
DROUGHT CONCERNS FOR THE BEEF HERD

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The dry weather experienced by many areas of the state has created problems for cattle producers. Tennessee cattle producers will be challenged to find the management solutions to maintain the herd in a productive manner. Hay production was relatively good in the spring and early summer across much of the state, but some producers have had to feed hay because pastures have stopped producing adequate quantity to maintain production. When the supply of hay becomes a concern, it increases the importance of other management decisions such as when and how deeply to cull the cow herd. Decisions about selling calves, backgrounding and retaining replacement heifers may also be affected.

The good news is that supplies of various types of supplemental feeds are relatively good and prices are apparently holding in the range for consideration in beef feeding programs.

Cattle producers should be aware of management options and carefully weigh these as decision is made. Among the possibilities are:

1. **Assess Forage Needs.** Following is a rule-of-thumb method for determining hay needs:
 - A. Estimate hay available. It is best to base your estimation on average weights of several bales. Remember: Just because most

people think that large-package bales weigh a thousand pounds does not make it so. Many times, so-called thousand pound bales only weigh 700 to 800 pounds.

- B. Large-package bales stored outside may have substantial losses during storage and feeding. Adjust your estimate accordingly.
- C. Calculate the number of animal units. Base the number of animal units on the following system:
 - a. Mature cow or bull = 1 unit
 - b. Yearling cattle = 1/2 unit
 - c. Calves = 1/4 unit
- D. Figure your need to feed for 100-120 days in the winter in Tennessee (use the lower figure if substantial amounts of stockpiled forage are available; use a higher figure if drought or other conditions cause winter feeding to start earlier in the fall).
- E. Figure each animal unit will eat 30 to 40 lbs. of hay or 60 lbs. of silage, assuming average to good quality hay or silage. (These numbers are a little higher than some feed tables, but this allows for 10 - 15 percent losses during feeding.)

Example: Multiply animal units x days x amount of forage per day:

$$25 \text{ cows} \quad \quad \quad \times 1 \quad = 25$$

$$10 \text{ backgrounding steers} \quad \times 1/2 \quad = 5$$

$$10 \text{ replacement heifers} \quad \times 1/2 \quad = 5$$

$$4 \text{ calves} \quad \quad \quad \times 1/4 \quad = 1$$

salt has been used successfully but intakes are highly variable. Soybean meal, cottonseed meal or commercial mixtures may be used. If salt is used, be certain that plenty of water is available. High protein creep feeds work best if there is sufficient quantity of low-quality forage available.

In situations where little forage is available, a 13-16% protein, 65-70% TDN creep feed may be more suitable. This may be obtained in a commercial mixture or by mixing corn and cottonseed meal, soybean meal or other high protein feed that contains a natural protein source. A mixture of 4 parts corn to 1 part cottonseed meal will yield a 15-16% crude protein mixture. Other feedstuffs that have received considerable attention in recent years are corn gluten feed and soybean hulls (soyhulls).

4. **Consider Early Weaning.** Weaning and feeding is probably a better alternative than creep feeding. Calves as young as 4 months of age can be weaned and started on a complete ration. These rations should be highly palatable and contain 13-15% crude protein, 10-15% fiber and 65-75% TDN. A balanced level of minerals and vitamins is needed.

After calves are weaned, cows can be maintained on a minimum of forage. Another option, should the drought continue, is to early wean and sell the lower producing cows.

5. **Avoid Feed Wastage.** Producers should do everything possible to avoid feed wastage. Large round bales should be stored off the ground if possible. Place large round bales end to end instead of side by side. Place feed racks around bales to reduce wastage. If concentrates are fed be sure there is adequate trough space and troughs are designed to reduce wastage. If there is not enough trough space for

concentrates, consider feeding whole shelled corn on clean sod. Whole, shelled corn can be effectively fed to cows without grinding.

6. **Select Protein Supplements Carefully.** Protein supplementation can be used to allow cattle to more efficiently utilize low quality roughages (pasture, hay, straw, silage, etc.). Cottonseed meal or soybean meal are commonly used in Tennessee but by-product feeds or commercial mixtures may be used. These are available in many forms including pellets, meal, blocks, liquid and cubes. Carefully assess the form you select to make certain it is as economical as you desire. Range cubes are often convenient for people with limited feeding facilities during a drought emergency. Some range cubes (and other protein supplement mixtures) may contain non-protein nitrogen (NPN). Cattle over 500 pounds may utilize NPN as a protein source, but there must be adequate soluble energy in the ration. For this reason, avoid using supplements with high percentages of NPN with low quality pasture or when feeding low-quality forage unless corn or other high energy grain is being fed. In general, no more than one-third of the protein equivalent should come from NPN. Feed labels contain information about NPN in commercial mixtures.

7. **Determine Amount of Feed Which Will Have to be Purchased.** After assessing the amount of feed on hand and the number of cattle that will have to be fed after culling, make an estimate of how much feed will have to be located and purchased. By starting to look early, it is possible that there may be advantages. For example, hay can sometimes be bought out of the field more economically than after it has been stored.

8. Pick a Feed Which Delivers the Required Nutrients at the Lowest Cost.

By using the forage test, more precise estimates of nutrients which are needed can be made. Try to buy the feeds which deliver the needed nutrients in the proper proportion for the best cost. Base decisions on sound feeding principles instead of guesswork. It is probably at least as common for people to pay too much for unnecessary or inappropriate supplements as to underfed cattle.

9. Extend the Grazing Season to Decrease Winter Feed Requirements.

This can be done by stockpiling fescue for fall grazing, sowing winter annuals such as wheat or rye, and by making full use of crop residues such as corn stubble.

10. Group Cattle For Efficient Feeding. Feed requirements of cattle differ according to many factors, including age, sex, stage of production and size. For example, a supplement which may be correct for a mature cow is likely to be deficient in one or more nutrients when fed to first-calf heifers. Obtain the Extension fact sheet SR3006 called "Grouping the Commercial Beef Herd for Winter Feeding." Use this to estimate feed needs and to develop a plan for most efficient feeding.

11. Develop a Herd Health and Parasite Prevention Program. Sick and parasite-infested animals are unlikely to be efficient utilizers of feed. Work with a veterinarian to develop a workable vaccination and parasite prevention program.

12. Use Feed Additives and Implants to Increase Efficiency. Three feed additives, Rumensin®, Gainpro® and Bovatec® have been proven to improve feed efficiency in growing cattle and growth promoting implants increase calf gain by about 20 pounds for each implant. Rumensin is the only product cleared for beef brood cows.

13. **Condition Score the Cow Herd.** Thin cows may need additional “groceries” to successfully calve, raise the calf and rebreed next spring (see # 14 below).

14. **Be Aware of Drought-Related Toxicity Problems.** Nitrate Toxicity is probably the most common problem. Extension agents often obtain Nitrate Screening Solution from the Forage testing Laboratory in Nashville to do qualitative (yes or no) field testing. Quantitative testing can be done in the Tennessee Department of Agriculture’s Diagnostic Laboratory. Most nitrate toxicity problems occur with Sorghum-sudan hybrids, Johnson-grass, Pearlmillet and Corn Silage. Prussic acid can be a toxicity problem in drought stressed pastures (same species, except Pearlmillet is not a problem).

Occasionally, pasture production decreases and cattle eat toxic plants they would otherwise avoid. Examples of plants that may cause problems are perilla mint, horse nettle and jimsonweed.

15. **Don’t wait too long to feed hay and or supplement.** Common sense is important here. When pasture gets low, the last week or two of grazing may be of low quality, drought stressed forage. Lactating cows can lose condition rapidly so monitor body condition carefully during this time; do not wait until cattle are in thin condition because adding condition back before winter may be difficult. Sending thin cows into a “bad” winter could be very difficult. Sometimes, if plenty of forage is available, but it is of low quality, a commercial protein blend or a byproduct feed with adequate protein (soy hulls, corn gluten feed) may assist microbes in digesting the coarse forage. Start feeding hay before pastures are “grubbed down” so that cows do not lose condition or cause

excessive damage to remnant forages (remember, it may rain again someday, and the forage needs to regrow).