

Livestock Manager

Summer 2009 Volume 4 Issue 3



CCE-BROOME TRANSITIONS TO E-MAILING NEWSLETTERS

Starting in 2009, CCE-Broome will start emailing newsletters and information on workshops received from other agricultural agencies. Due to rising postage costs and reduction in support staff hours, all newsletters and workshop notices that can be emailed will be. Please contact Carol at (607) 584-9966 or clf62@cornell.edu with your email address. Thank you in advance for your understanding. We receive many short notice workshops and are unable to send out in time, by giving us your e-mail we hope this will give you many more opportunities to take advantage of some great workshops!

Pasture Walk:

Multi Species Grazing, Building your Own Fence and NRCS Programs

June 16th 6:30 to 8:30 p.m.

McRey Farm, Glen Aubrey

Are you interested in saving money on your farm? If the answer is yes, come to McRey Farm on June 16th. Pete and Carol Reynolds currently are grazing Beef, Sheep, Swine and Poultry. McRey farm has been successful with multi-species grazing and have added poultry to the operation this year. Pete has built the fence himself with help from various NRCS and SWCD programs.

At the pasture walk there will be representatives from NRCS and SWCD to talk about the programs that Pete and Carol have implemented over the last few years and to talk about how your farm may fit into one of these programs. Pete will also hold a discussion on the do's and don'ts of building your own fence.

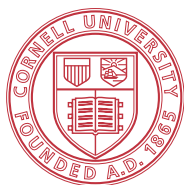
There is no cost for this workshop but advanced registration is requested by calling Carol at 607-584-9966.

Directions:

The Farm is located at 3599 State Route 26 about 15 miles north of Endicott.

From Endicott: Go North on Rte 26 through the Village of Maine, We are about 4 miles north of the village on the left hand side of the road. If you get to Glen Aubrey – Croft's Trailer Sales and the Octagon Inn – you have gone too far. We are one half mile south of there. Look for two orange traffic cones marking the driveway. It's a long driveway, about a mile up the hill to our house.

From Binghamton or Johnson City: Come out Airport Road. Before you get to the Airport turn left on Commercial Drive (at the gas station). Turn right on East Maine Road. At the stop sign at Route 26 turn right, we are about 3-4 miles north on the left hand side. There are 2 orange traffic cones marking the driveway entrance. We have a long driveway. If you have gone half a mile up the hill and still don't see a house, you are in the right place, keep going.



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From I-81 in Whitney Point: Take Route 26 south about 6 miles. We are .5 miles South of the cross roads in Glen Aubrey (at Croft's Trailer Sales and the Octagon Inn). Look for 2 orange traffic cones on the right, which is our driveway. It's a long driveway, almost a mile to the house.

Small Ruminant Vet Skills Workshop

June 13th, 2009

9:00 a.m. to 1:00 p.m. at Cornell Cooperative Extension-Broome County

On June 13th, Cornell Cooperative Extension of Broome County will be offering a Small Ruminant Vet Skills workshop for goat and sheep owners. Our presenter for the workshop will be Dr. Wendy Hartman of Hill Winds Veterinary Practice

The workshop will include a classroom session followed by a hands-on session. The two sessions will go over basic diet, trace minerals, urinary issues, parasites, vaccines, diseases, fertility, hoof trimming, body condition scoring and a basic animal exam.

The workshop is \$15 per person or \$25 per farm. Class size is limited, so registration is required! For more information or to register call Carol at 607-584-9966. Funding for this project was provided by the Northeast Center for Risk Management Education, the USDA Cooperative State Research, Education, and Extension Service under Award Number 2007-49200-03888.

Beef Pasture Fly Pasture Walk

Time and Date TBD

Livestock Producers: Come hear the NYS IPM (Integrated Pest Management) Livestock Team share the latest Cornell Veterinary Entomology Fly Management information for livestock farms.

Topics to be covered:

- minimize fly problems
- profitability
- nuisance/health problem
- s for fly control

For more information and to pre-register contact Sharon VanDeuson, Cornell Cooperative Extension of Cortland County, (607) 753-5078. Presented by Cornell Cooperative Extension of Cortland County, the South Central New York Area Agriculture Team, and GrazeNY.

ABC'S of Pastured Poultry

Twilight Pasture Walk, Cobblestone Valley Farm

July 15, 2009, 6:00 to 8:00 p.m.

Are you thinking about raising pastured poultry or already have your own flock? If so, come & join us for a Twilight Pasture Walk at Cobblestone Valley Farm.

Topics to be covered:

- Purchasing chicks & delivery
- Chicks in Brooder
- Broiler & Turkey Shelters
- Fencing & Pasture Rotation
- Layers & the Egg Mobile
- Feeders & Waterers
- View Processing Station

This pasture walk will be an excellent opportunity to learn the ABC's of purchasing, raising, care and management of chicks, broilers, layers, and turkeys from experienced pastured poultry farmers.

For more information and to pre-register contact Sharon VanDeuson, Cornell Cooperative Extension of Cortland County, (607) 753-5078. Presented by Cornell Cooperative Extension of Cortland County, the South Central New York Area Agriculture Team, and GrazeNY.

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“The How To” of Pastured Poultry Processing

Cobblestone Valley Farm

July 21, 2009, 1:00 to 4:00 p.m.

This workshop is geared towards participants that are interested in learning “How to Process their own Poultry” from beginning to end. The Knapp’s will cover topics that will include:

- Location of on-farm mobile or permanent processing facilities
- Catching & moving birds to be processed
- Equipment & special tools used.
- Examples: kill cones, pluckers, scalders, chill tank, coolers, bagging.
- Importance of efficient work flow
- Importance of cleanliness, appearance, and quality of finished

Product After the above topics are discussed, the Knapp’s will demonstrate processing of several poultry for continued discussion, questions, and clarification of the proper poultry processing procedure.

For more information and to pre-register contact Sharon VanDeuson, Cornell Cooperative Extension of Cortland County, (607) 753-5078. Presented by Cornell Cooperative Extension of Cortland County and the South Central New York Area Agriculture Team.

New Web Site Offers Resources for Small, Mid-Size Niche Meat Processors

By Ann Bagel Storck on 5/11/2009, Meatingplace.com

A new Web site from the Niche Meat Processor Assistance Network, nichemeatprocessing.org, aims to provide resources for small to mid-size meat processing facilities that provide market access for niches such as local, grass-fed and organic.

The site provides research, news and learning modules from land-grant universities nationwide. It pulls together information including processing rules and regulations; business development and workforce management; mobile processing units; profiles of successful niche processors; and more than 100 frequently asked questions.

Some easily accessible resources on training goats and sheep to electronet, etc and on the modest housing needs of a couple of goats and/or sheep are the Cornell “Goats in the Woods” Handbook at <http://www.ansci.cornell.edu/goats/Resources/GoatArticles/GoatsInWoods/GoatInForest.pdf> and the New York 4-H meat or dairy goat fact sheets - especially those on facilities, health and castration, etc. at <http://www.ansci.cornell.edu/4H/meatgoats/index.html> or <http://www.ansci.cornell.edu/4H/dairygoats/index.html>.

Regardless of whether you use goats or sheep, try to find animals that already have some exposure to grazing grasses and pasture legumes rather than animals that have only been in the brush or housed indoors with no previous grazing experience. Make sure that your grazers will not have access to poisonous plants that you have used for landscaping (for example” yew, rhododendron, etc.) More complete lists of poisonous plants for livestock are at <http://www.ansci.cornell.edu/plants/index.html>. If you do stake the animals out, do not use choke collars and do use a running tether with a short lead that the animal can not get tangled in.

The animal will need you around while it is initially getting trained to either the electronet or the tether.

Thanks, Tatiana

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Green Friendly Horse Management

Information provided courtesy of AAEP Media Partner, The Horse.

Ten ways to make your horse operation more Earth-friendly:

- Install gutters and downspouts on all buildings to divert clean rainwater away from high-traffic areas and reduce the amount of sediment that gets into the surface water.
- Plant trees as dust barriers and protection for the banks of streams and ponds.
- Use organic fertilizers and natural mineral compounds, such as rock phosphate.
- Use biodegradable and nontoxic shampoos and cleaners around the barn. Channel wash water into grassy areas so it can be absorbed into the soil.
- Mow weeds when you're about to rest a pasture; use nontoxic weed spray or a weed eater; mowing tall weeds also keeps mosquitoes down.
- Install birdhouses for purple martins, bluebirds, barn swallows, violet-green swallows and tree swallows, which can eat several thousand soft-bodied flying insects per day.
- Set out shed or trimmed dog and horsehair so the bug-loving birds can use it for building nests.
- Test the well water to see what your horses are drinking; filter the city water that they drink.
- Install automatic waterers powered by geothermic heat to keep water cool in the summer and above freezing in the winter
- Use wood byproducts (wood pellets or straw pellets) rather than virgin wood for bedding. **Always** avoid black walnut shavings because of potential laminitis complications.

New Resources:

Cutting Meat

If you ever need a basic but classic booklet on cutting meat, a good resource available on the web is Cutting Meat by G.H. Wellington - Information Bulletin 92 - posted on Cornell's library system webserver at <http://ecommons.library.cornell.edu/handle/1813/3221>.

Grass Farming

The Stockman Grass Farmer: Leading magazine for grass farmers with many articles on marketing. Available on the Northeast Small Farms Institute website, located at <http://growingnewfarmers.org/>

Beef Marketing

Available from ATTRA: Alternative Beef Marketing - Good background information on beef marketing and report on markets for organic, pasture-finished and "natural" beef and meat products. Available at <http://www.attra.org>.

Pasture Management Tips:

Taking a pasture sample is usually a good idea a few times during the grazing season. The results will help you to determine if your management needs fine tuning, if your animals are getting adequate nutrition, and may flag some soil nutrient needs. This is true regardless of which kind, class, or species of livestock you have on your farm.

After the first rotation, when the pasture is really beginning to grow quickly, is a good time to sample. The spring flush is usually very high quality feed, but if temperatures are too cold, the sky is not sunny enough, or rainfall is inadequate, the quality may not be as good as expected.

To sample, "graze" a paddock that is the correct height (6 to 8 inches) and that your animals will be in soon. If the pasture doesn't taste very good....oh, wait, you shouldn't actually eat it! Use your hand to

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graze the pasture as your animals would, selecting plants that you know they would and avoiding those you know they won't eat. Collect a large number of handfuls from across the paddock, and put them in a plastic bag. Be sure to compact the sample as much as possible so you maximize the amount of forage in the bag - since it's only about 20% dry matter, the lab needs a bigger volume to run the analysis on. If you can't take the sample directly to the lab, freeze it for 12 to 24 hours before putting the sample in the mail. This stops the plant from continuing to photosynthesize, and prevents it from respiring - both of which can change the analysis results. Next month we'll share a bit on how to interpret the results of your pasture sample.

Census of NEW YORK SHEEP & GOATS

The 2007 Census of Agriculture found 63,182 head of sheep on 1,799 farms and 39,920 head of goats on 2,707 farms for the state of New York, according to Steve Ropel, Director of USDA's National Agricultural Statistics Service, New York Field Office. Sheep declined 24 percent from the 2002 total of 83,630 head while goats increased 20 percent from the 2002 total of 33,130 head. Sheep, goat and their products generated \$10.3 million in sales for New York in 2007, up 9 percent from 2002 and representing less than 1 percent of New York's total agricultural sales.

The Census, which is conducted every five years, provides facts and figures on virtually every aspect of U.S. agriculture, including number and types of farm operations, the economic aspects of farm production and the demographics of U.S. farm operators. Details on this and other Census data can be found on-line through the New York NASS web site: www.nass.usda.gov/ny/. U.S., State and County tables are available in PDF, Text, and CSV files. Printed copies will be available along with the CD-ROMS and a searchable database.

For further information or assistance, please call the New York office at 800-821-1276 or send an e-mail to: nass-ny@nass.usda.gov.

Pasture Renovation and Seeding

Doug Tregoning, Montgomery County Cooperative Extension

To Establish or Not To Establish

The decision to reseed or renovate pastures is often one of the most difficult decisions a property owner has to make. In general, I advise based upon the following criteria:

- If the pasture contains 75% or more desirable species, then manage, don't renovate
- If the pasture contains 40 to 75 % desirable species, manage and possibly overseed
- If the pasture contains less than 40% desirable species, renovate and manage

Proper Planning

Planning for a successful renovation doesn't begin a few days or even a few weeks before seeding time. Good planning and preparation should begin months in advance, often 6 months to one year ahead of the actual renovation. The main reasons for advance planning are to allow time for soil sampling, testing and the application of nutrients to improve fertility and soil pH. It can take years to correct severe soil acidity. Broadleaf weed control can be accomplished but may take more than one application that may be spaced as long as 6 to 8 months apart. Why two applications of a broadleaf weed control material? Applications made at different times of the year will better control annual weeds that germinate during different seasons. Winter annual weeds will best be controlled with a fall herbicide while warm season annuals can best be controlled during the summer. Another reason for multiple applications is that no matter how good the first application performed, there will always be more weeds! A second application will pick anything that escaped or germinated since the first application.

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Pasture Fertility

I'm often asked what would be a typical fertilizer application in the absence of a soil test. The answer would be there is no typical situation. Better to take a good soil sample, have a lab run the analysis and apply nutrients accordingly. If the sampled area has a low soil pH, apply lime as soon as possible as long as the ground isn't frozen or is excessively wet. Avoid fertilizer applications to drought stressed plants as the application could cause burning injury to plants already under stress. A general application of 500 lbs. 10-10-10/acre (50 lbs. nitrogen, 50 lbs. phosphorus, and 50 lbs. potassium) would be an acceptable place to start in the absence of a soil test. In general, more horse pastures are under fertilized than are over fertilized.

Type of Renovation/Seedbed Preparation

Will the renovation be a complete start from scratch project or will it involve over seeding one or more species to improve an existing stand. Overseeding can shore up swards that are still desirable but may be thinning. Overseeding a legume to boost palatability or enhance nutrition can also be accomplished by overseeding. A complete renovation involves the elimination of the existing vegetation either by applying herbicides, tilling the soil or a combination of the two methods. No-Tillage as the name implies involves using herbicides to kill existing vegetation and then seeding directly into the residue. The advantages of no-till are less trips over the field, less chance of soil erosion and better moisture conservation should conditions become dry after seeding. The disadvantages of no-till are slower and less uniform seedling emergence.

Conventional renovation involves using tillage, perhaps three or more passes over the field, to destroy vegetation and form a firm, fine seedbed. Conventional seedbeds are generally ideal for uniform and rapid emergence of pasture plants provided moisture is sufficient. Bare soils also warm more quickly allowing for better seed germination at cooler temperatures. Disadvantages include a much higher potential for soil erosion, altered soil structure due to tillage and a reduction in the percentage of organic matter.

Species Selection

Be sure to match forage species to site, soil type and type of operation. For example, endophyte infected tall fescue may be perfectly acceptable for some uses in some operations, but one that makes heavy use of brood mares would not be one. Know your soil types and soil composition, i.e. % sand, % clay, % loam. Your soil test should provide this information. More productive soils can be pushed to produce more forage with higher fertility. Are your soils well drained, moderately well drained, poorly drained or very poorly drained? This information can be used to predict the success or failure of the new seeding based on the type of species selected

Timing

Seeding at the proper time helps ensure that plants get off to a healthy start. New seedings outside the recommended window will have higher failure rates due to less than optimum temperatures for plant growth and development and/or increased risk from hot, dry weather. New seedings can succeed outside the guidelines listed in Table 2 but the odds for failure increase dramatically the further outside the window you get.

Table 2: Ideal Forage Seeding Dates-Maryland

Late Summer Spring

Central Maryland Aug 15-Sept 15 Feb 20-April 10

Western Maryland Aug 1-Sept 1 March 15-April 30

Southern Maryland Aug 15-Sept 20 Feb 15-March 30

Eastern Shore Aug 15-Sept 20 Feb 15-March 30

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Controlling Competition

There are two primary conditions that lead to failure in attempting to establish new pastures. One environmental factor is inadequate rainfall. This can be a problem in either a spring or fall seeding but tends to be more of a factor in the spring. Typically, adequate rainfall is received to germinate the crop and get it off to a good start. However, in many instances, a hot dry summer is awfully difficult on new plants that don't have well established root systems. Competition from existing vegetation is the other factor that contributes to many new seeding failures. Many times this can be attributed to stands established outside the recommended window for seeding. The practice of overseeding existing fields (partial renovation) is also a big factor in failure rates as the competition from existing vegetation is often too much for young tender seedlings.

Cost of Establishment

Reseeding a pasture can be expensive. Seed costs average \$30 to \$50 per acre. Tillage to prepare a conventional seedbed can cost \$60 to \$80 per acre. Herbicides will cost \$25 to \$40 per application. Having someone plant the pasture will cost \$20 to \$30 per acre. Lime will cost \$30 to \$40 per acre applied. Total costs will typically run \$150 to \$200 per acre for establishment. Smaller parcels (less than 10 acres) can often double or triple per acre expenses. Equipment rental is an option but does require a higher level of knowledge and management to help ensure the establishment is successful.

Summary

A well thought out plan will help insure success for this potentially costly endeavor. With many variables involved, failure or success often depends on adequate pre-planning. As with most projects, good planning usually equals good results.

BEEF CATTLE COMMENTS

VOLUME 18 NUMBER 2, June 2009

Prepared by: Mike Baker, Beef Cattle Extension Specialist, Cornell University

1. NEW YORK BEEF PRODUCER'S BULL TEST SALE RESULTS

An unusually warm day greeted all who attended the New York Beef Producer's Bull Test sale on April 25 at the Empire Farm Days site in Seneca Falls. Twenty five bulls that had successfully completed the test as well as indexed in the top 95% were offered for sale. In the end 18 buyers from New York, New Jersey and Vermont spent \$40,500 and took home 20 bulls.

Results of New York Beef Producers Bull Test
Sale, April 25, 2009

Breed	Number	\$/head
Angus	9	\$2,050
Red Angus	5	\$2,175
Simmental	6	\$1,800
All	20	\$2,025

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The top selling bull was a Red Angus Perks Chateau 309R son consigned by Shepard Settlement Farm in Marcellus, NY and purchased by Erwindale Farms in Waterloo for \$2800. The top selling Angus bull was a GAR Retail Product son consigned by Big Stoney Farms in Greene, NY and was purchased by Keith Burt in Cabot, VT for \$2650. Kenneth Hill of Renesselear Falls, NY purchased the top selling Simmental bull, GFI Magnum K52 son, consigned by Ladybug Farm in Middleport, NY for \$2200.

For more information on the New York Bull Testing Program, contact Megan Galloway, NY Beef Producer's Association, (607) 965-8282, nybpa2@aol.com.

2. EMPIRE HEIFER DEVELOPMENT PROGRAM OPEN HEIFER SALE

Owner	EHDP ID	Sale Price	Buyer
Hereford			
Wagner	1124	\$950	James Wade, Skaneateles, NY
Wagner	1126	\$1,000	James Wade, Skaneateles, NY
Angus			
Moore	1114	\$900	Mike Baker, Livonia, NY
Moore	1115	\$1,025	Keith Burt, Cabot, VT
Moore	1116	\$1,000	David Powers, Moravia, NY
Moore	1117	\$1,200	Steven Crandall, Cuyler, NY
Moore	1119	\$1,100	Andrew Juby, Adams Center, NY
Moore	1120	\$1,050	Keith Burt, Cabot, VT
Moore	1122	\$1,250	Steven Crandall, Cuyler, NY
Average-all		\$1053	

Nine registered Hereford and Angus heifers were sold at auction on April 25, following the NY Beef Producer's Bull Test Sale in Seneca Falls. The heifers were part of the Empire Heifer Development Program (EHDP) designed to grow, develop and evaluate beef heifer calves following the weaning period. The EHDP was held at Erwindale Farms, Waterloo. Ron Parker, Finger Lakes Livestock Exchange called the sale.

For more information on the EHDP, contact Mike Baker, Cornell University Beef Extension Specialist, mjb28@cornell.edu, 607255-5923.

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3. NEW YORK FEEDLOT AND CARCASS VALUE DISCOVERY PROGRAM-CATTLE MARKETED

As of April 16, more than half of the cattle have been marketed through the New York Feedlot and Carcass Value Discovery Program. The performance of these cattle is shown in the table below.

New York Feedlot and Carcass Value Discovery Program, 2008/2009 – Cattle
Marketed report

Item	Steers		Heifers	
	Conventional	Natural ¹	Conventional	Natural ¹
N	65	9	23	14
Initial wt, lb	723	547	701	823
Final wt, lb	1232	1064	1112	1212
Average daily gain, lb	3.8	3.5	3.5	2.7
Days on feed	133	147	119	143
≥ USDA low Choice	96	56	95	100
USDA Yield grade	2.7	3.0	2.8	3.3
Hot carcass wt, lb	759	652	675	750
Backfat, in.	0.51	0.50	0.50	0.61
Ribeye area, in ²	12.7	11.3	12.3	12.5

¹Cattle in the natural program are not fed an ionophore nor treated with growth promoting implants.

Only one group of Natural cattle has been marketed, so the numbers are too low to make valid comparisons, but some interesting trends are taking shape. As we have seen in the past the Natural cattle have a smaller ADG are on feed longer. The Natural steers have smaller finish weights and hot carcass weights, but just the opposite is true for the heifers. Research results generally show an increase in ribeye area in implanted cattle, and this was seen in the steers, but not in the heifers. The increased performance seen in the Conventional steers but not the Conventional heifers is due to the difference in frame size of the heifers. The Natural heifers are larger frame than the Conventional heifers that have been marketed so far.

The remainder of the cattle should be marketed by the end of May. If you have any questions or would like to view the cattle, contact Mike Baker, 607-255-5923, mjb28@cornell.edu.

4. PASTURE BLOAT

- The bloat-causing potential is related to the rate of digestion by rumen microbes. The fine portions of bloat-causing forages are digested rapidly whereas bloat-safe forages are digested slower.
- The greatest factor causing legume bloat relates to the percentage of fines relative to coarse material in the rumen at any point in time. Grazing management that forces the animals to consume the entire plant within a short time encourages the mixing of fines with coarse plant material. This is done by grazing at a high stock density and frequent moves.
- Stage of growth or crop maturity is the most important factor in preventing pasture bloat because animals eat coarser material as the crop matures.
- Alfalfa is known to being bloat-safe after a killing frost. However, as long as the alfalfa is alive, there is a risk of bloat.

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- Animal susceptibility to bloat is related to the clearance of small feed particles from the rumen. Cattle that frequently bloat have a slower clearance of these small feed particles than non bloaters. This has been demonstrated in both feedlots and pastures.
- Uniform and regular intake is the key to managing animals on legume pastures. Storms and biting flies can interrupt normal grazing behavior increasing the risk of bloat.
- Bloat is less likely to occur if animals are turned out to pasture in the afternoon than in the morning because plant cells are less turgid in the afternoon resulting in slower rupturing of the cells during digestion.
- Swathing and wilting pastures is another strategy for reducing bloat. Wilting a swath for 24 to 48 hours can significantly reduce the incidence of bloat from 81 per cent to 50 per cent.
- Poloxalene (Bloat Guard™) is a synthetic polymer which reduces surface tension and has been used quite successfully to decrease the incidence of bloat on pasture.

Forage species and their potential for causing bloat in cattle

High Potential	Low Potential	Considered Safe
Alfalfa	Arrowleaf clover	Birdsfoot trefoil
Sweetclover	Spring wheat	Cicer milkvetch
Red clover	Oats	Crownvetch
White clover	Rape	Lespedeza
Alsike clover	Perennial ryegrass	Fall rye
Winter wheat		Most grasses

Preventing Bloat on Pasture

1. Manage pasture for no more than 50% legumes. (This has little value if selective grazing is possible)
2. Fill cattle on dry roughage or grass pasture before turning out on a legume pasture.
3. Do not initially turn cattle on pasture wet with dew or rain.
4. Once cattle are turned to pasture, don't remove at the first signs of bloat. Watch them closely and remove only those whose condition continues to worsen if it is a small percentage of the total number.
5. If green chop is being fed, spread the intake over several feedings while the cattle adapt to the new feed.
6. Poloxalene (Bloat Guard™) is a synthetic polymer which reduces surface tension and has been used quite successfully to decrease the incidence of bloat on pasture.

Adapted from [http://www1.foragebeef.ca/\\$foragebeef/frgebeef.nsf/all/ccf126](http://www1.foragebeef.ca/$foragebeef/frgebeef.nsf/all/ccf126) and Stephen Boyles OSU Extension Beef Specialist.

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5. SELECTING CATTLE FOR EASY CALVING AND GREATER YEARLING WEIGHT

Researchers at the USDA Meat Animal Research Center in Nebraska selected two lines of cattle. The SELECT line objective was to decrease calving difficulty score in 2-yr-old heifers, while either maintaining or increasing yearling weight. The CONTROL line objective was to maintain calving difficulty score and maintain or increase yearling weight. SELECT and CONTROL lines were formed in 4 purebred and 3 composite populations over a 7 year period.

Observations were made on 2-yr-old calving difficulty scores, birth weight, weaning weight, and post-weaning gain. Calving difficulty was scored on a scale from 1 (unassisted) to 7 (caesarean). All birth traits in SELECT lines were favorable compared to the CONTROL lines.

Averaged over 7 yr, compared to CONTROL the SELECT lines:

- calved 3.0 days earlier
- had 1.8 day shorter gestations
- were 6.6 lb lighter at birth
- had 5.6% fewer calves assisted at birth
- had 0.80 lower calving difficulty score in 2 year old heifers
- increased pre-weaning ADG 1.7%
- had the same weaning and yearling weights

The authors concluded that selection can be used effectively to reduce 2-yr-old calving difficulty and calving assistance while maintaining or increasing yearling weight.

(Source: Bennett et al., J. Anim Sci. 2008. 86:2103)

6. PREVENT HAY FIRES ON YOUR FARM

Brian Aldrich, Ag. Educator, Cornell University Cooperative Extension Cayuga County

Risk of Fires Caused by Wet Hay

To prevent fires in the haymow, it is extremely important to know the weather conditions under which the hay was made, especially if it is hay you are purchasing and did not make yourself! Stacking small, rectangular bales at 20% moisture or higher, and large or round bales at 16% moisture or more, potentially creates the conditions for a fire. Fires in freshly cut hay usually occur within the first two to six weeks after baling.

How to Tell if You Have a Problem

Some heating in new hay is normal. The quickest way to tell if you have a problem is to drive a long pipe (8-10 ft., 3/8-inch diameter) or an iron or copper rod into the center of the stack. Leave it in for 20 minutes and then pull it out. If it's too hot to hold in your hand, the hot hay should be removed immediately. Another warning sign is that smoldering hay gives off a strong, pungent odor.

If you suspect you have a problem for any reason, monitor the temperature of the haystack. A temperature of **150°F** or higher means that hay is entering the danger zone. The following table provides guidance for actions to take depending on the temperature of the hay. I have put this table together using several published references, and chosen the most conservative values where there were differences.

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Temperature	Action Steps
120°F or below	No concern, no action needed.
120 to 140°F	Check temperature daily.
140 to 150°F	Check temperature twice a day.
150°F	Entering the danger zone! Check temperature every two hours.
150 to 160°F	Begin moving hay out of the structure. At a minimum, stacked hay should be disassembled to allow more air to move around heated bales to cool them.
160 to 175°F	Call fire department; have them on-site before moving hay.
175°F	The danger of spontaneous combustion is rapidly increasing. Hot spots or fire pockets are likely. If possible, stop all air movement around hay. Call 911 to alert of a possible hay fire.
185°F	Remove hot hay. This should be done with the assistance of the fire service. Fire service should be prepared for hay to burst into flame when it contacts fresh air. Move hay away from buildings with bucket-loader or bulldozer.
200°F or higher	Hay is almost sure to ignite. Remove hot hay. This should be done with the assistance of the fire service. Fire service should be prepared for hay to burst into flame when it contacts fresh air. Move hay away from buildings with bucket-loader or bulldozer.

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How to Check the Temperature of a Haymow

Commercial hay thermometers are too short to monitor the interior temperature of a haymow. The National Ag Safety Database (www.cdc.gov/nasd), “**Hay Fire Prevention and Control**”, offers the following instructions on how to fabricate and use a longer probe to measure temperatures deeper inside the haystack:

A simple temperature probe can be made in the farm shop from a 10-foot piece of 3/4-inch diameter iron pipe. Drill eight 3/16-inch diameter holes about three inches from one end then hammer that end of the pipe together to form a sharp edge (Figure 1). Check hay temperature in the center of the stacked hay. The easiest way to do this is from the top of the stack. Do not walk directly on the stacked hay; pockets may have already burned out under the hay surface. Place boards, plywood, or a ladder on the hay and walk on those instead (Figure 2). This will spread the weight of the person monitoring the temperature over a larger area and help keep him from falling into burned out cavities. Be sure to use a lifeline in case the hay surface collapses into a fire pocket. A second person, standing safely away from the hay, should hold the other end of the rope to pull the person monitoring the temperature out in case the hay surface collapses into a fire pocket. Drive the probe from the top of the hay stack into the inner most bales (Figure 3). Lower a thermometer to the end of the probe with a piece of light wire. After 10 to 15 minutes, retrieve the thermometer and read the temperature.

Figure 1. Homemade hay temperature probe with thermometer

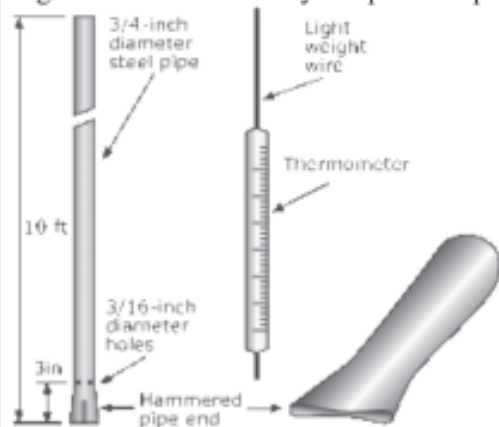
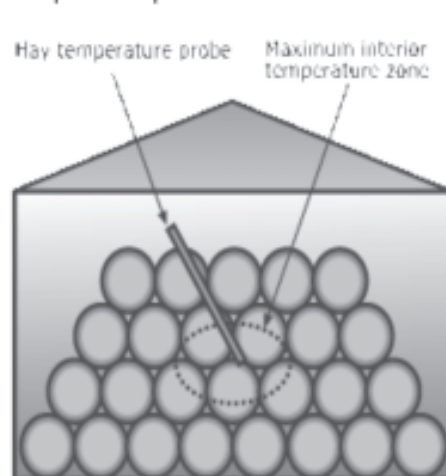


Figure 2. Proper procedure for monitoring hay temperatures



Figure 3. Proper location for inserting temperature probe



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Role of Ventilation Depends on Hay Temperature

At lower temperatures, ventilation helps to disperse the heating that normally occurs in stored hay. But at temperatures of 175°F or greater, ventilation will fuel a fire and should be avoided.

If Hay Starts On Fire

Call 911 immediately if a fire starts in your haymow. Do not wait to see if you can put the fire out yourself. Hay fires can spread very rapidly and soon become uncontrollable. The National Ag Safety Database advises, *“Let firefighters take control of the situation once they arrive. Do not move hay if signs of fire are present. Moving hay exposes the overheated or smoldering hay to oxygen and may cause the fire to burn uncontrollably.”*

For further information, please call your local Cornell University Cooperative Extension office.

Sources: 1. Hall, Marvin. 2006. Penn State Field Crop News Vol.06:04. <http://fcn.agronomy.psu.edu/2006/fcn0604.cfm>

2. Murphy, Dennis J., and William C. Arble. 2000 (revised). Extinguishing Fires in Silos and Hay Mows. NRAES-18. Natural Resource, Agriculture, and Engineering Service, Ithaca, NY. Table 6-1, p.27. www.nraes.org

7. DEVELOPING BEEF PRICING

By Sarah Aubrey

Modern wisdom tells us that it's the strategies, as much as the quality of product that will allow us to survive with a small beef operation. One important strategy is pricing products. Establishing any good's value is in some measure done in relation to its price. Your customers will no doubt love the beef you provide them, but even the most loyal or affluent customers will decide what to purchase, how much, and how often partly based on the cost of goods you're peddling. Your job as a product seller is to understand your market.

Fitting the Standard

Of course we're aware that commodity prices drive the beef market. But, it's not necessarily the same for branded beef products, especially at the local level. You may not need to fit the standard and it may even be a great selling point for your company if you don't.

For example-pricing below a certain standard (if you can afford to) may draw your target market to you better than being the same as other vendors. Likewise, if you're intent on delivering a high-end premium product, pricing above the typical point will be a must, assuming your quality and uniqueness merit the difference.

Pricing Rational

Deciding how you arrive at price is called the pricing rational. Your pricing rational can be based upon:

- Wholesale versus retail pricing (or both if you will sell both ways)
- Comparable products in your market
- Target clientele (value priced products or premium-level)
- Commodity or local markets
- Breakeven analysis
- Wholesale versus retail

The first factor to use in determining price is to decide how your product will be sold. One way to sell a product is at wholesale which means the product will be made by you and then sold to an intermediary such as a distributor or even a restaurant or store that will mark the final product up and make their cut before the end result is sold to the consumer.

The other way to sell is retail which means that you are the intermediary or that no intermediary exists and that you produce the product then sell it directly to the end consumer at the end price.

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It would be easy to say that the decision between wholesaling and retailing is simply a decision of how much money you want to make and how much of the customer's final dollar you want to earn.

Said another way, someone once told me that selling retail is the way you can afford to sell wholesale off the farm! Jokes aside, I personally think that's an overstatement. The choice between these two is complicated and involves a number of factors, including the amount of dollars you want to retain for yourself in the final product you deliver. Selling retail may offer you the retail price (easily 50-70 percent more than wholesale) but it will cost you something in terms of time, labor, and other features such as packaging, labeling, processing fees and even increased liability. Your home farm situation and your market niches will ultimately determine this decision for you, but I recommend building a comprehensive pro/con list as you work through the decision.

Researching Existing Prices

The next strategy for pricing is to research existing prices and determine yet another layer of your pricing strategy. Some general ideas on researching price include:

Look into commodity markets within your industry especially if you'll be selling wholesale. Commodity markets can be found with the USDA agricultural statistics service and other agencies

Search the Internet for other brands out there that market what you do. What do they charge? Do you think their pricing is effective?

Sign up for daily, weekly or monthly web feeds for organizations that regulate or associations that represent beef producers.

Shop the stores and markets that you plan to sell at as you did during your early market research to learn prices, features and benefits that will help distinguish your own brand.

Finally, as you set prices and begin selling, test new product prices on your customers and conduct pricing research as you work with your end consumers.

About the Author: Sarah Aubrey is the owner of Aubrey's Natural Meats, Indiana's premier source for gourmet natural beef and pork. She and her husband live in rural Indiana, where they raise beef cattle for her company.

*To help farmers position themselves well for the opportunities afforded by today's market, Aubrey shares her years of experience in her first book *Starting & Running Your Own Small Farm Business* due out in January 2008. It offers everything readers need to know about launching a small agricultural enterprise, from initial start-up to consumer marketing. It is the first in a series of books Aubrey has planned for small farm businesses. For more information visit <http://storey.workman.com/products/9781580176972/>.*

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8. FEEDER'S CORNER

a) *Wild Cattle - Is it in their eyes?*

Sarah Core, a master's student from the University of Guelph recently reported on a study evaluating use of the amount of white in cattle eyes as a measure of temperament.

Temperamental cattle are both dangerous and frustrating to handle. Animals who constantly try to leap over gates or charge towards openings are a danger to themselves, other animals and to their handlers. Injuries caused by this type of behavior affect the price of a carcass due to increased trimming of bruised areas. Temperamental cattle also have decreased gains in the feedlot as well as poorer meat quality. All of these factors contribute to lower profits for the producer.

Current Research on Evaluating Temperament. Recently, innovative research at the University of Guelph has shown that the percentage of revealed eye white can be used as a predictor of temperament. Eye white evaluations were conducted at the Elora Beef Research Station on bulls, steers and heifers as a graduate research project. This method was promising as it is an easy, inexpensive technique that can be consistently evaluated by a physical measurement rather than behavioral scoring. A digital camera was set up near the squeeze chute so that it captured the animal's eye. Video recording then took place while the animals were run through the chute. Images were then stored and analyzed to assess the amount of eye white revealed by each animal.

Flight speed was measured and chute score evaluations were also conducted. The results of these analyses showed that percentage of eye white had a significant positive correlation with both temperament scoring and flight speed.

The difference in per cent eye white between docile and temperamental animals within the study can be observed in images 1 and 2. This type of measure can be repeated on the same animal with a precision of 80 per cent. An additional benefit of this method is that it provides digital image records that can be used or re-analyzed at a later date. Since this measurement is reliable and highly correlated with temperament, percent eye white is a good tool for identifying animals that should be implemented in intensive selection programs for temperament.



Figure 1. Large amount of eye white



Figure 2. Smaller amount of eye white

Implications. The study of temperament and its effects on productivity is a booming area of research, but so far the results are not widely used in breeding and selection programs. With increasing consumer demands for higher quality products and better management of livestock, selection for docility in cattle and other behavioral traits will play a key role in increasing profit margins throughout the beef industry. As technology improves, and better methods of assessment are developed, temperament will become an important part of future selection decisions.

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b) Excede® Given to Calves on Feedlot Arrival Reduced Respiratory Disease and Improved Performance

Univ. of Nebraska researchers conducted a clinical trial in which 842 steer calves were assigned to either one of two treatments on arrival at the feedlot: 1) Control; or 2) Injection on arrival with the long-acting antibiotic, Excede® (ceftiofur crystalline free acid, Pfizer Animal Health). Data were collected during the first 32 days of the feedlot receiving period. Following is a summary of animal performance.

Item	Treatment	
	Control	Excede
Initial weight, lb	614	610
Final weight, lb	686	687
Avg. daily gain, lb	2.20	2.37
Dry matter intake, lb/day	13.7	14.0
Feed/gain, lb	6.21	5.88
Incidence of BRD, %	12.5	4.4

As shown in the table, avg. daily gain was 8% greater for Excede cattle than for Controls (P=0.02), and feed/gain was numerically improved (P=0.07) for the steers receiving Excede. Incidence of bovine respiratory disease (BRD) was substantially reduced in steers that received Excede (4.4 vs. 12.5%). The authors concluded that treatment with Excede on arrival in the feedlot reduced the incidence of BRD by 64%, and also improved avg. daily gain 8% during the receiving period compared to no treatment (Benton et al. 2008. Univ. of Nebraska Beef Cattle Report).

9. BQA UPDATE: The Temperature Variability of Refrigerators Storing Animal Health Products

Data loggers were used to record temperatures at 10-min intervals for 48 h in 191 refrigerators of producers, retail stores, and veterinary clinics. Refrigerator types included freezer-on-top, side-by-sides, and mini-refrigerators. The refrigerator ranged in age from less than 5 years to more than 15 years. Refrigerator locations included miscellaneous places, kitchens, barns, mud rooms, and tack rooms. Of the 1,800 animal health products in refrigerators of producers, 11.8% were expired and 29.3% were opened. The overall temperature was $38 \pm 39^{\circ}\text{F}$. In conclusion, only 26.7% of the refrigerators kept the temperature within the acceptable range. No refrigerator type, location, or age was superior. Refrigerators storing animal health products should be carefully monitored and expired and opened products should be disposed of properly.

(Source: Troxel et al., *Professional Animal Scientist* April 2009 vol. 25 no. 2 202-206)

BQA is a voluntary program focused on increasing the quality, taste and safety of beef. Certification demonstrates your commitment to the principles of BQA. To find out how you can participate, contact Mike Baker, Cornell Beef Extension Specialist, 607-255-5923, mjb28@cornell.edu or Carol Gillis, NY Beef Industry Council Executive Director, 800-292-6922, cgillis@nybeef.org.

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10. SURVEY OF PASTURE-FINISHED BEEF PRODUCERS IN THE NORTHEASTERN UNITED STATES

Twenty-six pasture-finished beef producers were surveyed with locations in Pennsylvania, New York, and Maryland. Surveys were personal interviews, and most were done on the farm site. The surveys were conducted to examine production and marketing economics and to determine productivity and profitability. The farms varied in size from 10 to 200 acres for pasture-finished cattle. Production ranged from 2 grazing animals intended for harvest to 75 cattle harvested. Most producers reported that cattle sales represented 10 to 25% of the total farm and nonfarm income. Cattle predominantly grazed grass-legume combinations on 23 of 26 farms. The predominant breed was Angus (29% of farms). Most producers were not using vaccines, and mean health cost per animal was \$11.22, primarily from de-wormers. The mean age of cattle at harvest was 20.7, with a minimum of 14 mo and a maximum of 27 mo, and a mean final BW of 1098 lb. Fifty-five percent of the product was sold as frozen retail cuts at an average price of \$4.95/lb. Average cost per steer was \$2,066.32, and net returns were -\$198.62 per steer, with considerable variation (\pm \$1,596.90). Correlations of net returns, net returns to land and labor, and gross income with equipment cost, purchased feed cost, land cost, and cost per steer indicated that land, equipment, and wintering costs had the greatest influence on net returns.

Source: *Steinberg et al., Professional Animal Scientist February 2009 vol. 25 no. 1 104-108*

11. TO/DO MAY/JUNE

- a) Vaccinating cows for IBR, BVD, BRSV, PI₃, and Leptospirosis is an important part of an effective herd health program. Consult with your veterinarian about using modified live vaccines on open cows prior to breeding your cowherd.
- b) Get ready for breeding season:
 - ▶ If you use A.I. order semen and check your equipment. Be sure breeding corral is in working order
 - ▶ If breeding naturally, make sure you have enough bulls: 10-15 cows per yearling bull; 20-25 cows per 2-year old bull; 30-35 cows per mature bull.
 - ▶ Have phosphorous source in form of free-choice mineral mix; phosphorous is important for maximum fertility.
 - ▶ Yearling British heifers should weigh a minimum of 700 lbs. and continental heifers a minimum of 750 lbs. before being bred.
 - ▶ If lactating cows are thin and not cycling, feed more energy.
 - ▶ Vaccinate open cows for IBR, BVD, PI₃, BRSV, and Leptospirosis. Consult your veterinarian for additional health information.
- c) Breed heifers one heat period before the cows. This provides extra time for heifers to recover to calve with the cowherd the following year
- d) Take advantage of early summer grass. Turn cows in when grass is 4-6 inches tall, graze intensely for 7 days and then rotate to another field. Pasture should be rested 25-40 days before grazing again.
- e) Is hay making equipment ready? For highest quality, first cutting should be started by end of May to early June, depending on species and location.
- f) After first cutting or grazing, consider fertilizing with nitrogen to maximize aftermath growth.
- g) If you vaccinate for pinkeye, do so six weeks prior to fly season. In other words, it may be too late to get effective pinkeye control through vaccination.

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- h) Fly control methods include sprays, back rubbers, insecticidal ear tags, and dust bags. Feed through fly control is not recommended. Insecticides that kill fly larvae also kill beneficial insects such as dung beetles that are necessary for natural control and manure decomposition.
- i) Continue to monitor body condition of first and second calf heifers. If they drop below 4.5, they should receive supplemental nutrition.
- j) The breeding season should last no more than 60 days. Make plans for keeping bull separate before and after the 60 day breeding season.

12. PROFIT OPTIMIZATION AND EVALUATION PROGRAMS

a. *Cornell Feedlot and Carcass Value Discovery Program*

Purpose:

Teach cow/calf producers the value of their calves based on performance in the feedlot and on through the packing plant. Calves are accepted in November and fed till their most optimal profit potential during March-July. For more information contact Mike Baker, Cornell Beef Specialist mjb28@cornell.edu, 607-255-5923.

b. *Empire Heifer Development Program*

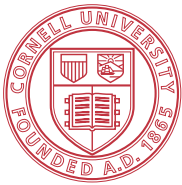
Purpose:

A management and marketing program for cow/calf producers to evaluate replacement heifer prospects and offer a marketing opportunity for quality heifers. Calves are accepted in December. Heifers can be bred artificially at the heifer rearing facility, or returned home for breeding. Eligible heifers can be sold as open heifers in April or bred heifers in October. For more information, contact Mike Baker, Cornell Beef Specialist mjb28@cornell.edu, 607-255-5923.

c. *NY Beef Producers Central Bull Test and Sale*

Purpose:

To 1) compare individual performance of potential herd sires, 2) provide an opportunity for seed stock producers to market individual bulls, 3) provide a source of bulls for commercial and seed stock herds and 4) provide an educational opportunity for sellers and buyers alike. Bulls are accepted in November. Eligible bulls are sold in April. For more information contact Bull Test Managers Jason TenEyck at 315-539-8031 or Jim Brown at 315-549-8318.



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