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In the cattle business, drought is a regular occurrence that is hard to predict when it might happen. As we continue on through November with very little pasture and hay resources available, producers are desperately looking for strategic ways to feed their livestock. When pastures dry up and available hay declines, the remaining options for feed the livestock can be come costly. This is usually enough to make a cattle producer's heart skip a beat and put a hole in their wallets.

The drought conditions that we have experienced for the three months has not produced only a short in hay supply, but has deeply impact the establishment of winter annual forage crops and the possibility for grazing. These conditions can greatly elevate the price of feeds and put a dent in profitability. This gives producers only two options: (1) reduce the nutrient requirements of the livestock to a point they can be met with available forage, or (2) provide supplemental feed with adequate energy, protein and fiber. One of my most difficult part of planning your feeding program is determining what viable feeding options are available to determine the difference between cost and revenue. Planning should always start with realistic estimate of the amount of feed needed to carry the animals (calves, pregnant cows, bulls, etc.) though a feeding period (months). There is a need to assess quality and quantity of your current feed inventories: feed sources you have access to, produced, bought, or contracted. Once these relevant feeding options are identified, there is a need to estimate the total cost of each commodity (purchase price, transportation, storage cost, feeding labor cost, feeding loses, dry matter content and nutrient content). It is also important to consider all the cost and benefits when buying feeds from different sources. Developing a budget will help any producer to understand the economic implications in feeding decisions under drought conditions.

If a producer is looking to buy hay, it might be better to buy it by the ton instead each individual bale that way you are guaranteed that you are getting the uniformity on what you are paying for since weights between bales can vary. Keep in mind that when you are buying hay, you are buying a product to meet the nutritional requirements of your livestock. Therefore, knowing the nutritional value (protein, energy, and fiber content) become a must to justify the investment. When buying hay, it will be desirable to buy hay that was baled at low moisture content and stored inside. If the only option is to buy bales that have been stored outside and exposed to climatic conditions, inspect them very carefully for mold and spoilage of the outer layers. That is something to take into account while assessing the value of the hay.

Stay alert for potential problems that might be a result of drought. Hay cut under moisture stress may contain high levels of nitrate. Test a representative sample for nitrate levels before implementing a feeding program. Prussic acid or cyanide poisoning can also be a problem on drought-stunted plants such as sorghum, sorghum-sudan hybrids, sudangrass, Johnsongrass and corn regrowth. Forage should not be allowed to graze after a frost for seven to ten days, prussic acid problems should be lessened. In the event of using weedy hay, feed in area that you keep the livestock confined and can help prevent spreading viable seed to other areas. It might be a good idea to feed in areas that are usually dominated with annual species where might much easier to treat weed infestations. Cattle grazing short pastures are more likely to consume toxic plants, evaluate your pastures for poisonous plants before it is too late. Contact your local extension agent or forage specialist if you suspect of potential toxic plants in your grazing areas.

Under dry conditions, limit-feeding hay can provide an opportunity to reduce hay needs especially with the increase in hay prices. This can be a smart strategy only with feeding good quality hay and it is not recommended for livestock with low body score condition. This strategy could also reduce hay loses by up to 30% when using proper feeding methods. Limit-feeding good quality hay could also be an opportunity to reduce forage intake by a least 20% when limiting access to hay for at six hours per day or by providing a reduced daily amount of hay. The literature indicates that under limit-feeding strategies, the livestock will gain less weight but the difference will not be much different than free choice due to greater intake efficiency.

Although the drought is in full swing, producers should start planning to establish winter pastures now since the planting window is shrinking. The longer they wait, the more difficult will be to make sure that plants get established and there is enough growing degree days or heating units to keep the plants going. One option to consider with late establishment is to plant at a heavier seeding rate than the common recommended seeding rate. If there is a good rainfall in the forecast, the heavier rate will insure quicker cover and will help maintaining soil moisture. At this point, the realized grazing that we expect by late December or early January might be pushed to early February if weather conditions improve. At this late in the season, it might beneficial to plant in a prepared seedbed or using a no-till drill to increase the soil to seed

contact and improve the odds of germination and establishment. If you are running out of time, consider planting a mix of annual ryegrass with fast growing, cold and drought tolerant small grain like cereal rve to increase the changes of much earlier grazing. Producers should withhold any nitrogen application until the plants have germinated and they are at least two to three inches tall. That could keep cost down by waiting until the plant is active to use the nitrogen.

Once the pastures are ready to graze, avoid the temptation of just opening all gates and let the animals trample the majority of the available forage. Add additional temporary crossfences such as electric fences to increase the number of paddocks, increase the ability to control graze and rest periods. Winter grasses can withstand



**Figure 1.** Finding ways to spend less on wintering cows is more important than ever under droughty conditions. While producers pay more attention to alternative and by-product feeds and on least cost ration formulations, managing the amount of hay the cattle eat and minimizing loses is often overlooked.

heavy grazing if followed by proper rest periods, especially under cold weather where they can replenish above- and below-ground tissues. Be proactive in monitoring the condition of your established winter pastures. Limit grazing appropriately before severely diminishing pasture recovery, health and future production.

Daily feed costs are going to increase during a drought. Buying hay and supplemental feed are practices that are not usually endorsed by our forage program. The ideal alternative feeding program will be meeting the livestock nutrient requirements as close to budgeted costs as possible. When nutrition is not adequate, livestock will begin to lose body condition and will negatively affect their productivity and will require additional expense in feeding to bring them to adequate condition. There could be issues with cycling, abortion, giving birth to light weight calves that could face health issues along with vigor and slow growth. As feed costs increase, and available forages become more limited, it may be necessary to cull some of the older or lower producing cows. Reducing the herd size will allow to concentrate on more intensive management strategies during the drought period. This can also allow to expand the heard with higher quality animals once forage production resumes to ideal conditions.

Quality hay will be a valuable commodity and needs to feed wisely and carefully throughout this winter season. Remember that the price of hay can vary considerably due to the type hay and cost of transportation. There might also some opportunity to substitute some feeds for others in certain areas. I would recommend to do some shopping for reasonably priced commodity feeds, but keep in mind that prices might be different than what you have been used to in the past. The goals of supplementing commodity feeds during drought periods is to keep body score conditions that will allow the cows to get re-bred, maintain beef production and minimize the feed cost per animal.

**Summary –** Drought develops progressively and not overnight. Management for forage resources during a drought depends on the balance between stocking density and the availability of feed hay or provide supplements. Be smart, make decisions based on logic and not on emotions. You can protect your herd by making decisions that are less sensitive to drought such as assessing the body condition of the herd, feed inventories and the financial resources available. It is important to develop a feeding program that will give you the most mileage from the feeds already available in

your farm and supplementing them appropriately. Contact your county agent or nutritionist to determine if your strategic feeding plan is meeting the livestock nutrient requirements. Underfeeding nutrients decreases animal performance while overfeeding nutrients increases feed expense and reduces the net return. Make every effort to reduce feed loses by feeding properly and providing the quality feed to the livestock that will require the greater level of nutrients. Consider substituting commodity feeds for hay only when these substitutions can balance the ration more adequately at a lower price.

A large number of counties in Mississippi has been declared disaster areas and qualify for federal disaster programs. Make sure to keep records and retain receipts of hay and feed purchased above and beyond your normal feeding period. Some of these programs may be retroactive and will require appropriate documentation to validate losses and receive compensation. Contact your local Farm Service Agency for more information in which federal programs might be available in your county.

## **Upcoming Events**

January 22-24, 2017—American Forage and Grassland Conference, Roanoke, VA February 1-3, 2017—Cattle Industry Convention & NCBA Trade Show, Nashville, TN February 10-11, 2017—Mississippi Cattlemen Convention, Jackson, MS

For detailed information related to upcoming forage events please visit: http://forages.pss.msstate.edu/events.html

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