Drought Strategies - What To Do?

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Introduction

Drought is an occasional problem in Florida with many areas of Florida experiencing drought in the last 3 years. This has resulted in cattle being out of grass and, in some cases, drinking water. Water supply in flat woods pastures can usually be provided by cleaning or digging water holes or providing water from wells. A shortage of forage presents problems that can be addressed by selling cattle and/or supplementation. This discussion will review some of the alternatives and provide management tips.

Watering During Drought

Many cattle grazing Florida flat woods pastures drink water from ditches, ponds and water holes. In drought situations, cleaning water holes or digging new ones can usually provide adequate supply of water. It is important to develop new water supplies before the water is gone. Risks that have been reported with low surface water supplies are high levels of salt, sulfate, or nitrate, and toxins produced by blue-green algae. Toxic concentrations of salt, nitrate, and sulfate have not been common problems in Florida but could be in some situations if water contaminants were concentrated by evaporation. Blue-green algae toxins have caused problems in Texas, northern U. S., and Australia. When toxicity occurred, a blue-green scum of algae was often present on the water and cattle showed salivation, muscle tremors, convulsions, and death within an hour after drinking contaminated water. If cattle survived, another side effect was photosensitization that occured a few days after drinking contaminated water.

Feeding During Drought

Two strategies to reduce the economic impacts of feeding the beef herd during a drought include reducing the number of cattle and providing supplemental feeds.

Marketing/Culling Cattle. Supplemental feeds result in added costs and marketing. Culling part of the cow herd is also an important strategy especially if the drought lasts several weeks or months. Reducing the herd will stretch available forage and provide cash to purchase feed for the rest of the herd. Strategies for prioritizing cattle to market include identifying those that will have the least impact on future herd productivity and income. Although each herd situation is different, the following prioritized list may be useful in making systematic marketing/culling decisions:

- Larger calves that can be weaned early; sell or retain ownership
- Dry cows (not raising a calf)
- Cows with calves but palpated open
- Replacement heifers
- Cows with calves palpated short bred
- Cows with calves palpated pregnant that have structural or production problems (bad legs, feet, teats, etc.)
- Older cows with calves palpated pregnant especially if teeth missing
- Thin cows with calves palpated pregnant
- Lastly, middle aged cows with calves palpated pregnant in good body condition

The earlier a prolonged drought is recognized and cattle are culled, the less the economic impact of the drought. Another management strategy to improve performance of cows not culled is to group by nutritional needs or production status.

This will allow supplemental feeds to be offered at levels to meet nutrient needs of the group.

Supplemental Feeds. An obvious strategy that may be economically viable is to identify additional pasture (such as woodlands) in your area or another area of the country. If it is not economically viable to move the cattle to the feed then moving the feed to the cattle is another alternative.

Hays are an obvious choice but local supplies may be limited and shipping costs can make hays from other regions of the country expensive. Grains and byproduct feeds often provide digestible energy (TDN) at a reasonable cost. The cow-calf herd can be fed grains and byproduct feeds that are balanced for protein, vitamins and minerals. A protein concentration of 10 to 12% is usually adequate depending on the milk production and rate of growth. Feeds higher in natural protein than that required by the cattle can be fed without problems and can offer cost advantages when they are a low cost source of TDN.

The nutrient concentration of several grains and byproducts is listed in Table 1. Different feeds can be compared by calculating the cost of TDN for each feed. As and example, if bermudagrass hay with 50% TDN (as purchased) costs $30 for an 800 lb roll, then the cost of 100 lb of TDN is $7.50 ($30/800 lb roll, 100 lb costs $3.75 [30/8], 100 lb hay contains 50 lbs TDN [50% TDN], then 100 lb TDN costs $7.50 [3.75/.5]). If soybean hulls cost $100/ton and contain 70% TDN (as purchased), then the cost of 100 lb of TDN is $7.14 ($100/2000 lb, 100 lb costs $5.0 [100/20], 100 lb soy hulls contains 70 lbs TDN [70% TDN], then 100 lb TDN costs $7.14 [5/.7]). In this situation, 100 lb of TDN can be purchased from soybean hulls at a lower cost than hay but costs of hauling, storage, equipment, labor and waste also need to be considered for each feed to determine the costs of nutrients consumed by the cow. Many commercial feeds are available and these can be compared using the approach above. For more information see the fact sheet entitled "Strategies for Cost Effective Supplementation of Beef Cattle" available at: http://edis.ifas.ufl.edu/.

Grains and byproducts often are low cost sources of TDN when forage supplies are short. They can provide much of the nutrition for the cow herd. However, feeding diets high in grains or byproducts requires greater skill and discipline of the manager. Acidosis, bloat and founder are risks when high-grain diets are fed to the cow herd. These risks can be minimized by the following management practices:

- Calculate the quantity of TDN cattle need, balance the feed with other nutrients by mixing or feeding supplements, and offer what the herd needs in a way that all cattle get their portion.
- When starting to feed grains, gradually increase the amount of grain over a two week period.
- Provide at least 30 linear inches of feed bunk space to allow all cattle to eat at the same time. More space may be required if cows have horns. If feed bunks are not available, then feeding on a good sod in small piles (10-20 lbs each) or in a line out of a feeder wagon may result in minimal waste.
- When feeding corn, whole corn or coarsely cracked corn is preferred over finely ground corn.
- Hay should be fed at .5% of body weight (5 lb/day for 1000 lb cow) to help maintain rumen function, cud chewing, and reduce acidosis. After adaptation of cattle, some managers have been able to reduce long forage to .25% body weight.
- Cattle will not be full and they will look and act hungry for a few days. Do not feed more than the cattle need.
- Feed cattle at the same time every day to reduce the risk of digestive upset (acidosis).

- Monitor body condition and adjust quantities fed to avoid losses of body condition.

A fact sheet entitled "Limit Feeding Concentrate Diets to Beef cows as an Alternative to Feeding Hay" authored by Dave Lalman, Oklahoma State University, provides additional details and suggestions (http://www.ansi.okstate.edu/exten/beef/). Many byproduct feeds have a maximum recommended feeding level due to levels of fat or other factors. A discussion of these limits can be found in "Using Byproduct Feeds in Supplementation Programs" available at(http://www.animal.ufl.edu /short95/kunkle.htm).

Cull fruits and vegetables can be fed as supplements if available in your area. Most cull fruits and vegetables contain 80 to 95% water (Table 1), and considerable quantities are required to provide the required energy. However on a dry basis, many fruits and vegetable contain reasonable concentrations of TDN and protein. The high water content limits the distance these feeds can be hauled and maintain a reasonable nutrient cost. Culled fruits and vegetables are often dumped in piles and considerable quantities are wasted (spoilage and trampling) increasing the costs of the consumed nutrients.

Risks associated with feeding fruits and vegetables are choke and pesticide residues. Oranges and potatoes may be swallowed without chewing and the larger ones can become lodged in the esophagus causing choke. Although this risk is not high it is an occasional problem that can result in death. Pesticides are used during production of most fruits and vegetables and these may not be approved for feeding to livestock. Producers will need to investigate which pesticides were used during production and determine if restrictions apply to cattle.

Other Issues

Toxic plants are often not eaten by cattle when more palatable grasses are available, but these plants may be consumed when forage is limited and cattle are hungry. Check pastures for nightshade, bracken fern, horse nettle, castor bean, lantana, crotalaria, and other plants that can be toxic.

Once it rains, the pasture will need a few days to recover and accumulate enough growth for good cattle performance. Holding cattle off a few days then rotationally grazing can increase total forage production. Supplemental feeding needs to continue a few days after adequate rain to restart pasture growth.

Table 1. Dry matter and nutrient concentration in common feeds, fruits, and vegetables[a].

		Concentration in dry matter				
Feed	Dry Matter	TDN	Fat	Crude Protein	Ca	P
	%	%	%	%	%	%
Grains						
Corn	88	87	4	10	.02	.30
Oats	89	76	5	13	.09	.40
Rye	89	81	2	12	.07	.39
Wheat	89	88	2	12	.06	.40
High energy feeds						
Citrus pulp, pelleted	90	79	4	8	1.80	.15
Cotton gin trash	91	45	2	11	1.70	.25
Hominy	90	92	5	11	.04	.45
Molasses, heavy	78	78	0	9	1.10	.10
Peanuts skins	92	70	20	17	.19	.20
Rice bran	91	66	16	14	.08	1.68
Soybean hulls, grd	91	77	3	14	.63	.22
Wheat middlings	89	82	5	18	.14	1.04
Medium protein feeds						
Brewers grains	92	84	7	30	.30	.60
Broiler litter	78	53	2	25	2.10	1.80
Cottonseed, whole	90	94	18	23	.16	.62
Corn gluten feed	90	82	3	24	.20	.85
Distillers grains	92	87	9	27	.30	.75
Fruits and vegetables						
Cantelope	9-11	66	8	20	-	-
Cabbage	9-11	85	4	25	.64	.35
Citrus pulp, wet	14-20	79	4	8	1.80	.15
Oranges	12-15	78	2	8	.57	.13
Grapefruit	13-15	85	4	8	.51	.15
Potatoes, white	20-25	81	<1	10	.05	.24
Tomatoes	5-8	69	9	16	.16	.49
Sweet corn ears	35-40	77	7	10	-	-
Sweet corn, fodder	18-25	65	3	8	-	.20

[a]Feed composition data compiled from several sources, including: Preston, D. L. 1993. Typical composition of feeds for cattle and sheep. pp 40-42, Feedstuffs, May 16, 1993; Bath, D., J. Dunbar, J. King, S. Berry, and S. Olbrich. 2000. Byproducts and unusual feedstuffs. 2000 Feedstuffs Reference Issue. pp 26-32, July 13, 2000.

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