

Volume 4 Issue

August 2006



To Do: August → October

1. Line up supplies for fall roundup and weaning. Consider the following:

- a) Enroll your herd in the Cow Herd Appraisal Performance System (CHAPS) record keeping system. This program provides important data on the productivity of your cows based on the performance of their calves. Call 607-255-5923.
- b) Buy ear tags to identify replacement heifers and cows.
- c) If deemed, necessary (consult your veterinarian to do a fecal egg count) worm cows and bulls.
- d) Apply lice and grub control before November 5th.
- e) Vaccinate calf crop for IBR, BVD, PI3, BRSV, Pasteurella, Mannheimia, Clostridia spp., and Haemophilus somnus. If using a modified live vaccine, this must be done after calves are weaned. Killed vaccine products can be used on nursing calves.
- f) Treat calves for worms and grubs and supplement with Selenium.

2. Pregnancy test and cull all open cows.

3. Cull problem cows and marginal producers. Production data is easily obtained using CHAPS. Check with your breed association for herd performance software.

4. Take forage test for nutrient analysis. Depending on your locality, hay may be in short supply or of poor quality. Allocating the best feed to younger, higher producing animals will stretch out your supply. Contact CCE for information.

5. Consider taking soil samples and top dressing fields requiring lime, phosphorous and/or potash.

CORNELL COOPERATIVE EXTENSION OF ONEIDA COUNTY

The Livestock Extension

Weaning Strategies

Fence-line weaning

Fence-line weaning has been a topic of great discussion in the popular press. In addition, cow/calf operations in Virginia and the Mid-Atlantic region are successfully using this technique. In this system, cows and calves are separated, but remain in adjacent pastures for 7 to 14 days. Separation is maintained by high tensile electric (preferred) or woven wire fence. After the fence-line weaning period cows and calves are completely separated out of sight of one another.

Research indicates that calves weaned in this method spend more time eating and resting and less time walking or bawling than traditionally weaned calves. The rate of gain of fence-line weaned calves is similar to non-weaned calves (Table 1.)

Table 1. Pounds gained in weeks relative to weaning by method

Weeks after weaning	Non-weaned (pasture) ^a	Fence-line weaned (pasture) ^b	Complete separation (pasture)	Complete separation, used to hay (drylot)	Complete separation, not used to hay
2	44 lbs	47 lbs	30 lbs	23 lbs	20 lbs
10	143 lbs	110 lbs	91 lbs	79 lbs	82 lbs

a—not weaned at all during 10 weeks of trial

b—7 days of fence-line exposure to cows then completely separated

Price et al. J. Anim. Sci. 2003

In the study in Table 1, fence-line weaned calves kept up with their unweaned counterparts early on, but slowed down late in weaning. In contrast, conventionally weaned calves performed poorly from the start. Even though, conventionally weaned calves started to catch up to the other groups by 70 days after weaning, they never did catch-up in terms of weight gain. This difference is important in short-term (45 to 60 day) weaning and background systems because there is insufficient time to regain reduced performance.

Obviously the worst option is to wean calves into a drylot with unfamiliar feed. In fence-line weaning, it is important that calves remain in a familiar pasture with a water source they use regularly. When initiating fence-line weaning, move cows and calves to a fresh pasture with plenty of forage for a few days before weaning. Then move cows to an adjacent pasture leaving the calves in the familiar pasture. Fence-line weaning is a good option for Virginia cattlemen.

Weaner rings

In the last couple of years, producers and researchers have been interested in whether weaning could be achieved by calves remaining in the same pasture with their mothers, but suckling prevented by weaning rings. These rings (Figure 1) are inserted in the nose of calves for 3 to 14 days during which the calves shouldn't be able to nurse. The rings do not pierce the nose of the calf but merely held in by the width of the septum between the nostrils. After the initial weaning ring period, calves are completely separated from their dams and the rings removed.

Several studies indicate that weaning rings are effective in reducing the behavioral stress associated with weaning. Calves that wore weaning rings for as little 3 days spent more time eating and resting and less time bawling and walking than conventionally weaned calves.



Figure 1. Nose weaning ring

However, several studies indicate that gain of calves weaned with a nose ring is similar or less than traditionally weaned calves. One report indicated a severe reduction in calf gain when rings were left in for 14 days. There are two causes for the reduction in gain. First calves have to learn how to graze with the weaning rings on. Certainly, these rings also get caught on forage during grazing and pull slightly on the calf's nose. When rings are left in for 14 days, they can cause the irritation to the nose. If the calf's nose gets too sore, the soreness will decrease his desire to eat even after the rings are removed. Occasionally, weaning rings are lost and then calves respond like conventionally weaned calves when separated from their mothers.

At Cornell's Beef Teaching and Research Unit, we have used the calf weaners and fence line weaning for several years. According to Beef Unit Manager, Debbie Ketchen, "these devices have worked well, reducing noise and stress." Debbie has left the weaners in as long as 14 days with no ill effects. According to some sources the optimal time for duration is 3-7 days. However, timing the removal of the weaning devices with a booster vaccination or some other management practice can reduce the number of times cattle must be handled.

Rings are relatively inexpensive (\$0.75 to \$2.50) and can be cleaned and re-used. More research needs to be conducted on nutrition or grazing programs for calves while the weaning rings are worn.

(Adapted from: "The Cow-Calf Manager" Livestock Update, September 2005 John B. Hall, Extension Animal Scientist, Beef, Virginia Tech)

Vaccination Protocol for Weaning Calves

A successful weaning program relies on healthy calves. Healthy calves are the result of good nutrition, good facilities and a comprehensive vaccination program. In the table below are suggestions for scheduling the vaccination program. If you do not booster vaccines that require boosting, you are wasting money, time and adding to stress of the cattle. Perhaps worse than the above, vaccination without boosting (if required) does a disservice to the industry when these calves are marketed as pre-conditioned and/or pre-vaccinated.

Diseases to vaccinate for may vary for a particular region. At a minimum calves should be vaccinated against IBR, BVD, PI3 and BRSV. As selenium has been shown to boost the immune response, selenium supplementation through injection can increase effectiveness of the vaccination program.

Always consult with your veterinarian to develop a vaccination program appropriate for your farm.

Effective	Vaccine Schedule
Best	A. Six weeks prior to weaning: initial vaccine. Use only vaccines approved safe for calves nursing pregnant cows. B. Three-four weeks prior to weaning: administer vaccines requiring a booster.
2nd Best	A. Two-three weeks prior to weaning: initial vaccine. B. At weaning: administer vaccines requiring a booster.
3rd Best	A. At weaning or two weeks post-weaning: initial vaccine. B. Two-three weeks later: administer vaccines requiring a booster.
Useless	Killed vaccine at weaning with no booster.

Always check label information and consult with a veterinarian regarding safe vaccine use in pregnant animals. If used incorrectly, ABORTIONS may result. Modified live vaccines including a BRSV fraction generally recommend a booster for BRSV.

"To ensure optimal health of your animal(s), there are multiple diseases that your calves should be vaccinated for. To design the best protocol for your farm consult your herd veterinarian." Vaccine suggestions:

- | | |
|---|-----------------------|
| (1) IBR, BVD, PI3, BRSV | (5) Selenium |
| (2) Mannheimia haemolytica (formerly <i>Pasteurella haemolytica</i>) | (6) 7-way Clostridial |
| (3) Haemophilus somnus | |
| (4) Pasteurella multocida | |

Ultrasound Services Available

Heather Birdsall, Cornell Cooperative Extension, Cortland County recently received her ultrasound certification. For breeders that require this information for their breed association records, this service is now available within New York State. Images that can be collected are ribeye area, backfat and rump fat depth and percent intramuscular fat. This information is invaluable in developing seedstock that produce high quality beef for today's market. Cattle can be scanned for \$15/head plus travel.

For more details contact Heather at 607-753-5222, hbb6@cornell.edu.

1st Annual Empire Heifer Development Program Bred Heifer Sale

*With two special lots from Cornell's beef herd
All heifers have been professionally developed*



For information:

Martha Wright,
maw32@cornell.edu
585-770-4664

Mike Baker,
mjb28@cornell.edu
607-255-5923

Complete data:

- Ultrasound
- Pregnancy sire
- Pelvic measurements
- Temperament score
- Predicted calving date

In The News...



U.S. beef exports to Japan this year will total \$400 million

by John Gregerson on 8/29/2006 for Meatingplace.com

The Agriculture Department projects that beef exports worth around almost \$400 million will be sold to Japan in fiscal 2007. That's about one-third the amount the U.S. beef industry shipped to Tokyo prior to December 2003, when Japan banned the product on fears of bovine spongiform encephalopathy. USDA says the amount still accounts for about 20 percent of the Japanese market.

Food cost record low relative to U.S. incomes.

From Doane's Agricultural Report; June 2006

University of Missouri economist Ron Plain says U.S. consumers now spend the smallest portion of their income on food in history, even though they are eating fewer meals at home. The latest data shows consumers in the U.S. spend just 9.6% of their income on food. The share spent for food is down even though consumers are willing and able to pay more for convenience items and organic products. Even per capita meat consumption is rising, expected to reach record levels in 2006.

Helping Farmers Affected by this Year's Floods

The **Farm Service Agency** has a website where growers can post information about hay that they have:

<http://www.fsa.usda.gov/haynet/haveviewadds.asp?ID=101>

And a sister page where farmers can post what they need:

<http://www.fsa.usda.gov/haynet/hayviewadds.asp?ID=100>

Farm Bureau Foundation has created a Feed & Forage Fund, aimed to help farmers recovering from June and July flood damage cover the costs of transporting replacement hay and other feed. Donations to the fund can be made by calling the NY Farm Bureau Foundation at 1-800-342-4143.

Cornell Emergency Forage Exchange Project: Matches available forage to farmers in areas affected by flooding. Farmers who wish to sell or donate forage and farmers who need forage should call their local CCE office. For more information go to: <http://emergencyresponse.cce.cornell.edu> or <http://forage-exchange.cce.cornell.edu/fw/>.

You can also post your hay for sale to the following website:
www.hayexchange.com.



Hot Hay Alert: Prevent Hay Fires on Your Farm

Brian S. Aldrich, Agriculture Resource Extension Educator, **Cornell University Cooperative Extension Cayuga County**

Eric M. Hallman, Director, **Cornell Agricultural Health and Safety Program**

Risk of Fires Caused by Wet Hay

It's no news that it's been tough to make dry hay this year, and that wet field conditions have increased the risk of putting up hay that is not dry enough to cure well. We received a report of a hot hay bale from northern Cayuga County on July 11. **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 table on page 8 provides guidance for actions to take depending on the temperature of the hay. We have put this table together using several published references, and have chosen the most conservative values where there were differences.

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

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 danger zone! Check temperature every two hours.
150 to 160°F	Begin moving hay out of 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 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.

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. 607-255-7654. nraes@cornell.edu

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 haystack 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 bay temperature probe with thermometer.

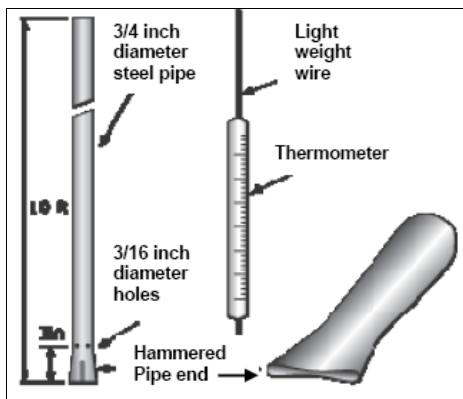


Figure 2. Proper procedure for monitoring hay temperatures

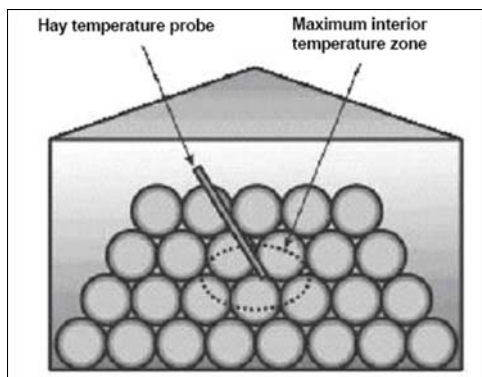
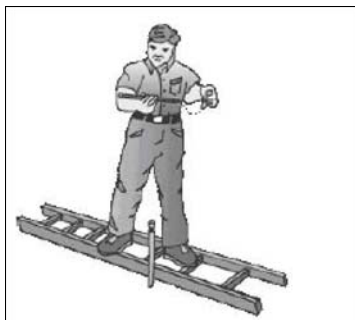


Figure 3. Proper location for inserting temperature probe.

Source: *National Ag Safety Database* http://www.cdc.gov/nasd/menu/topic/fire_safety.html.

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."

Further Information

For further information about hay and silo fires, contact Eric Hallman at the Cornell Agricultural Health and Safety Program, 1-877-257-9777. 777 Warren Rd., Ithaca, NY 14850. <http://www.diaglab.vet.cornell.edu/aghealth/>

The Cornell Farmedic Training Program has instructors who can train and assist rural firefighters with the best methods for extinguishing fires on the farm. Contact them at 1-800-437-6010, farmedic@cornell.edu. www.farmedic.com



2006 Cornell Sheep & Goat Symposium



Featuring educational presentations, a trade show and practical demonstrations.

Annual meeting of Empire Sheep Producers on Saturday.

Presentations & demonstrations will include:

- ❖ Sheep to shawl demo
- ❖ Small ruminant slaughter demo
- ❖ Intensive pasture management
- ❖ Poisonous pasture plants
- ❖ National animal ID system
- ❖ New principles in feeding ruminants
- ❖ Mineral nutrition
- ❖ Practical animal management at the Cornell Sheep Farm
- ❖ Practical feed formulation
- ❖ Resources for developing the farm business
- ❖ Lamb & kid carcass cutting & evaluation
- ❖ Veterinary help for sheep & goats

FMI go to: <http://www.sheep.cornell.edu/sheep/calendar/2006sgsymposium/index.html>

Fencing for Sheep

Comparison of Fencing Types

Type of Fence	Advantages	Disadvantages	Best Use
Barbed Wire	Less expensive than woven wire. Easy to install.	Non-predator proof. Injury to livestock. Wool gets snagged in barbs.	In combination with woven wire fences. Should not be electrified.
Woven Wire American Wire Page Wire Field Fence	Physical barrier. Controls predators if extra wires are installed.	Expensive Most difficult to install. Sheep can get heads stuck.	Permanent Perimeter.
Livestock panels Hog panels	Physical barrier. Strong	Expensive	Corrals and holding areas.
Mesh Wire	Physical barrier. Small openings. Predatory control.	Expensive	Permanent Perimeter Corrals & holding areas
Board Split-rail Vinyl/PVC	Physical barrier. Attractive	Most expensive. High maintenance (board). Will not contain sheep or control predators unless electric, mesh, or woven wire is added to fence.	Corrals & holding areas.
High Tensile, Non-electrified 8-10 strands	Long life. Less expensive than woven, mesh, or barbed wire or board. Neat appearance.	More strands needed. High maintenance.	Permanent Perimeter Corrals & holding areas.
High Tensile, Electrified 5 to 7 strands	Long life. Less expensive than woven, mesh or barbed wire or board. Relatively easy to install. Neat appearance.	Maintenance required (e.g. clean fencelines). Physiological barrier.	Permanent Semi-permanent Perimeter Interior
Electrified (polywire), 2-3 wires	Least expensive. Easiest to install. Easy to move.	Non predator-proof. Short life.	Interior Temporary
Electric Netting	Mental and physical barrier. Better predator protection than other temporary electric fences.	Expensive Entanglement Short life	Interior Temporary Small areas

Want to calculate the cost of barbed, woven wire or high-tensile fence?

Go to www.sheep101.info/201/fencing.html. Read the great article on sheep fencing and follow the directions to the fencing cost calculator.

Celebrity Sheep

What ever happened to Dolly, the cloned sheep?

Dolly -- the world's first animal to be **cloned** from an adult **cell** -- became the most famous sheep in history after her birth was announced by the Roslin Institute in Scotland in 1997. Dolly was born July 5 1996 from three different mothers. Her genetic mother provided the **DNA**, a second ewe provided the **egg** into which the DNA was injected and a third carried the resulting cloned **embryo** and gave birth to Dolly. It took 276 attempts before the experiment was successful. The birth of Dolly was hailed as a scientific breakthrough. Dolly became a superstar and seemed to enjoy the constant human attention.

Dolly gave birth to six lambs. She was put down when she was six and a half years old, after developing a lung infection. Dolly's health problems may have been a result of the fact that she was cloned from a six-year-old ewe.

She also suffered from a form of **arthritis**. After her death, Dolly was stuffed and put on display in the Royal Museum of Scotland.



The Toast of Botswana

An unusual case of a goat-sheep **hybrid** was reported by veterinarians in Botswana in 2000. The animal was born naturally from the mating of a female goat (which is generally thought not possible) with a male sheep that were kept together. The hybrid had 57 **chromosomes**,

intermediate between sheep (54) and goats (60), proving it was not a case of mistaken identity. Its features were halfway between sheep and goats. The hybrid had a very active **libido**, mounting both ewes and does when they were not in heat. This earned the hybrid the name "Bemya" or "Rapist." He was **castrated** when he was 10 months old because he was becoming a nuisance.



Mark Your Calendars...



12th Great Lakes Dairy Sheep Symposium—November 9-11, 2006. LaCrosse, Wisconsin at the Midway Hotel Riverfront Resort. Topics to include sheep dairy economics, organic cheese production, sheep diseases, somatic cells in dairy sheep, updates on dairy sheep research, sheep behavior, and farm tours. For more information or to register, go to <http://www.cals.wisc.edu/ccs>.



Selecting Gilts & Sows

As well as possessing the genetic potential to improve the production characteristics of her progeny, the sow must have the ability to rear large, healthy litters.

Selection: Production performance

Gilts should be selected on performance, namely growth rate and lean and fat composition. Various selection indices are available which take into consideration the prolificacy of sow lines and their ability to wean large numbers of heavy, healthy piglets. Replacement gilts are then drawn from these superior lines. Small herds are faced with the alternative of buying in gilts from breeding companies or selecting gilts from their own herd. If you intend to purchase gilts, it is unwise to simply go to a herd which has a high average performance in a particular trait and purchase one at random. It is important to select animals that are proven superior to their contemporaries.

The entry of stock always poses a disease risk, but where gilts are bought from one known healthy source and adequate quarantine measures are employed, the risk can be kept to a minimum.

Conformation and physical soundness

Teating

Teating is perhaps the obvious character on which to base gilt selection but, unfortunately, the number, size, shape and placement of teats receives little attention. Gilts should possess at least seven evenly spaced teats on either side. They should start well forward and be in a straight

line. Often the last three to four teat pairs tend to splay out, and when this occurs they tend to be hidden under the sows flank when she lies down, thus out of reach of the piglets.

Avoid selecting gilts with blind teats. This is an inherited defect and means that the particular mammary gland cannot supply milk to the piglet. An equally serious problem is physical damage to the teats. When establishing their teat order and when young piglets suckle, there is vigorous activity prior to milk let-down. Young piglets can damage their front teats, especially if the floor surface is rough and abrasive. Inverted teats are also a cause for concern. Small, inverted teats often recover but the long inverted teats rarely become functional. If at all in doubt, cull the gilt.

Short, thick teats are less desirable than longer thinner teats. Piglets have difficulty suckling short teats and as the sow matures the teats increase in size and the problem is magnified. Gilts should be physically examined for these disorders. This means actually restraining her while an examination can take place.

Vulva

While the exact incidence of defects in reproductive organs is unknown, a wide variety of abnormalities do occur. With visual selection the only reliable feature that can be accounted for is the shape, size and placement of the vulva. It should be large, without sign of infantilism, and free of the 'fish hook' appearance found in hermaphrodites.

Legs, feet and general conformation

Gilts must possess sound legs and feet without any sign of weakness. Pasterns should be strong, sloping to toes of even size. Gilts should be wide through the hindquarters with depth and squareness in the body cavity; ribs should be well sprung. If the physical soundness of the gilt is in doubt she should not be kept as a breeder. Breakdown later in her breeding life can cause piglet losses, hardship and loss of productivity.

Temperament

Gilts should be quiet but alert and active. If there is any tendency to be flighty or overly aggressive, they should be disregarded as future breeders. While management plays an important part in the development of certain behaviours, many problems at farrowing time could be averted by careful selection of gilt replacements.

Taken from "Basic Pig Husbandry—Gilts & Sows", by Graeme Taylor & Greg Roese.

Managing & Marketing for Pasture-Based Livestock Production

Ed Rayburn, Editor

Provides fundamental and essential information a producer needs to manage and market a goal-oriented forage-livestock system.

Managing and Marketing for Pasture-Based Livestock Production,

NRAES-174 is the first of four related books to be published this year. Together, they will cover all aspects of pasture-based livestock production. This first book focuses on the framework of management decisions around which a forage-livestock production system is developed. The first chapter covers the basic principles of forage-livestock production; social, economic, and environmental sustainability; and the benefits of pasture-based systems. Subsequent chapters cover developing vision and mission statements and setting goals; inventorying farm resources and preparing a plan; allocating farm resources; marketing commercial feeder cattle; dairy marketing; direct marketing; and hay marketing.

This practical 116-page guide will be an invaluable resource for anyone considering starting a pasture-based livestock operation. Current pasture-based livestock producers, confined-animal producers considering switching to a pasture-based system, farm managers, producer advisors, extension educators, soil and water conservation district and NRCS personnel, agronomists, and environmental professionals will all find this book useful.

To order, contact NRAES at (607) 255-7654 or go to: <http://www.nraes.org/publications/livestock.html>

Mark Your Calendars...



Central NY Farm Progress Show—September 13 & 14,
Dennison Corners just off Route 8, Mohawk (follow the signs)



**Cornell University
Cooperative Extension**
Oneida County

Ag Staff Available To Assist You:

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