immature soybeans will contain more residual oil than the normal 0.5 to 1.0 percent.

Storage and Handling

Because immature soybeans are deceptively wet, conditions problems often occur. Clean soybeans before storage to remove wetter weed seeds and plant parts. Two to four weeks of steady aeration will both reduce moisture levels and cause greenness to partially subside. Check the

condition of stored soybeans frequently. You can artificially dry soybeans, but use temperatures of less than 130°F, which are considerably lower than temperatures used for corn drying.

Direct marketing from the field will probably create the highest discounts for green soybeans; the market often overreacts to stress situations.

The Brown Marmorated Stink Bug

Carl Albers

Recently the Brown Marmorated Stink Bug (BMSB) has become a serious pest of fruit, vegetables and other farm crops in the mid-Atlantic region. It has a confirmed presence as close nearby as Tompkins County. For more information about BMSB and pictures visit the following websites: http://hudsonvf.cce.cornell.edu/bmsb1.html and http://www.stinkbug-info.org/index.php/management.

Dehorn Calves With Paste

Aurora Villarroel,
Oregon State University

It's a good idea to dehorn cattle that live in confined areas to prevent injuries to humans and other animals. Of the various dehorning methods, dehorning with paste is easy, effective, and economical as well as low-stress to the animal.

Here are the main points to consider when using dehorning paste.

- Apply dehorning paste before calves are 2 days old. After 2 days, calves have figured out how to scratch their heads against something to rub the paste off, and they can also stand on three legs to scratch with the other.
- Using too much paste is the most common mistake beginners make. The result is a big bald spot around the horn area (although the hair will grow back in time). The amount of paste to apply on each horn is about the size of a dime, as indicated in the package insert.
- Don't let the calves get wet for 24 hours after applying the paste. If rain falls on active dehorning paste, it can run off into the eyes and blind the calf. The paste dries in 1 day, after which it is no longer necessary to keep calves dry.
- Apply paste just before feeding the calves with a bottle. It takes a couple of minutes for the paste to start burning, so if you apply it immediately before feeding, calves are kept busy working on the bottle, and they forget about their discomfort. By the time they are done with the bottle, the paste is almost done with the dehorning process, and they will not notice it that much.

Additionally, research performed with human babies shows that giving breast milk, glucose, or sucrose before a single painful procedure significantly reduces heart rate and crying time compared to using distilled water, a pacifier, or swaddling. So, applying the paste immediately before feeding milk with the bottle may help in two ways: the calves are so busy working on the bottle that they forget their discomfort, and the sugar in the milk may help reduce the pain.

Producers who have switched to using paste to dehorn calves at birth report great success with no complications, and they like that calves are "done" without showing obvious signs of pain. Only minor head shaking was reported.

Crossbreeding Is A Good Idea

Dr. John Comerford
Penn State University

Crossbreeding is a good idea because heterosis is free money. The purpose of crossbreeding is to:

1. To take advantage of heterosis
2. To use average breed effects
3. To design a cow herd
4. To target markets
5. Create s breeding plan for a herd

Heterosis is defined as the difference in the value of a trait compared to the average value of the parents for the trait. For example, if the average value for weaning weight of Breed 1 is 500 lbs. and the average value for Breed 3 is 600 lbs. and the resulting calf crop after mating these two breeds averages 580 lbs., then heterosis for weaning weight is 30 lbs. or 5.5%. This extra weaning weight is free because you did nothing more than use a different breed.

Tables 1 and 2 show that heterosis is not consistent from one breed to another. Breeds that are more genetically different (Brahman and Hereford) will exhibit more heterosis than breeds that are more genetically alike (Simmental and Limousin). ***The greater the difference in breeds, the greater the effect.***

Table 1. Heterosis and Cattle Breed

	Weaning Weight (%)		
	Her	Lim	Bra
Simmental	5.3	.4	8.9
Hereford		4.2	9.9
Limousin			7.7
Comerford, 1987			

A second genetic effect in crossbreeding is the average effect of a breed in crosses. It can be shown breeds can make a specific difference in crossbred progeny, such a marbling in Angus cattle, ribeye size in Limousin cattle, and milk production in Simmental cattle. Unfortunately, this feature is often over-emphasized in a crossbreeding program. The additive effect of a breed in crosses will generally have less effect on the calf than the direct genetics for the trait passed from the parent.

A word of caution. Just because you mate cattle of different breeds does not mean there will be a large heterotic or average breed effect. Selection of the parents for their potential genetic contribution to a trait (called the additive genetic effect) will be more important than heterosis or breed effects. The use of EPDs and other selection tools within a breed should not be discarded for the sake of heterosis. ***Heterosis will not improve poor cattle.***

Table 2. Average heterosis in the economically important beef traits when crossing divergent breed types of cattle.

Trait	Bos taurus X Bos taurus %	Bos indicus X Bos taurus %
Individual Heterosis (Calf Performance)		
Birth weight	2.4	11.1
Weaning weight	3.9	12.6
Post-weaning gain	2.6	16.2
Maternal Heterosis (Cow Performance)		
Calving rate	3.7	13.4
Calf survival	1.5	5.1
Birth weight	1.8	5.8
Weaning weight	3.9	16.0
Adapted from Cundiff et al., 1994		

Crossbreeding is a good idea because it will improve more lowly heritable traits. Heritability describes the proportion of the variation in a trait due to genetics as compared to the environment (nutrition, health, etc,). More lowly-heritable traits-such as milk production, longevity, reproductive fitness-will result in more heterosis than highly heritable traits such as carcass traits. Table 3 shows how important traits vary in heritability.

Table 3. Heritability and Heterosis

	Heritability	Heterosis
Reproduction	Low	High
Growth	Medium	Medium
Carcass	High	Low

An important feature of crossbreeding is maternal heterosis, which can be described as the advantage of the crossbred cow in the mating system. A review by Reuter (2001) of several crossbreeding experiments showed that crossbred cows had a 9 percent advantage in calving rate and an 8 percent advantage in calf weaning weight over their straight-bred counterparts.

Crossbreeding is a good idea because it adds consistency to a breeding program. A crossbreeding system must be a planned process that takes advantage of breed effects and heterosis or it becomes chaos. To effectively design a crossbreeding system, use these standards:

1. Design a cow herd that fits the environment
2. Use breeds for the cow herd that are similar
3. Use a terminal sire breed that fits the market
4. Use a system that is manageable over many generations

To design an effective crossbreeding system, consider how many breeding groups can be maintained on the farm, how bulls can be managed before and after the breeding season, how replacement females will be secured, what the standards are in the market (such as coat color), and if a singular trait (weaning weight for calves sold off the farm or marbling for calves retained through finishing, etc.) must be heavily considered.

Mating systems that can be effectively used in small cow herds are:
The Two- Breed Rotation: a single–breed cow herd is mated to sires of a second breed:

1. Simple
2. Cow herd is a single breed
3. Only one breeding group
4. Maximizes breed influence
5. 15% increase in weight/cow exposed
6. No source of replacements

Two-Breed Backcross: The crossbred progeny of two breeds are mated back to one of the parental breeds:

1. Good use of breed effects
2. Two breeding groups
3. Replacements produced
4. Maintains good level of consistency in calf crop
5. Some inconsistency in the cow herd

Table 4. Inconsistency of the cow herd in a 2-breed backcross system

Generation1: 50% breed A: 50% Breed B
Generation 2: 25% breed A: 75% breed B
Generation 3: 62.5% breed A: 37.5% breed B
Generation 4: 81.25% breed A: 18.75% breed B
Generation 5: 40.6% breed A: 59.4% breed B

Three-breed terminal rotation: crossbred cows of two breeds are mated to a third breed of sire:

1. 20% increase in weight/cow exposed
2. Complements the environment for the cow herd and the market for the calf crop
3. No replacements are produced
4. Very consistent cow herd and calf crop
5. One sire group

Crossbreeding can be used to develop a composite breed. The value of a composite breed (mating crossbred parents with the same breed composition or mating specified crossbred female breed composition to specified crossbred sire breed composition) is to capture additive breed effects and heterosis that complement both the environment and the market. Composite progeny can be very phenotypically consistent, which is an advantage in the marketplace. There need only be one breeding group, and replacements are produced in each generation in *inter se* matings. Composite breeds are most often used to address specific environments, and this can be shown in the significant number of composite breeds that use Brahman in the cross (Brangus, Santa Gertrudis, Beefmaster) to capture adaptability to hot environments while adding other breeds to capture weight or carcass traits.

A word of caution. Composite breeds are not for everybody. There should be a good reason to specify breeds in the composite, and the breeding program will be a very long-term commitment. They are only effective when maintained generation after generation. Adding an outside breed to the program will diminish the results and create more variability in the progeny.

Crossbreeding is an important part of the beef industry because of the variation in environments and markets available in the US. It should be accomplished with specific goals in mind and with a long-term commitment.

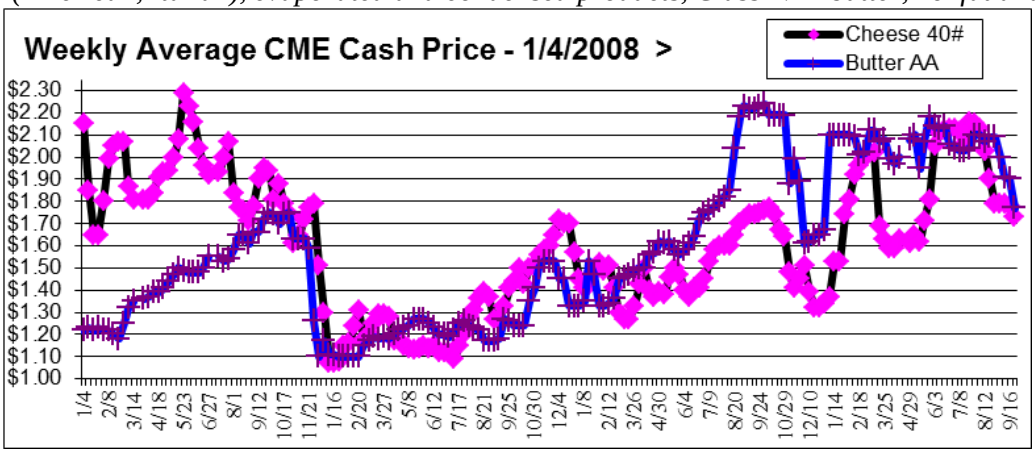
Dairy Market Watch

An educational newsletter to keep dairy farmers informed of changing market factors affecting the dairy industry.
Compiled at Cornell Cooperative Extension of Chautauqua County by Virginia Carlberg, Community Educator- Farm Business Management.

Milk Component			Milk Class Prices				Statistical Uniform Price & PPD		
Month	Butterfat	Protein	I(Boston)	II	III	IV	Jamestown, NY	Albany, NY	Albany $/gal. to farmer
Aug10	$2.03	$2.38	$19.02	$16.98	$15.18	$15.61	$16.59 $1.41	$17.19 $2.01	$1.48
Sep10	$2.40	$2.31	$18.75	$17.60	$16.26	$16.76	$17.18 $0.92	$17.78 $1.52	$1.53
Oct10	$2.44	$2.47	$19.83	$17.57	$16.94	$17.15	$17.46 $0.52	$18.06 $1.12	$1.56
Nov10	$2.20	$2.24	$20.49	$17.21	$15.44	$16.68	$17.02 $1.58	$17.62 $2.18	$1.52
Dec10	$1.79	$2.17	$20.21	$15.77	$13.83	$15.03	$15.76 $1.93	$16.36 $2.53	$1.41
Jan11	$2.02	$1.76	$18.45	$16.79	$13.48	$16.42	$15.86 $2.38	$16.46 $2.98	$1.42
Feb11	$2.30	$2.56	$19.14	$17.97	$17.00	$18.40	$17.60 $0.60	$18.20 $1.20	$1.57
Mar11	$2.29	$3.30	$21.48	$18.83	$19.40	$19.41	$19.13 -$0.27	$19.73 $0.33	$1.70
Apr11	$2.21	$2.50	$22.68	$19.66	$16.87	$19.78	$19.23 $2.36	$19.83 $2.96	$1.71
May11	$2.25	$2.31	$23.00	$20.63	$16.52	$20.29	$19.64 $3.12	$20.24 $3.72	$1.74
June11	$2.37	$2.98	$23.57	$21.37	$19.11	$21.05	$20.94 $1.83	$21.54 $2.43	$1.86
July11	$2.25	$3.83	$24.28	$21.29	$21.39	$20.33	$21.61 $0.22	$22.21 $0.82	$1.91
Aug11	$2.30	$3.83	$24.68	$21.55	$21.67	$20.14	$22.07 $0.40	$22.67 $1.00	$1.95

Aug. Utilization (Northeast): Class I = 42%; Class II = 27%; Class III = 24%; Class IV = 7%

[Class I = processed as beverage milk; Class II = soft products, cream, yogurt and cottage cheese; Class III = cheese (American, Italian), evaporated and condensed products, Class IV = butter, nonfat and whole milk powder.]



Dairy Commodity Markets (USDA Dairy Market News):

Butter: Friday CME cash prices: 8/26 $2.09, 9/2 $2.00, 9/9 $1.91, 9/16 $1.90, and 9/23 $1.77. The cash butter price continues to trend lower as the month progresses. Volumes are generally readily available and churning schedules are reflective of the additional cream availability.

Cheese: Friday CME cash prices (40# blocks): 8/26 $1.79, 9/2 $1.79, 9/9 $1.79, 9/16 $1.78, and 9/23 $1.73. Cheese interest is generally improved on natural varieties with processed cheese lighter seasonally. Some shorting or delayed orders are occurring on selected varieties from preferred suppliers. Milk intakes are uneven, though higher milk components are improving cheese yields.

Dry Products: NDM powder markets are mixed as prices fluctuate. Buttermilk powder markets are weak as prices edge lower. Whey powder prices are mixed, although the market undertone is firm.

Fluid Milk: Milk production across the country is settling into fall trends. Weather patterns and temperatures are conducive to milk output, although volumes are declining. Schools are now back in session, thus the school bottling pipeline is full and milk volumes are less stressed to maintain capacities.

Milk Production: Milk production in the 23 major states during July totaled 15.3 billion pounds, up 2.2 percent from August 2010. Production per cow in the 23 States averaged 1,810 pounds for August, 18 pounds above August 2010. The number of milk cows on farms in the 23 States was 8.47 million head, 102,000 head more than August 2010 and 3,000 head more than July 2011.

Milk Income Loss Contract Payments for 2011: January, NO PAYMENT; February, NO PAYMENT; March NO PAYMENT; April NO PAYMENT; May NO PAYMENT; June NO PAYMENT; July NO PAYMENT; August NO PAYMENT.

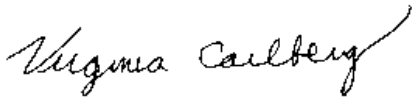
Comments:

Milk prices are showing some weakness from record levels set in August but remain well above year ago levels. University of Wisconsin's Dairy Outlook report indicated that cheese prices could weaken some more but no price collapse is anticipated. While July 31st stocks of both American cheese and total cheese stood at 1.4% higher than a year ago, they were not burdensome. And the fact that cheddar cheese production for July was down 5.4% from a year ago with total cheese production down 2.0% will add support to cheese prices. Cheese buyers will begin to assess their inventories and purchase decisions to fulfill their anticipated upcoming holiday sales. So cheese prices could rally back some. As of now an average cheddar cheese price of $1.75 per pound or higher could hold to year's end and keeping the Class III price between $17.80 to $18.30 for the last quarter of the year.

USDA's corn production is forecast at 12.9 billion bushels, up 4 percent from 2010. If realized, this will be the third largest production total on record for the United States. Based on conditions as of August 1, yields are expected to average 153.0 bushels per acre, up 0.2 bushel from 2010, and the fourth highest yield on record.

Two U.S. Representatives, Collin Peterson (D-Minn.) and Mike Simpson (D-Idaho), proposed the "Dairy Security Act of 2011." Based on FFTF, the bill contains three major components: 1) a Dairy Producer Margin Protection Program (DPMPP); 2) a Dairy Market Stabilization Program (DMSP); and 3) reforms to the federal milk marketing order (FMMO) system. The new plan takes into consideration several revisions proposed by the NMPF, which is summarized in a press release that can be found at: http://www.futurefordairy.com/resources/in-the-news/NMPF-Announcements.html.

Meanwhile, U.S. Sen. Kirsten Gillibrand (D-N.Y.), a member of the Senate Ag Committee, set her dairy priorities for the 2012 Farm Bill. Gillibrand said she would work to include the "Dairy Pricing Reform and Farmer Protection Act" in the 2012 Farm Bill as a means to simplify the federal milk marketing order system and improve transparency and price discovery. A competitive pay price would replace end-product pricing, and USDA would be directed to evaluate reducing the number of classes of milk from four to two – fluid milk and manufacturing milk. Gillibrand's proposal would continue the Milk Income Loss Contract (MILC) program, combining it with a margin-based insurance policy, providing insurance payments on 90% of production when the margin between feed and market prices is less than $6/cwt., up to the current MILC production limit. Milk produced beyond current MILC production limits would receive payments when the margin is less than $4/cwt. Finally, her proposal targets regionalized supply management to demand, allowing dairy farmers to increase production in response to local market demand, and require larger farms in regions without a large population to curtail production if there is no market for milk.



Virginia Carlberg
Extension Community Educator -
Farm Business Management

Commitment to Quality and Service

Since 1912, providing you quality feed and independent service for Western NY farmers.

- Full Line of Complete Feeds at Competitive Prices -
- "Exclusive" Extruded Full Fat Soybeans -
- "Steamed Rolled" Flaked Corn -
- Customized Feeds and Complete Nutritional Feed Programs -
- Dairy Production Consultant -
- Fertilizer Blending: Liquid and Granular -
- Custom Spraying and Crop Service -
- Exclusive Manufacturer of "Country Magic Dog and Cat Food" -
- Working Relationships with Your Vet and Consultants for "YOUR Bottom Line" -
- PLUS Access to the Latest Technology in the Feed Nutrition Business -

See our great prices on Carhart Jackets and clothing to keep you warm this winter!

REISDORF BROTHERS, INC.

Your Complete Farm Store & Feed Mill

1830 Perry Road ▪ North Java, NY 14113
Toll Free: 1-800-447-3717 ▪ (585) 535-7538 ▪ Fax: (585) 535-0470

Please visit our web site:

www.reisdorfbros.com