



The Forager

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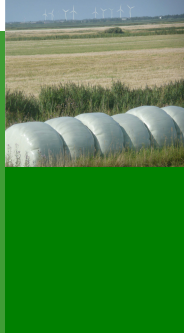
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2011 Iowa Forage and Grassland Conference

The 2011 Iowa Forage and Grassland Conference will be held on Tuesday, November 22 at the Des Moines Airport Holiday Inn.

The Iowa Forage and Grassland Council strives to provide timely information to Iowa's forage and grassland producers. This year's conference will address managing cover crops and selecting plant varieties and traits to improve forage yields and quality; provide an update on Roundup Ready alfalfa's return to the market and other current events; and provide a forum to review livestock leasing, rental rates for pasture, and Iowa fence laws.

The IFGC annual meeting will be held and awards will be presented to the 2011 IFGC Hay Producer and the 2011 IFGC Livestock/Grazing Producer following a banquet lunch.

Monday evening arrivals are invited to join speakers, vendors, and board members for some Monday Night Football and social time at the hotel. Conference registration and additional details will be mailed soon. Please find additional conference details at: <http://iowaforage.org/> as they are developed further, and invite anyone interested in forage and grassland issues to attend. Hotel reservations may be made at 515-287-2400. We look forward to seeing you in November.

Wean Earlier to Extend Pastures and Improve Cow Efficiency

Written By: Joe Sellers, ISU Extension Beef Specialist
(adapted from Iowa Beef Center "Growing Beef Newsletter", August 2008)

As producers plan to manage pasture and stored feed resources in this day of high feed costs, one strategy to consider is early weaning. Weaning calves at 120-160 days of age rather than 180-210 will reduce the amount of feed needed by the cow dramatically and allow her to regain body condition with marginal quality feeds. If calves are weaned and confined to a drylot, more pasture could be used to stockpile forage. If there is adequate forage available calves can be pasture weaned and grown on high quality grass.

Early weaning could reduce dry matter grass consumption 20-35%, while decreasing the energy and protein requirements of the cow's diet. If the cow continues to graze good quality pasture she could gain 1.25 to 1.4 lb. per day, or add .4 to .5 body condition score in one month. If the cow is fed a typical hay ration it could reduce the daily cow feed bill \$.30 to \$.50 per head. The added body condition will also pay dividends in reduced winter-long energy requirements and improved reproductive performance.

The method of weaning you choose has an impact on calf health and performance. Multiple studies demonstrate that weaning on pasture can be a benefit to weaned calf health and performance. This requires readily available, high quality forages for calves familiar with fences and using pasture source. If you choose to early wean in the feedlot, clean water and quality feeds are essential and placement of feeders and water locations should reduce pen walking and dust.

A recent Iowa beef producer tour I coordinated to Nebraska visited a ranch that used fenceline pasture weaning with great results, and many Iowa producers have used similar management for several years. If you want more detailed information contact me at sellers@iastate.edu or 641-203-1270. Other resources are available at the Iowa Beef Center website, www.iowabeefcenter.org.

Fall Cutting Management for Alfalfa

Written By: **Stephen K. Barnhart, Extension Forage Specialist, Iowa State University**

Rainfall throughout the growing season put many alfalfa producers behind several weeks for their first, and correspondingly their second, third, and sometimes fourth cuttings. Now in mid-September, producers are trying to decide on their remaining fall harvest options and the possible impact on winter survival of the stands.

The goal is to help keep the forage plants 'perennial'

During the fall weeks, perennial forage legumes and grasses respond to shortening days and cooling average daily temperatures and progress through their gradual "cold hardening" process. The genetics of the variety determines how cold tolerant the plant crown and taproot can be during the winter months. Most successfully winterhardened alfalfa plants can withstand soil temperatures in the crown area to about 0 to 4 degrees F without crown tissue damage. At lower soil and crown temperatures, varieties and individual plants will vary in the degree of cold damage they may experience.

To acquire their potential for winter survival, alfalfa plants should get 5 to 6 weeks of uninterrupted growth to accumulate root carbohydrates and proteins before going dormant for the winter. A 'killing freeze' is about 23-24F for several hours. So it is important to manage fall harvests to give the plants the best chance for strong winter survival.

Fall cutting management strategies:

Producer Question: My alfalfa is knee high in mid-Sept, should I cut it now?

Barnhart Answer: My answer will depend on your answer to this question: Will the field be hay next year?

If you say 'No,' I'll answer saying, 'Cut anytime.'

But if you plan for the field to be hay next year, my answer will be based on whether you need the hay. If you don't need the hay, leave the last growth in the field – don't graze in fall or winter. And if you do need the hay, it is best to wait until at or after the killing freeze (23-24 F) to cut. Then leave a 5-6 inch stubble.

Producer Question: But it is difficult to dry hay in October! (True!!!) What is the risk of cutting in mid-Sept.?

Barnhart Answer: If you cut in mid-Sept. the plant will begin to regrow and begin to use what stored carbohydrates they have. The risk comes if this late growth will leave the plants with a relatively low root level of available root stores when the 23-24 F killing freeze comes. Low levels of winter root stores may lead to a greater susceptibility to winter cold injury and to a delayed spring recovery.

Factors, which improve alfalfa, winter survival:

Here is a checklist for you to review to see how your summer and fall management has been relative to alfalfa stand vigor and overwintering potential.

- 4" or more of winter-long snow cover
- a winter tolerant variety
- 2 or 3 summer cut harvest systems with good regrowth between cuttings
- 5-6 weeks of uninterrupted growth during September and October
- All of the last growth of the season is left in the field (no cutting or grazing) – if you did take a late fall cut or grazed, you left a 5 to 6 inch stubble.
- Management of insects (potato leafhoppers) during the growing season
- Good levels of available potassium in the soil
- Young stands – or older stands with no root or crown disease

The 2011 Iowa Forage & Grassland Council Conference

Monday evening, November 21 – Tuesday, November 22

at the Airport Holiday Inn Conference Center
in Des Moines, Iowa

To make room reservations call 515.287.2400

Don't miss it!

Prussic Acid Poisoning Potential in Frosted Forages

Written By: Steve Barnhart, Department of Agronomy and Grant Dewell, Veterinary Diagnostic and Production Animal Medicine

The first few frosts of the fall bring the potential for prussic acid poisoning when feeding forages. Some forage species, primarily sorghums and closely related species, contain cyanogenic glucosides, which are converted quickly to prussic acid in freeze-damaged plant tissue. Historically in Iowa there are very few documented cases of prussic acid poisoning. However, the risk is present, and good management practices are necessary to minimize the risks.

Prussic acid, or more precisely, hydrocyanic acid, is a cyanide compound that can kill animals within minutes of ingestion under the right circumstances. Cyanide interferes with the oxygen-carrying function in the blood, causing animals to die of asphyxiation. Symptoms include difficult breathing, excess salivation, staggering, convulsions and collapse. Affected animals will have bright cherry red mucous membranes from the cyanide. Ruminants are more susceptible than horses or swine because they consume large amounts of forage quickly and the rumen bacteria contribute to the release of the cyanide from consumed plant tissue.

Sudangrass varieties are low to intermediate in cyanide poisoning potential, sorghum-sudangrass hybrids and forage sorghums are intermediate to high, and grain sorghum has high to very high poisoning potential. Pearl millet and foxtail millet have very low levels of cyanogenic glucosides. A few other plants also can produce prussic acid, including cherry trees.

Prussic acid does not form in sorghum and sudangrass plants until the leaf tissue is ruptured, as with grazing or chopping. Young, rapidly growing plants will have the highest levels of prussic acid. The cyanide-producing compounds are more concentrated in young leaves. Minimum plant heights of 18 inches are recommended, to avoid using risky, young leaf tissue. Plants growing under high nitrogen levels are more likely to have even higher cyanide potential.

Frost and freezing can cause a rapid change in prussic acid risk in plants of any age or size. With frost, forage tissues rupture, and cyanide gasses form. The cyanide gas can be present in dangerously high concentrations within a short time, and remain in the frosted leaves for several days. Because cyanide is a gas, it gradually dissipates as the frosted/frozen tissues dry. Thus, risks are highest when grazing frosted sorghums and sudangrasses that are still green. New growth of sorghum species following frost can be dangerously high in cyanide due to its young stage of growth. Prussic acid content decreases dramatically during the hay drying process and during ensiling. Frosted foliage contains very little prussic acid after it is completely dry. Sorghum and sudangrass forage that has undergone silage fermentation is generally safe to feed.

Precautions to take to limit risk

When grazing or greenchopping species with prussic acid potential this fall, follow these guidelines:

- Do not graze on nights when frost is likely. High levels of the toxic compounds are produced within hours after a frost.
- Immediately after frost, remove the animals until the grass has dried thoroughly. Generally, the forage will be safe to feed after drying five to six days.
- Do not graze wilted plants or plants with young tillers or new regrowth. If new shoots develop after a frost they will have high poisoning potential, sudangrass should not be grazed until the new growth is at least 18 to 20 inches (24 to 30 inches for sorghum-sudangrass).

Best management is to allow the final, killing freeze to kill the crop, and then wait five to six days before grazing. Other practical managements may be to harvest as hay or silage since. In most cases, adequate growth for safe grazing cannot be obtained after a later, killing freeze occurs.

- Don't allow hungry or stressed animals to graze young growth of species with prussic acid potential.

Green-chopping the frost-damaged plants will lower the risk compared with grazing directly, because animals have less ability to selectively graze damaged tissue; however, the forage can still be toxic, so feed with great caution. Feed greenchopped forage within a few hours, and don't leave greenchopped forage in wagons or feed bunks overnight.

When making hay or silage from sorghum species this fall, consider the following:

- Frosted/frozen forage should be safe once baled as dry hay. The forage can be mowed any time after a frost. It is very rare for dry hay to contain toxic levels of prussic acid. If the hay was not properly cured, it should be tested for prussic acid content before feeding.
- Waiting five to seven days after a frost to chop frosted forage for silage will limit prussic acid risks greatly.

Delay feeding silage for eight weeks after ensiling. If the forage likely contained high HCN levels at time of chopping, hazardous levels of prussic acid might remain and the silage should be analyzed before feeding.

Other common forages such as alfalfa, clovers and cool-season perennial grasses do NOT produce toxic compounds after a frost and can be fed safely. The only concern is a slightly higher potential for bloat when grazing legumes within a day or two after a killing frost.

Ranch's Forage Impresses Conservation Specialists

Written By: *Loretta Sorensen, Progressive Forage Grower, July 25, 2011*

Gene Gibbs has a smile on his face when he walks through his pastures on the GB Ranch in south-central Iowa, just outside the small town of Promise City.

The delight he gets from seeing the diverse, healthy forage his cattle are grazing every day is also reflected in comments made by the Natural Resources Conservation Service (NRCS) district conservationist and Iowa State University Extension specialist he's consulted with in recent years.

"I've been a little astounded sometimes at the quality of Gene's soil and the quality of his forage," Mark Fehseke, Wayne County (Iowa) NRCS district conservationist, says.

"It's been a couple of years ago that Gene invited me over to take a look at the legumes in his paddocks. They were so plentiful. I typically carry a 12-inch soil probe with me when I make this kind of visit so I can see what the soils are like.

Gene and I were both surprised at how easily the probe penetrated the soil, a sign of plentiful organic matter.

We discovered a root at that 12-inch depth that was similar to what you'd find on more fertile land. That was great and a little surprising."

Gibbs and Fehseke also found Eastern gamagrass in the paddocks, which is nearly unheard of in Iowa.

The warm-season bunch grass is native to the eastern United States and is still often found east of Kansas and Oklahoma.

It was once found extensively throughout the U.S., but now is rarely found in large, natural stands. Native buffalo and elk used to graze the now-rare forage before it was grazed out by domestic livestock.

"The first clump I spotted in Gene's paddock was headed out with seed," Fehseke says. "I started looking around for more and found several more similar clumps; each one seemed a bit larger than that first one.

The largest stand of the gamagrass was on a sloping hill. That was also all headed out. You have to be a really good manager to maintain Eastern gamagrass in a cool-season pasture."

Rest periods that allow regrowth are critical to cultivating quality forage. That management practice is built into Gene's grazing rotation plan as he works through each of his 13 paddocks.

His cattle graze small areas, which result in trampling some of the forage so it's returned to the soil, building organic matter. He also moves the cattle before forage is grazed too severely.

"Grazing studies have shown that taking about 50 percent of a plant for grazing will result in loss of about 5 percent of the root structure of that plant," Fehseke says. "Removing 60 percent of the plant will result in loss of half the root structure. Grazing over 80 percent of the plant means losing the entire root structure.

Gene's rotation plan is working well for him because my soil probe revealed very healthy root structure at a soil depth of 12 inches. That, combined with the quality of organic matter here, is what's providing such lush forage."

Soils on Gene's ranch are weathered glacial till soils with some leached loess soils, all tending to have high clay subsoil. It's substantially different than the typically silty soil found in other parts of Iowa.

"The main difference between soils like those found at GB Ranch and most other soils in Iowa is how rain is absorbed into the soil," Fehseke says. "It will soak through the silty soils much more readily. Because Gene has such high organic matter in his soils, he's capturing a lot of the rain that would probably runoff otherwise and be needed later in the season."

In the initial stages of developing his grassland, Gene used lime to bring his soil pH to 6.5 percent. That was the environment his legumes needed in order to thrive.

"When we first moved here, the clay soil was yellow and it hung on our boots so much we could hardly pick up our feet after walking through it a ways," Gene says. "Now it's mostly gray on the top three to four inches of the soil. That's the result of the cows trampling some of the forage as they graze. They also ensure good nutrient distribution. We also graze as much as we can during winter, which keeps nutrients on the grass, too."



When Gene Gibbs bought his farm near Promise City, Iowa in 1973, the forage there was mostly fescue. He and his wife Ramona created a conservation plan and began interseeding legumes in the 80s and 90s, intensifying their grazing rotation in the early 90s. The result is a lush blanket of forage that continues to provide high-quality feed for their livestock and promotes organic matter in their soils.

Managing the fescue in Gene's fields has also been accomplished through rotation.

"Trefoil and red clover also help reduce the fescue toxicity," Gene says.

Gene doesn't need to reseed any forage in his pastures. The soil quality provides what forages need to grow and they appear in response to the rotational grazing.

Joe Sellers, Iowa State University Beef Program specialist, says the Gibbs family has realized such success with their forage because it's their primary focus and they have implemented what they've learned over the years about the benefits of soil conservation practices.

"Both Gene and his wife, Ramona, have been involved with soil and water conservation for quite a few years," Sellers says. "They received the 2009 Iowa Forage and Grassland Council's Livestock Forage Producer Award.

Three of their key principles are that they have adequate acres, don't overgraze and have long rest periods for their paddocks.

A lot of people don't use the conservation principles they've learned as well as the Gibbs family has. For those raising crops, their focus is split between forage and crop production and the forage sometimes suffers."

Gene and his sons, Michael and Ed, have worked together on the ranch, serving as cooperators on Iowa State University forage demonstrations and research projects.

Sellers says rising feed and pasture lease costs might push more livestock producers to review their forage production plan.

"It's not as easy to find pasture, so there's likely to be more interest in fine-tuning forage production and getting the most out of every acre to help reduce feed costs," Sellers says. "The quality of Gene's forage also helps with weed and brush control. That's not an issue at GB Ranch."

Gene and his wife, Ramona, began developing GB Ranch in the early 1970s. Gene says they purchased the land with the idea of producing forage to raise beef.

"We have always preferred that type of operation rather than raising corn and soybeans," Gene says. "It eliminates the expense you have for machinery when you plant crops. Input costs are much less, too."

Gene, Ramona, their sons and their sons' wives (Michael and Nita Gibbs of Promise City and Ed and Danette Gibbs of Allerton) run 1,200-pound Angus females for their cow/calf operation.

Over the years, as they developed their grazing system, they strategically established several ponds amongst the paddocks as a water resource.

Fehseke says implementation of the principles they've learned has led the Gibbs family to realize such success.

"They really have a well-managed system," Fehseke says. "They have a lot of knowledge about forage production and a thorough understanding of how their system works.

As I and other conservation specialists work with Gene, we're all learning from one another. Gene reads a lot of materials related to forage production and tests out new ideas from time to time.

He's gained a great deal of knowledge just from working so closely with his system all these years."

Sellers says their success can be reproduced with an investment of the time and effort the Gibbs family has demonstrated.

"They've been so good to share what they learn and take part in events like pasture walks and research projects,"

Sellers says. "They're a great model for other forage producers. They take pasture management seriously and, to them, soil conservation is a big deal.

They've learned and have demonstrated to all of us that little things make a big difference."

This article can be found at: http://www.progressiveforage.com/index.php?option=com_content&view=article&id=3947:ranchs-forage-impresses-conservation-specialists&catid=70:producer-features&Itemid=61.



Gibbs family left to right: Ramona, Gene and Mike all received the 2009 Iowa Forage and Grassland Council's Livestock Forage Producer Award.



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Managing the Fall Growth in Hay Fields: Considerations on the ‘Killing Freeze’

Written By: Stephen K. Barnhart, Extension Forage Specialist, Iowa State University

As night time temperatures dip lower hay growers begin to consider their ‘end game’ for the seasons forage fields. If you turn to newsletters from Agronomists there seems to be some mixed messages. Among the management guidelines are:

- ‘alfalfa requires four or more hours at 24 degrees F or less for a killing freeze ‘.
- ‘that we do not need to wait for a killing frost to take the last cutting; we must only wait until it is so cool that little or no regrowth will occur.’
- One goes as far as to ask, ‘What is a killing freeze for alfalfa?’, and then says that, ‘alfalfa tops don’t die at any set temperature. Some parts freeze back, while some parts closer to the ground may remain green into the early winter months!’

Who is right? There is a bit of truth in all of the statements.

Top leaves and stem tips generally do freeze at around 23 Or 24 degrees F; but the lower part of the plant may remain alive for weeks longer than that.

By mid-October, alfalfa is respond increasingly to shorter days and cooler temperatures, and growth slow significantly, sometimes called dormancy.

Essentially, for acceptable winter survival and rapid recovery the following spring, we need to provide enough time during the fall months for the plants to accumulate sufficient carbohydrates and amino acids, and not cut so soon in the autumn that the plants attempt a late regrowth and begin to use those accumulate.

So, what about the killing freeze? It may not be necessary, but it is an indicator that we can probably harvest the last growth of the season without jeopardize stand persistence.

Where do I weigh in on this? I guess I will stay with my guidance of.....‘you need to give the forage stand 4 to 6 weeks of uninterrupted growth through September and early October; then, if you think that you need the forage, harvest close to the killing freeze or later.’