



BEEF CATTLE TIME

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Cattle and Forage Management on Fungus-Infected Kentucky 31 Fescue Pastures

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Approximately 70 percent of the pasture in Tennessee is Kentucky 31 Fescue. It has excellent qualities, such as persistence, wide adaptation and a relatively good nutritional profile. It also has a high probability of being infected by a fungus, *Neotyphodium coenophialum*, which when consumed by cattle increases body temperature, reduces milk production, slows calf growth and reduces reproductive performance, particularly in the summer. Here are some suggestions for managing cattle and fescue.

Renovate and/or replace pastures. This needs to be done in late winter or early spring. Deciding whether to replace Kentucky 31 pastures or to renovate with legumes should be based on the productive capacity of the land, erosion potential and economic considerations.

If pastures are to be renovated, consider including a variety that provides significant summer/early fall grazing. Improved varieties of white clover are often used. Kobe lespedeza has also been widely used on upland pastures.

Replacing fungus-infected fescue should be approached with caution because few, if any, pasture species can compete with Kentucky 31 for persistence and erosion control under Tennessee conditions. The most likely candidates are probably Max-Q Fescue and Persist or other varieties of Orchardgrass.

Keep pastures grazed close or clipped. Keeping pastures growing and in an immature stage of production assists in keeping the fescue fungus at less infective levels as well as maintaining high quality forage.

Provide a complete mineral supplement. A “complete” mineral should contain 4 to 9 percent phosphorus and enough calcium to keep the calcium to phosphorus ratio at least 1.5 to 1. Copper levels should be at least 1500–1750 ppm to as high as 3000 ppm in areas

documented as having high-sulfur soil (most of Tennessee is moderately high in sulfur). Selenium should also be included in the mineral mixture at about 30–40 ppm (for 3–4 ounce consumption mineral). Some companies have formulated minerals that are specifically designed for cattle grazing fungus-infected fescue. Most contain the levels of minerals mentioned as well as feed additives such as the ones mentioned below.

Consider using certain feed additives known or suggested to ameliorate the effects of fescue fungus. There are several products which have been shown, under certain conditions, to affect cattle response to the fescue fungus. One product, a seaweed meal available as Tasco in a number of free-choice minerals, “seems to have use in alleviating adverse effects of endophyte on immune function and may improve hair coat condition in cattle grazing infected fescue, but effects on rectal temperature varied due to location.” (Saker, et al., 2001). Another product, marketed as F.E.B. 200, has shown promise in decreasing problems related to fescue toxicity and possibly improving performance (Ely et al., 2003).

Do not calve or breed during the summer months. The most significant effects of the fungus occur from June through September. Common sense (and research) lead to the conclusion that this is not a good time to calve in Tennessee. The elevated body temperature reduces embryonic survival as well as having a negative effect on the bull’s reproductive potential. Cows that calve during the summer also produce lower quality colostrum.

Test pastures for fescue fungus. Information about sampling and testing can be obtained from your county UT Extension agent. This test was once widely used, but most people have come to the conclusion that if you have Kentucky 31 Fescue, you are likely to have some level of fungus infestation. If you think some of your pastures are worse than others or some may have no infection at all, the test is available to assist in your pasture management.

(References available upon request)

Fall Forage Practices

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With fall approaching, it is time to begin planning the winter forage program. A little effort now can pay big dividends later. Here are a few management practices to incorporate into your overall cattle program.

(1) Stockpile tall fescue. Stockpiling tall fescue has the potential to add approximately 60 more days to the fall grazing season. This will be 60 days when no hay will have to be fed. Stockpiling is trying to save forage for use later in the season while it is still growing. Research has shown that fall growth of tall fescue is high quality and it stays high into the winter, providing an excellent feed for cows. The steps to stockpiling are simple. About the first of September, have the pastures grazed or clipped to remove all of the mature summer forage. Apply 60 units of nitrogen per acre after the fall rains begin and then allow the fescue to grow as long as possible, even up to a killing frost. Ammonium nitrate is the best nitrogen source to use. If possible, rotationally graze the fescue so that less of the forage is trampled and wasted. Even though the nitrogen expense is significant, it is still quite a bit less expensive than having to feed hay for the extra 60 days.

(2) Reduce hay storage losses. One of the best ways to make hay inventory last longer is by wasting less of the hay. Most people would agree that a 5x5 bale that sits outside during the winter will have approximately six inches of rotted forage around the outside. But most people do not realize that this six inches of loss is 30 percent of the bale. This is the same thing as taking every third bale out of the field and throwing it into the ditch, because no value is coming from it. If bales are stored inside or off the ground and covered, the hay supplies go farther because less hay will be lost due to rotting.

If possible, store hay inside a barn. This will do the best job at protecting the hay from the elements. If barn space is not available, get the hay off the ground by putting it on crushed stone, tires, poles, etc. As much hay is lost because of water taken up from the bottom of the bale as from rain damage. The next step is to cover the bales with some sort of plastic. Several types of hay tarps are available and have been shown to be relatively durable and effective. Be sure to tie the tarps down securely. One of the best ways to do this is by laying ropes down and placing the bales on top of the ropes. These ropes can then be used to anchor the tarps. Be sure to not completely cover the ends of the hay stacks. If there is not any air movement up and down the stack under the tarp, there could be a significant amount of mold development on the hay.

(3) Forage test hay. In order to be efficient with a winter hay feeding program, test hay to learn the protein and energy level. Without this information, there is no way to know whether your cow's diet will be

sufficient to meet her needs. Don't assume that all bales are equal. Different cuttings of hay will be of different quality depending on when they were cut, how much fertilizer was applied, the curing conditions, etc. Don't sample every bale; a representative sample from each different cutting will provide valuable information. The University of Tennessee Forage Testing Laboratory can provide the moisture, fiber, protein and TDN content of your hay. The cost is \$10 per sample. Your local Extension agent will be able to provide help in this area.

(4) Control weeds with late fall herbicide application. Buttercup and musk thistle are weeds that are easy to kill — if sprayed in a timely manner. Most of the time we think about spraying these weeds in the spring. However, both of these plants germinate from seed in the fall, grow during the winter and early spring, and then bloom in late spring and early summer. A late-November or December spray can eliminate these weeds from a pasture. Use 2 pints per acre of 2,4-D ester after three days with about 60 F for the high. This temperature will stimulate the weeds to grow, and the chemical will be more effective. By this time of the year, most of the seed germination will have already occurred. The good part of this procedure is that the residual action of the 2,4-D will be gone by the time clovers need to be seeded in late February. Be sure to read and follow all label instructions.

Providing Feed for the Herd — Summer, Fall and Winter

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Weather conditions across the state have been quite variable this spring and summer. Many areas saw limited moisture early in the spring followed by adequate rainfall. This resulted in a relatively short hay crop with poor harvesting conditions. Following this, some areas had dry, hot conditions with limited growth of forage. The result is that available forage for the beef herd may be limited and/or of low quality during the summer, fall and winter.

If you were fortunate enough to have escaped these weather conditions, be thankful. The following information is primarily for producers with limited feed supplies; however, all producers can benefit from following the recommendations.

First, thinking about late summer, two major approaches can stretch feed supplies. Reducing the number of animals on the pastures is always an option. Animals that should be considered for culling are open cows, cows with health problems such as arthritis, cows that are producing light weight calves and old cows. It might also be desirable to market some calves early to get them off the pasture.

Next consideration should be given to better utilization of available forages. Using intensive (rotational) grazing techniques will insure better use of available

forages. Limit animals to a small area and make them consume most of the grass before moving them to another area. This will reduce the amount of selective grazing the animals will do and also reduce wastage.

In some situations, it may be advisable to creep feed calves. Providing some stored hay may be required; however, this should be used as a last resort because it will reduce available winter feed supplies. Grain feeding of cows has been used in extreme drought situations in some areas. Producers should carefully evaluate the cost of supplemental feeding to determine if it is a viable option. Do not sink all potential profits into feed. Extra culling may be the option of choice.

Looking ahead to fall and winter, efforts should be made to reduce the length of the winter feeding period. The first option is to stockpile fescue if there appears to be enough rainfall to get adequate growth following fertilization in August/early September. Next all producers should look to see if there are any other feed resources available.

Crop residues are always a good way to shorten the winter feeding period. Producers should consider grazing corn fields, soybean fields, and any other crop residue available. Always check before grazing to see which chemicals have been used to produce the crop. Only graze those crop residues that are cleared for grazing as indicated on the chemical label.

As winter approaches, sampling of available forages is strongly recommended. To properly supplement available forages, it is necessary to know the nutrient composition. Check with your local Extension agent for information on forage testing. Results from hays samples tested in the fall of 2005 showed a wide variation in quality. Similar variability is expected in the 2006 hay crop. The forage testing results for the 2005 hay crop are shown in Table 1.

Table 1. Nutrient Content of the 2005 Tennessee Hay Crop

Species	Crude Protein	TDN
Fescue	10.8 (6.5 – 23.1)	52.3 (17– 68)
Fescue, mixed	10.9 (7.1 – 17.4)	52.3 (25–60)
Grass legume	10.8 (6.5 – 16.6)	51.7 (17–60)
Orchardgrass	11.9 (6.7– 18.3)	54.4 (40–61)

Note the wide range in crude protein and Total Digestible Nutrients (TDN) for all types of hay. The averages are acceptable. However, the range is from very poor to very good. Without testing, it is not possible to determine where your hay fits in the range. The test results will enable you to meet animal requirements at the least cost.

Hopefully there will be adequate feed available for the winter; however, it is desirable to know in advance if additional feed must be secured. Always purchase feed before it is needed to receive the best prices.

Squeeze Chute Information on Web

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Beef producers considering the purchase of a commercial squeeze chute should take time to view a nine-minute video available on the University of Tennessee Animal Science Web site at <http://animalscience.ag.utk.edu/beef/TennesseeCattleLane.htm>. The video is called “Squeeze Chute: Points to Consider.” A written copy of the information available in the video can be secured at the same web location.

Preconditioning Period Impacts Profitability

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The increased demand for pre-conditioned calves raises many questions. Does it make any difference which month calves are weaned? What weight calves should be weaned? Would steers or heifers be more profitable? and, How many days should the post-weaning period last? Answers to some of these questions were reported by Laura Cantwell, UT Extension Area Farm Management Specialist, while she worked on her M.S. degree in Agricultural Economics at the University of Tennessee. She examined weaning strategies for both fall-born and spring-born calves. This article deals only with the spring born calves in that weaning and marketing period just around the corner.

It is difficult to simulate the exact condition on different cow-calf operations, so several assumptions were made. The UT Buy-Sell Margins Calculator was used to determine the 45- and 60-day weaning periods when the gross margins were greatest. These starting dates were October, November and December. Calves considered were 450 and 550 lb. steers and heifers to be weaned and fed for either 45 or 60 days. The simulations used actual prices during the period 1995 to 2004. A daily gain of 1.75 lbs. for the 45-day period and 2.0 for the 60-day period was assumed for steers and heifers. These gain assumptions are conservative and were kept the same for steers and heifers. Death loss was assumed to be 1 percent for these home-raised calves, and the base feed cost was \$160 per ton. This was adjusted each year. Calves were fed a complete feed at the rate of 2 percent of body weight plus hay. A \$4 per cwt premium was assumed for calves sold in a graded, pre-conditioned feeder calf sale. This is a very conservative estimate. Profitability from a post-weaning program comes from an increase in market price during the weaning period or from a smaller reduction in price due to the increase in weight as well as month-to-month seasonal price changes. In addition, if the cost of gain is less than the added value, it also contributes to the profitability.

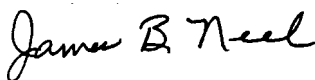
The 60-day post-weaning periods were more profitable than the 45-day periods. Of the 30- and 60-day

time periods examined, 90 percent or more of the time periods were profitable. This would be expected as long as cost of gain was less than the gross value added. Feeding at the 2 percent of body weight rate longer than 60 days can lead to digestive problems or the calves can become too fleshy to be appealing to buyers.

The six most profitable 60-day post-weaning systems that were profitable 90 percent or more of the years studied (1995 to 2004) were as follows: 550 lb. heifers weaned in November were profitable every year and had average returns of \$54.78; 550 lb. heifers weaned in December were profitable every year and had an average return of \$52.29; 450 lb. steers weaned in December were profitable every year and had an average return of \$45.90; 450 lb. heifers weaned in December were profitable 9 out of 10 years and had an average return of \$42.93; 450 lb. steers weaned in October were

profitable 9 out of 10 years and had an average return of \$41.14; and 450 lb. heifers weaned in November were profitable 9 out of 10 years and had an average return of \$39.83.

Producers need to look at their own cost data and remember that these results are based on calves weaned and fed on the farm of birth, not purchased and put together from various markets. Death loss would be higher and gains possibly lower on purchased calves. In addition, a marketing program in which calves are graded and grouped in truck loads, or near truck loads, is a key to gaining significant price advantage.



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Beef Cattle Time

From:

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