



The Livestock Extension

To Do: July–August

- ◆ After first cutting or grazing, consider fertilizing with nitrogen to maximize aftermath growth.
- ◆ Continue to monitor body condition of first and second calf heifers. If they drop below 4.5, they should receive supplemental nutrition. A body condition score of less than 4.5 may cause a decrease in conception rates.
- ◆ Watch for cows returning to estrous. This is indication that fertility of bull(s) and cow(s) may be compromised.
- ◆ Remove bulls after 60 day breeding season.
- ◆ Control flies with insecticidal ear tags, backrubbers, dust bags or spray. Do not use feed through insecticides.
- ◆ Monitor and control pink-eye by controlling flies and clipping pastures.
- ◆ Be prepared for pastures that run out: leasing additional pasture, supplemental feeding, etc.
- ◆ Begin to choose calves for marketing and development programs: NY Pooled Weaning and Marketing, NY Value Discovery Program, Empire Heifer Development Program, Special Feeder Calf Sales.
- ◆ Check with your bull supplier about feeder calf marketing programs they sponsor.
- ◆ Line up supplies for fall roundup and weaning.
 - a) Buy ear tags to identify replacement heifers and cows.
 - b) If deemed, necessary (consult your veterinarian to do a fecal egg count) worm cows and bulls.
 - c) Vaccinate calf crop for IBR, BVD, PI3, BRSV, Pasteurella, Mannaheima, 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.

Grazing Management in Dry Times

By Jeff McCutcheon, Extension Educator, Knox County Ohio

Taken from: <http://fairfield.osu.edu/ag/beef/beefJune6.html>

Rotations need to slow down. Grass is growing slower, it takes longer to start regrowth after being grazed and it takes longer to reach optimum grazing mass (height) for the next grazing. The number of days grazing a paddock can be increased, as long as you do not over graze. The rest period needs to increase. For most graziers this means pulling more acreage into the rotation. Many use fields where they made first cutting hay. Another consideration is unused fields in your area.

Every grazer works to protect their perennial forage resource. Do not overgraze! Overgrazing is something we try to avoid in normal years, but critical in dry ones. Overgrazing during a drought can cause slower recovery when we do get rain, reduced productivity even longer after recovery and can cause stand loss.

During dry periods we need to be extremely protective of our residual. Residual is the term used for the amount of green forage left after grazing. Residual is an important aspect of managing grazing. In a dry year it becomes even more critical. The amount of residual has an effect on many things.

The amount of residual affects root growth. Many of you have seen the study from 1955 on leaf area removal and root growth. This data showed that at 50% leaf removal only 2% of the roots stopped growing. At 60% leaf removal 50% of the roots stopped growing. All of the roots stopped growing at 80% leaf removal. A healthy root system helps the plants survive the dry times. If more than 50% of the leaf area is removed then root growth stops. Root growth is used to capture more water and nutrients. At the very least this slows re-growth.

The amount of residual affects re-growth. Green leaves are needed to capture sunlight for photosynthesis. This creates the non-structural carbohydrates needed to fuel re-growth. Without enough leaf area the forages must fuel re-growth from their stored reserves. Growth fueled by the root reserves is slower than growth fueled from active photosynthesis.

The amount of residual affects water absorption by the soil. Grazing below 1200-1500 lbs./DM per acre or 2-3" will allow most of the rain that does come to run off and not be absorbed by the soil. A classic forage study from the 1930's shows the runoff results from a 10% slope

where three inches of rain was applied through a sprinkler system over 90 minutes. Pasture grazed to 95% cover experienced a little over 10% runoff. Overgrazed pasture, 50% ground cover, lost 75% of the rain that was applied. More leaf area means less water runoff. The more vegetative material you have will shade the soil and slow the movement of rain allowing the water to be absorbed by the soil.

When we consider grazing management during dry times remember that without rain pastures grow slower, and close grazing will compound the problem. Slow growth means the rest between grazing needs to be longer. Do not take more residual to allow for this rest. It may get to the point where you need to consider other options, like annual forages, supplemental feeding, and even penning the animals up and feeding them. If growth stops, the worst option would be to open up all of the gates letting animals overgraze the whole farm. Dry-lotting them may be the best option.

Should I Clip My Pastures?

By Jeff McCutcheon, Extension Educator, Knox County Ohio
Taken from: <http://osu.edu/ag/beef/beefJune21.html>

It is mid June and you are standing in a pasture field. The cows were rotated out of this field the day before. The ripening grass seed heads come up to your waist. The green leaves of the grass and clovers have, for the most part, been grazed to about 2 inches or 1200 lbs. of dry matter per acre. It does not look too bad. Yes, the spring flush got ahead of you, but with this year's growth pattern, it was hard to keep up. You ask "Should I clip this pasture?"

First, clipping will help keep it vegetative. Yes, but not at this point. It would have been beneficial to clip during the stem elongation or before flowering after the seed head emerges. That would have forced the plant to grow more vegetative tillers. Now with the seed ripening on the stem those specific tillers are pretty much done. You will still have re-growth, just not from those tillers. Every cool season grass tiller in a pasture field does not produce a seed head every year. It has been said that clipping after flowering is either cosmetic or for revenge, not vegetative growth.

OK, what about weed control? Cutting weeds does more damage when the weeds are in bud or bloom stage. Clipping to control weeds could be a valid reason, but it needs to be timed right.

What about pinkeye prevention? One aspect of preventing pinkeye is to reduce eye irritation. A main eye irritant in pastures is seed heads and grass stems. Cattle will graze down through the seed heads and stems to get the more desirable forage. Seed heads and stems can cause physical abrasions to the eye. These abrasions provide an opportunity for bacterial infection. If you struggle with pinkeye, then clipping to remove the seed heads and get the stems below eye height is a valid reason.

Pinkeye—A Disease of Plenty

By Bethany Lovaas, DVM, University of Minnesota Beef Team

In years when weather is very conducive for excellent pasture growth, there is also a higher incidence of pinkeye seen in cow herds. This can be explained, for the most part, by two things: high rate of pasture growth means grasses are likely unusually tall (depending on species) and are likely to be rubbing near the cows'/calves' eyes, and with high moisture springs comes a plague of flies. Face flies are usually the culprit. These are the flies that are seen around the cows' eyes, feeding on the cows' tears.

The typical organism that causes pinkeye is *Moraxella bovis*, which is normally found in the bovine eye. In the case of health, the bacterium lives and grows on the cow's eye, without causing any signs of disease. However, in the case of injury to the cow's eye, her normal defense mechanisms are compromised, and the bacteria will set up an "opportunistic" infection. Injury can occur by simply a blade of grass touching the cornea, and damaging the first layer of cells on the cornea, or by the cows' own attempts to rid herself of the flies on her face.

Pinkeye affects the cornea of the eye, and usually nothing else. It also starts as a small point in the center of the cornea, and as the disease progresses, it affects more and more of the corneal surface, until the entire cornea is enlarged, white to yellow in color, and the cow is completely blind in the affected eye. It is important to note that during a moderate to severe infection of pinkeye, there may be blood vessels visible where there were none before. This is part of the body's attempt to heal by bringing circulating white blood cells to the sight of infection.

Typical signs of pinkeye depend on the severity of the disease. Some cattle may simply have some mild to moderate tearing (mild infection). Some cattle will have severe tearing, be photosensitive (sensitive to light) and are squinting, and there may be swelling noted around the affected eye. In severe cases, the cornea will be so

enlarged and swollen, that the cow may actually have difficulty closing her eyelids over the affected eye.

When deciding to treat pinkeye, remember that cows are incredible healers. Even if you think that there is no hope for healing, unless the eye is actually ruptured, don't give up. Treatment of cattle affected by pinkeye is determined by the severity of the infection. If you note simply tearing from the affected eye, with little to no signs of clouding of the cornea, you will likely have good success treating with a subcutaneous injection of oxytetracycline or an intraocular injection of penicillin (+/- dexamethasone). However, if there is a large degree of corneal opacity noted, treatment should include an antibiotic and the eye should be sutured closed or the eye should be covered with a patch.

Vaccination against pinkeye may be recommended if you typically have problems year after year. These are moist areas (often swampy areas) where there is a lot of tall, coarse grasses, where the cattle congregate to keep cool and keep the biting flies off of their bellies. An annual vaccination strategy may be prescribed for that cow herd. However, in areas where pinkeye is typically not a problem, and there is an outbreak in the odd year, vaccination may not be very cost effective. In a lot of cases, by the time the outbreak is recognized as such, and a vaccine is implemented, the worst of the outbreak is over. It typically takes cattle two weeks to mount an effective immune response to a vaccine, and by the time their immune system is effectively stimulated, the outbreak is over, and any healing noted is due to the fact that the worst of the problem is already past, and most cattle are already convalescing. The ideal time to get the vaccine into the cattle is a minimum of two weeks prior to the outbreak, which can be done if you are good at predicting weather patterns and how they will affect the fly population.

Some practices that can be implemented to decrease the incidence and/or severity of pinkeye are related to controlling the inciting factors. If the problem is predominantly due to tall grass, a potential solution would be to clip the pastures to a more manageable height for the cows. If an overabundance of flies is the main culprit, fly control can be accomplished by putting insecticide impregnated ear tags in the cows/calves, pouring the cows with an oil based permethrin or pyrethroid insecticide, or providing the cows with oilers and rubs (for self application of insecticide). When using fly tags, it is important to remove the tags after their labeled effective life has expired. If they are left in the cows' ears for longer, the amount of insecticide continues to decrease over time, and can select for insecticide resistant strains of flies. This may ultimately make them ineffective on your farm, and you may be forced to implement other fly control measures.

Heat Stress and Beef Cattle

By Stephen Boyles, OSU Extension Beef Specialist

High temperatures raise the concern of heat stress on cattle. Heat stress is hard on livestock, especially in combination with high humidity. Hot weather and high humidity can reduce breeding efficiency, milk production, feed intake, weight gains, and sometimes cause death. Livestock should be observed frequently and producers should take precautions when hot and humid weather is forecast. Work cattle early in the morning to decrease the risk of heat stress. A danger sign in cattle is panting. The panting mechanism in cattle does not appear to work as well as the one dogs have.

Major management options are providing shade, improved ventilation and a sufficient quantity of water. Shade for livestock can be provided by trees, buildings or sunshades. The temperature can be further reduced by spraying cool water across the roofs of buildings where animals are housed. Ventilation can be provided for air movement by fans and windows. Sunshades should be high enough to allow air movement.

Providing an adequate source of cool, clean drinking water is essential to help keep animal's internal body temperature within normal limits. It is thought that water temperature affects rumen temperature and thus blood temperature which affects brain centers that control feed consumption. Above-ground water lines should be provided shade by having taller grass cover them. Run lines in fields that are not being currently grazed to water troughs that are in fields being grazed. The manager should at least check the water temperature in the water trough. Temperature increases from 70°F to 95°F can increase total water requirements by about 2.5 times.

Producers using management intensive grazing might consider several options. One option is to rotate through fields at a more rapid rate. Taller grass tends to be a cooler surface to maintain cattle on than pastures with shorter grass stands. Another option is rotate cattle in the evening rather than the morning. The assumption is that the grass will be consumed in the evening and hopefully the "heat of fermentation" or digestion is mostly dissipated by mid-morning, thereby reducing the heat load produced by the animal. Another possible option is to graze paddocks that allow access to barns (shade) or trees during the heat of the day. This will reduce equal distribution of manure throughout the paddock but might be a suitable compromise during excessively hot weather.

A similar recommendation of feeding feedlot cattle in the evening rather than the morning may apply. Conversely, cattle may eat more during the night than during the day in hot weather. Cattle that look hot in the morning will not eat much that day. Any shift in feeding feedlot cattle needs to be done gradually. Keep in mind that concrete is hotter than dirt so you may need to check cattle more frequently that are predominantly on concrete than on dirt. However this situation is less of concern in Ohio where most feedlot cattle have access to some shade.

Producers sometimes talk about "hot" feeds and "cool" feeds. We must discern whether the discussion is about energy content or actual heat production. Corn and other concentrates are sometimes called "hot" feeds. This is in reference to their higher energy content compared to hay or straw (cool feeds). However, corn and other concentrates contribute less to the heat of fermentation or digestion than hay. Therefore cattle actually produce less actual heat when consuming corn than when consuming hay. Further increasing the concentrate portion of a feedlot finishing diet may lead to acidosis problems. One option is to feed more frequently so as to keep the feed fresher (especially silage) and to feed a greater part of the diet in the evening rather than in the morning. Similarly high quality forage produces less heat of fermentation than low quality forage. This might be another argument for moving cattle to higher quality pasture or moving more frequently through paddocks.

An excessive level of protein during heat stress may be detrimental. The excess nitrogen supplied by the protein must be detoxified and prepared for excretion (via urine). This is a biochemical pathway that is very high in energy demands.

Increased water consumption will increase excretion of urine. This will also increase the loss of certain minerals, such as sodium (a part of salt), potassium, and magnesium. Free choice trace mineral salt should be provide in a location that the animals will consume it. Loose salt will be more readily consumed than block salt.

And to add to the fun, this hot spell could cause some areas to become "droughty." Livestock not only eat less during hot days, but high temperatures and dry weather reduce the amount of pasture grasses available for grazing, which can lead to inadequate feed intake or illness from consuming toxic plants and weeds that may be the only "greens" available for animals to consume.

The weather service issues special forecasts during extremely hot weather to alert livestock producers of dangerous weather. The warnings are based on a temperature-humidity index, which increases

as the temperature and humidity increase. The danger level is indicated by an index value of 79, which is reached in various combinations of temperatures above 85 degrees in combination with high humidity. As temperatures increase, slightly lower humidity can still create dangerous and emergency conditions. The emergency levels begins at an index level of 84 and occurs at temperatures in the 90 and 100 degree range, increasing in danger as the humidity level increases. Livestock producers should listen to local radio and television weather reports early in the day for warnings that heat stress may become a problem.

Is It Time To Consider Early Weaning?

By Dr. Thomas B. Turner, Department of Animal Science, The Ohio State University

For most beef producers with spring calving cow herds, summer is a time to focus on other things. It seems like the one season of the year when we can reduce the hours per week spent with the beef enterprise. Things appear to be okay and they probably are "okay" but are there potential profits being lost? Consider the following:

- Beef cow lactation peaks at about six weeks post calving and continues to decline.
- July and August pasture growth and moisture are generally limited.
- The number of cows most beef producers keep is a function of how many can be carried in July and August.
- Dry cows consume significantly less feed than lactating cows. Some studies would suggest as much as fifty percent less, or the difference between 4% of their body weight on a dry matter basis during lactation versus only 2% when dry.
- The combination of reduced milk production, decreased pasture and increased calf size may (and probably does) result in calves not receiving adequate energy to maximize growth during this most efficient growth period of their life.
- Calves nursing cows are not efficient in converting creep feed to gain. Most studies would show that it takes 8-10 pounds of creep feed to make one pound of gain.
- Early weaned calves will convert feed to gain at about a 3.5 to 1 ratio.
- Early weaned calves will weigh about 100 pounds more at

normal weaning time than calves left on the cow.

- Calves can be successfully and relatively easily weaned from 70 to 120 days of age and started on a grain diet.
- Calves averaging 100 days of age and 300 pounds take up very little barn or shed space.
- If retaining ownership, calves will reach harvest weight earlier and have a higher quality grade.
- Dry cows that have had their calves weaned early will enter the winter in better body condition.
- Calves born in February, March and early April can be weaned on or about July 1 - the typical start of dry, hot weather in most parts of the country.

In summary, early weaning can increase calf weight significantly and decrease cow input. Therefore one could carry more cows on the same land and wean heavier calves with a smaller amount of feed to the calves.

Profit Optimization & Evaluation Programs

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.

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 November. Heifers can be bred artificially at the heifer rearing facility, or returned home for breeding. Eligible heifers can be sold in April. For more information, contact Martha Wright, Empire Heifer Development Program Manager, maw32@cornell.edu, 585-770-4664.

New York Pooled Weaning and Marketing Program

Purpose: Provide a uniformly managed group of feeder calves, commingled from several producers, in a truck load lot, which can be marketed at optimum value. Calves are accepted in October and marketed in late November or December. For more information contact Mike Baker, Cornell Beef Specialist mjb28@cornell.edu, 607-255-5923.

**Cornell Cooperative Extension of Oneida County
STAKEHOLDER SURVEY – June, 2007**

In order to focus the efforts of our Farm Business Managers, please indicate the areas of activity where you think CCE-Oneida County support can have the most important impact:

ACTIVITY	Very important	Somewhat important	Not important
Advise on the development of new farm enterprises			
Help improve farm recordkeeping systems			
Help improve computer skills on the farm			
Provide financial analysis in support of key business decisions on your farm			
Collect and disseminate research-based information on new farming techniques, technologies and opportunities			
Collect and disseminate information on zoning, tax, insurance and regulatory issues facing farmers			
Collect and disseminate information on local prices and costs (custom work, land rental, etc.)			
Coordinate networking and educational opportunities for farms undertaking similar activities or facing similar challenges			
Communicate to local legislators and town officials about issues facing the farm community			
Communicate to the community at large about issues facing the farm community			
Support development of local markets for farm products			
Help you understand and plan for the impacts of specific market developments (e.g., high corn prices) on your farm			
Support your efforts to find grant funding and low-cost loans for your new farm project			
Help improve human resource management on your farm – recruiting, retaining, training, developing job descriptions and organizational charts			
Help with managing immigrant labor issues			
Help with managing transition of your farm to the next generation or to new owners			
Help with organic certification or organic management practices			
Help with locating and selecting farm support services – veterinary, livestock, feed			
Help develop and implement on-farm protocols			
Help with managing change			
Help identify opportunities to reduce energy costs			
Decision analysis on energy alternatives			

Please list other areas of activity you would like to see supported:

**Cornell Cooperative Extension of Oneida County
STAKEHOLDER SURVEY – June, 2007 (continued)**

Your name: _____ (optional)

Your farm name: _____ (optional)

Years in farming: 0 – 2 2 – 5 More than 5
 _____ _____ _____

Your primary ag-related activities (choose as many as apply):

- Dairy farmer (Number of milking cows: _____)
 Horse farmer (Number of animals: _____)
 Beef cattle farmer (Number of animals: _____)
 Poultry farmer – eggs (Number of birds: _____)
 Poultry farmer – meat (Number of birds: _____)
 Hog farmer (Number of animals: _____)
 Other livestock farmer (Please specify: _____)
 Field crop grower (Number of acres: _____)
 Vegetable grower (Number of acres: _____)
 Fruit grower (Number of acres: _____)
 Nursery operator
 Christmas tree grower
 Greenhouse grower
 Certified organic farmer
 Non-certified organic or natural farmer
(Please specify any alternative certification: _____)

Government official/board member:

- County legislator
 Town Board member
 Town Planning Board/Zoning Board member
 Farmland Protection Board member
 Other Town/County/State/Federal agency member
(Please specify agency: _____)

Agricultural Services:

- | | |
|---|---|
| <input type="checkbox"/> Seed/Feed/Fertilizer/Chemical dealer | <input type="checkbox"/> Dairy processor |
| <input type="checkbox"/> Machinery/equipment dealer | <input type="checkbox"/> Dairy cooperative |
| <input type="checkbox"/> Insurance | <input type="checkbox"/> Real estate |
| <input type="checkbox"/> Finance/credit | <input type="checkbox"/> Fuel vendor |
| <input type="checkbox"/> Accounting | <input type="checkbox"/> Farm building sales |
| <input type="checkbox"/> Veterinary | <input type="checkbox"/> Other agricultural services provider |
| <input type="checkbox"/> Custom crop services | (Please specify: _____) |
| <input type="checkbox"/> Livestock hauler | _____ |
| <input type="checkbox"/> Auction house | |

Thanks very much for your help in setting priorities for the services we provide.

Please return the completed survey to:
Jim Manning, Farm Business Manager
CCE - Oneida County
121 Second Street
Oriskany, NY 13424
Ph. (315) 736-3394, ext. 129

NY Beef Producers Central Bull Test and Sale

Purpose: To 1) compare individual performance of potential herd sires, 2) provide an opportunity for seedstock producers to market individual bulls, 3) provide a source of bulls for commercial and seedstock 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.

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, hhb6@cornell.edu.



Gear Up/Throttle Back and Save Fuel

Tractor efficiency may not get a lot of attention in cow country. But, saving money on fuel costs these days gets a second glance from nearly anyone.

As fuel prices continue to rise, ranchers hitting the fields can realize significant cost savings through fuel efficiency, says Tyler Lane, Montana State University (MSU) Extension agent in Toole County. He's teamed with other MSU Extension and researchers with the Ag Tech Centre in Lethbridge, Alberta, to bring producers the most recent research on optimizing tractor efficiency.

Ballasting your tractor for the load you're pulling is one of the first steps in saving fuel, Lane says. But, if you're already in the field, there are things you can do to cash in on fuel economy that require little or no down time.

"Most operations have more tractor than they need for the implement that they're pulling," he says. "So, an efficient practice they can apply on the fly is to 'gear up and throttle back'."

According to Ag Tech Centre research, a four-wheel-drive 262 horsepower tractor consumed 13.8 gallons of fuel/hour at full throttle. The same tractor, run in higher gear at part throttle, consumed 9.8 gallons/hour, or roughly 30% less fuel.

"If fuel prices rise again this spring to \$3/gallon, four gallons saved in an hour would come out to \$12/hour in savings," Lane explains.

In addition to finding the "sweet spot" in tractor engine rpm, the researchers recommended these simple efficiency tips:

- ◆ For best performance and ride, set all the tires on a given axle to the same pressure. Lane says to measure tire pressure when the tractor has not been used for several hours.
- ◆ If fluid is used for ballasting on a new tractor, equalize the fluid among all of the tires on the axle.
- ◆ Warm up your engine by starting slow in low gear (idling is not necessary).
- ◆ When shutting the tractor down for the day, wait for the temperature gauge to drop slightly. Additional cool-down time is not necessary.

More research-based information on tractor efficiency to save fuel, reduce depreciation and minimize soil compaction is available at: extn.msu.montana.edu/Directory/Field.asp.

Save State & Local Taxes on Purchases of Motor Fuel

By Jim Manning, Farm Business Management Educator, CCE Oneida County

You may be able to save taxes on purchases of motor fuel, but you need to be familiar with some different forms:

1. Diesel motor fuels:

There are three relevant state and local taxes:

- ◆ Diesel motor fuel tax
- ◆ Petroleum business tax
- ◆ Sales tax

To benefit from the available exemptions, you will need to provide the fuel vendor with a completed copy of Form FT-1004. This

form is available from the New York State Department of Taxation and Finance, and may be downloaded at www.nystax.gov.

If the fuel will be consumed directly and exclusively in the production phase of farming, AND is delivered to your farm, check box (a) on form FT-1004. This will allow you an exemption from all three taxes.

If the fuel will be consumed either in farm production OR in a commercial horse boarding operation OR both, check box (b) on form FT-1004. This will allow you an exemption from sales tax but not the other two taxes. (This exemption does not require the fuel to be used directly or exclusively in farm production or commercial horse boarding operations.)

In both cases, the fuel is not to be consumed on public roadways except to reach adjacent land used by the farm or horse boarding operation. These exemptions are limited to 4,500 gallons per month unless you have prior written clearance from the Tax Department.

2. Gasoline motor fuel:

The relevant state and local taxes are:

- ◆ Motor fuel excise tax
- ◆ Petroleum business tax
- ◆ Sales tax

You cannot get an exemption from these gasoline taxes upfront. However, if you use the fuel directly and exclusively in farm production, AND the fuel is delivered to your farm, you can file for a refund of these three taxes using Form FT-420, also available at www.nystax.gov.

You have up to three years from the date of purchase to file form FT-420, but you will need to supply complete records of the purchases, including original purchase invoices showing name and address of the dealer, date of purchase, number of gallons, type of fuel, and the amount of each tax paid. You also need to keep a record of how the fuel was used. If your gasoline is delivered to a storage tank, you need to keep records of additions and withdrawals from the tank.

If the gasoline is not delivered to your farm, or if it is used in farm production but not directly and exclusively in the production phase of farming, you may still qualify for a refund of the sales tax (using Form FT-500), or the motor fuel excise tax (using Form FT-946/1046).

Some Tips for Moving & Storing Round Bales

When is the best time to move round bales off a field? It depends on the field. If multiple cuttings are planned, it's best to at least move them to the side of the field the day they're baled, says University of Nebraska Extension forage specialist Bruce Anderson.

That's because wheel traffic can damage new growth. Alfalfa, one day after baling, can lose 5-7% of its yield potential directly in a wheel track. Waiting a week can result in a 25% loss.

Removal is less critical for the year's last cutting, but whatever is sitting under a bale for a month likely will be killed. "Usually plants can handle that kind of covering for maybe up to a week," Anderson says.

It's also important to ensure wet bales aren't moved into storage, adds Dennis Buckmaster, Purdue ag engineer. Allow wet bales to dry before being stored. And when it comes to storing those bales, the planning should start before the baling, Anderson says.

Begin by considering access to bales. Don't store them where snow or mud will limit your access.

Drainage is also important. Elevate bales by using crushed rock, concrete, wood pallets or railroad ties, or simply store them at a high elevation where water drains away. A lot of hay spoilage isn't necessarily from rain hitting it from the top, but moisture wicked from the soil, Anderson says.

Orient bale rows in a general north-south direction to expose both sides to sunlight. Occasionally, a southwest-to-northeast orientation can utilize prevailing winds to aid in drying.

Separate bale rows by 3-4 ft. to allow for air movement and moisture evaporation.

Keep track of different types of hay. Know where bad and potentially dangerous hays are and have access to these different groups.





Mineral Mixes for Sheep

By Mark L. Wahlberg & Scott P. Greiner, Extension Animal Scientists, Virginia Tech

Proper nutrition involves providing all the necessary nutrients for sheep to grow, reproduce and maintain their health. High quality pasture and hay should be the basis of any sheep feeding program.

Good pasture and hay supply high levels of protein and energy. They also provide most of the minerals required by sheep. However, several minerals are likely be deficient in forages and other feeds, thus the common recommendation of offering mineral supplements to your sheep to keep them in top health.

There are many essential minerals required by sheep. Macro-minerals (potassium, sodium, calcium, magnesium, phosphorus, sulfur) are necessary in larger amounts. Minerals needed in very small quantities are called micro-minerals, or trace minerals. These include manganese, iron, selenium, zinc and copper.

Copper is an essential micronutrient, but is toxic to sheep in larger doses. Copper tends to be stored in the liver and over time can cause liver damage, resulting in death.

The same holds true for selenium. While our soils tend to be low in selenium, some soils out West are actually too high in this element, which can lead to poisoning. Because selenium is not stored in the body for very long, frequent intake of Se is critical. Thus, a mineral mix available free choice (always available) allows the flock to maintain proper Se concentrations in their bodies.

Minerals and salt products are available in loose, granular form and in blocks. Because blocks are hard enough to shed rainwater, it is sometimes difficult for sheep to get enough minerals from licking them. Some sheep even break their teeth on blocks.

It is strongly recommend that mineral supplements be fed in loose form, in a feeder to keep out the weather.

The basic ingredient of all mineral mixes is salt. Sheep have a craving for salt, and consume the mineral mix to get the salt. Never use a mineral mix formulated for another species.

Sheep do not eat the same amount of minerals throughout the year. Intake of minerals is higher when sheep are on pasture.

During the dry summer months intake is lower, as is the case when eating hay. If a water source is nearby, intake is higher. In addition to nearby water, intake is better if mineral feeders are located in shady areas or along frequently traveled paths.

Loose minerals must be fed in a covered feeder to keep rain out so they don't cake and become hard. There are several types of free-choice mineral mixtures available to sheep:

White Salt contains only sodium and chlorine. This is not an adequate mineral supplement.

Trace Mineral Salt (TMS) is White Salt with added Trace Minerals. No macro-minerals are included. It is often red from the iron compounds added. Unless specifically stated, TMS contains no added selenium, although there are some TMS products that do. TMS with added selenium is considered the minimum acceptable mineral supplement for sheep.

Complete Minerals is a mixture containing salt, the macrominerals calcium and phosphorous, and trace minerals. It may or may not have added Selenium.

Keep your sheep healthy. Provide a mineral mix at all times.



Ag Staff Available To Assist You:

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