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Notes from your County Agent:
Well it has been a wild and wet late spring and early summer but it looks like things are starting to dry out and you will be able to continue with hay harvest and working cattle. I have heard lots of different rainfall amounts for the year from different parts of the county and most of them have been in the 36 to 42 inch range so far. We have several programs on the schedule that may be of interest to you. Also, as you are cutting and baling hay and are wondering about quality come by the office and pick up forage sample bags and submission forms to get your hay analyzed. If there is any way I can help you when running a tractor, working cattle or anything else give me a call and I would be happy to come out. Any time I can get out of the office and spend time around the county is time well invested.

Upcoming Programs and Events

**Beef 706 Session II - August 1-3**
Texas A&M University will be offering this program to Texas cattle producers. The program will cover a very wide variety of topics from carcass grading to genetics. It will be held in College Station and will visit several of the research centers at Texas A&M University. For more information please give me a call.

**Texas A&M Beef Cattle Short-course - August 6-8**
August 6-8 in College Station, $140 per person, call for more details.

**Texas A&M Ranch Estate Planning Seminar - August 8-9**
August 8-9 in College Station, $125 per person, call for more details.

**Pesticide Collection Day - September 12**
TCEQ will be coming to Navarro County to offer a pesticide disposal opportunity. Our site still has to be approved but once that is taken care of we will give you more details. Mark your calendars and gather up any leftover agricultural chemicals.

**Navarro County Hay Testing Drive - October 3**
Entries will be due at the Precinct 1 Barn on October 3.

**Forage and Grazing Seminar - October 16**
Program will focus several different aspects of forages and grazing. Stay tuned for more details.

**2008 Blackland Income Growth Conference - January 15-16**
Held in Waco. Details will be coming but I know that there are several outstanding speakers lined up for the Beef and Forage Sessions.
What about a different example involving fall-calving beef cows?

With this second example, we will continue to assume land ownership in East Texas, but an operation that has a fall-calving cow herd. With fall-calving cows, nutritional requirements during the fall are increased due to lactation. Since overseeded annual ryegrass primarily produces forage during late winter and spring an additional forage species may be necessary to provide adequate forage high in nutritive value earlier in the fall-winter season. The inclusion of a small grain rye in combination with ryegrass will provide earlier and usually more total forage than ryegrass alone. 

Rye also is well adapted to sandy soils in East Texas. Therefore, the forage system would be as follows:

1) May through October: Graze growing bermudagrass pastures. During periods of excess forage growth, consider the following options: Harvest excess forage mechanically (sell or keep hay) OR use stocker calves to harvest excess (purchase of contract stockers).

2) Early to mid-September: Have bermudagrass pastures that are designated for stockpiling grazed short, rotate cattle to other pastures, fertilize with 60-75 lbs. N/acre. Allow forage to accumulate growth for later grazing. Not as much forage will be required as for the late winter calving due to rye pasture availability.

3) Mid to late October: Have pastures that are designated to be planted to rye-ryegrass grazed short, rotate cattle to other pastures. Lightly disk the pasture and drill 100 lbs. of rye seed and broadcast 25-30 lbs. of rye seed per acre. Follow planting with a light dragging operation.

4) Late October to mid-November: Fertilize winter pasture with 50 lbs. N/acre.

5) When other bermudagrass pastures are grazed to a final residue height for the season and stockpiled bermudagrass is utilized, initiate grazing of winter pasture. This will usually be late December to early January. Allow cows to limit graze the winter pasture about two hours per day. Provide creep access and allow calves unlimited use of the winter pasture. Cows spend the rest of the time on dormant bermudagrass. Some hay may be fed as needed. Using this grazing procedure, one acre of forage will provide grazing for three cow-calf pairs.

6) Apply an additional 50 lbs. N/acre to winter pasture on about December 15.

7) On February 1 and March 15, make additional 50 lbs. N/acre applications to winter pasture. An additional 50 lbs. of N/acre may be applied on May 1. This will enable ryegrass to remain vegetative longer and provide the initial N fertilization for the bermudagrass.

8) Depending on weather the production system involves late wintering or fall calving cow herds, the forage systems described above can result in lower winter feeding costs with adequate to good animal performance compared with traditional hay only or hay + supplement strategies.

What about using a legume in a forage system?

To this point only grass species have been considered as a component to the forage system. Many producers, however, have learned that the inclusion of an adapted forage legume can provide an additional benefit that grasses cannot: the contribution of nitrogen to the system that can reduce, or in some instances, eliminate the need for nitrogen fertilizer. In East Texas, adapted clovers (such as crimson, arrowleaf, white or ball clover) or hairy vetch may provide 100 lbs. N/acre per year to the forage system. Also, given the fact that various legumes have different distributions of growth, they provide another way that a producer can influence the quantity and nutritive value of pasture forage available at different times. Using clover to provide nitrogen to the forage system has a higher degree of risk associated with it than simply purchasing fertilizer. Stocking rates may also be somewhat reduced (20—25% at Overton). The overall cost of production, however, can be dramatically reduced, thus making the use of forage legumes an economically viable choice when determining what species should be included in the forage system.

What about another example involving rangeland cow-calf production?

Much of Texas west of the I-35 corridor is dominated by rangelands. Beef production in these
Developing and Using a Forage System (Part 1 of 2) continued...

areas primarily depends on native forages. Many of these production systems, however, could benefit from the addition of a small grain and/or rye-grass pasture for winter grazing. Many times there are abandoned crop fields that could be established to winter pasture. Limited grazing of these pastures could serve to reduce the need for crude protein and/or energy supplementation while improving animal performance. Generally, rangelands should be grazed and not used for hay production. Therefore, the addition of a small field or bermudagrass or Old World bluestem for hay production could benefit the rangeland beef producer. An adapted introduced warm-season perennial grass could provide all of the hay required for the enterprise from a small production unit, thus minimizing the overall negative impact to the rangeland. One example of how introduced forages may be beneficial in rangeland cow-calf production comes from the USDA Southern Plans Experimental Range near Woodward, OK. Typical stocking rates for cow-calf production at that location are approximately 20 acres per animal unit year (AUY). With the use of only 1.5 acres of introduced forage (double cropped to warm-season and cool-season annual forage grasses), the rangeland requirement was reduced to only 12 acres per AUY (Sims, 1993). Not only was the land requirement reduced per cow, but net return per acre was almost doubled (Gillen and Sims, 1998). A little bit of introduced forage can go a long way in a rangeland cow-calf production system when appropriate sites are available.

Summary

Grazing animals should receive most, if not all, of their nutrition from forages that are standing in the field. Any deviation from this strategy can result in reduced profit potential due to generally higher cost of hay or reduced animal performance. Hay feeding should be considered a tactical solution to a short-term problem such as drought or ice and/or snow cover days. Supplementation should only be used under specific guidelines involving heifer development, backgrounding stocker cattle, or when forage supply is in short supply. Development and utilization of a forage system should be a priority goal for all livestock producers.

References


Stocking Rate Calculation Example

**50 acres of Bottomland Range Site**

8,500 lbs total forage - 4,250 lbs/ac residue = 4,250 lbs/ac.

4,250 lbs/ac X 0.5 = **2,125 lbs/ac consumed**.

2,125 lbs/ac X 50 ac = 106,250 lbs of forage divided by 26 lbs/day = **4,086 animal unit days of grazing if using 1000 lb lactating cows**.

4,086/365 days = **11 head/50 acres stocking rate**

*This estimate is for a Navarro County bottomland range site which can average about 8,500 pounds of forage production per year (USDA Soil Survey for Navarro County, Texas). Fertilized pastures receiving adequate water can potentially average more pounds of forage per year and thus could result in a higher possible carrying capacity or stocking rate. For example studies at the Texas A&M University Agriculture Research and Extension Center in Overton, TX reported yields of Tifton 85 ranging from 11,000 to 14,000 lbs/ac and studies at the Texas A&M University Agriculture Research Center in Pecos, TX reported yields over a 7 year average (irrigated) of 13,649 lbs/ac for Coastal, 11,555 lbs/ac for Tifton 85 and 11,321 for Jiggs. Additionally, a cool season forage can provide additional forage for grazing and can reduce the need to feed hay during winter.*
**Featured Forage: Ryegrass (Lolium multiflorum)**

Ryegrass is indigenous to southern Europe and is a popular forage choice for late winter/early spring feeding of livestock. Ryegrass grows on a wide range of soil types and grows better on wet soils than any cool-season annual grass. Ryegrass is generally later in maturity, thus extending grazing well into the spring. Ryegrass establishes readily without any seedbed preparation and tolerates a high level of grazing pressure. With adequate moisture, ryegrass can produce large quantities of forage (mostly during the spring production phase) and is generally the most productive of all the cool-season annual grasses if appropriate levels of fertility and an adequate soil pH is provided. At Overton, several varieties such as ‘Big Daddy’, ‘Abundant’, ‘Marshall’, and ‘TAM90’ have demonstrated good dry matter yields over the past several years.

Information from “Forages for Texas” by Dr. Larry Redmon, Texas Cooperative Extension, SCS-2002-14.

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**How Much Hay Do You Lose Before Feeding?**

With hay being a precious and expensive commodity to produce, how much of the hay you've baled actually makes it to the rumens of your cattle? A recent University of Tennessee trial compared different methods of storing large round bales of grass hay. The hay was cut and baled in June in Moore County, TN. The bales were weighed at the time of harvest and storage, then weighed again the following January at the time of winter feeding. The following table lists the type of storage and the resulting percentage hay loss. On the Ground, No Cover - 37%, On Tires, No Cover - 29%, On Ground, Covered - 29%, On Tires, Covered - 8%, Net Wrap, On Ground - 19%, In Barn - 6%. Obviously, losses can be significant depending on type of storage. The data also suggests that storage losses occur from moisture getting into both the top, and bottom of the bales. If hay can't be stored inside a barn, the next best option is to at least get the hay off the ground and under a tarp or plastic cover.

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**Maverick Herbicide Section 18 Extended**

The Texas Department of Agriculture has been granted approval by the U.S. Environmental Protection Agency to extend a section 18 quarantine exemption allowing the use of sulfosulfuron (Maverick herbicide) in bermudagrass pastures and hayfields to control johnsongrass. Applicators may continue using the product through June 30, 2008. Applications may only be made by certified or licensed applicators or persons under their direct supervision. Call TDA at (512) 463-7544 or 800-TELL-TDA with questions. Approval notice online at www.tds.state.tx.us.

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**Beef and Forage Online Resources**

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