

## Raising Beef Cheap on Forages

Raising beef, without spending a lot of money for the opportunity, is the philosophy of the Noble Foundation in Ardmore, Okla.

This idea is central to Noble Foundation forage and crop management specialist, R.L. Dalrymple.

Using a no-frills approach to rotational stocking of high quality forages, the Foundation uses a demonstration and education approach to help area producers. The system uses no heavy equipment such as tractors, balers, or brush hogs. Even pickup use is kept to a minimum with the use of a four-wheeler ATV.

This minimum input production management method reduces capital costs and overhead, says Dalrymple. Many beef operations have limited labor, limited capital, limited power (tractor size), or personal reasons not to own or use big equipment.

Weed problems are controlled through high density stocking during the immature growth stages. "With 30,000 pounds of cattle per acre, the cattle are not as discriminating and they graze quicker," Dalrymple explains.

Fall grazing on rye follows a sequence of three top grazings followed by one grazing to a 3- to 4-inch stubble height. Starting in March, the spring sequence is to graze to 3 to 4 inches to prevent the grasses from heading.

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*-R. L. Dalrymple*

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"When a pasture surplus occurs we bring other cows off hay or dry grass to take advantage of it," says Dalrymple. Steers are switched back to the top-grazing scheme during the summer. Calves on the cows are also creep grazed by allowing them to pass under the electric fence.

"Crabgrass adds quality to summer bermudagrass pastures," says Dalrymple. Protein levels run 30 percent for crabgrass versus 20 percent for bermudagrass.

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Total beef gain has averaged about 540 pounds per acre. Efficiency has been three pounds of beef produced per pound of nitrogen applied and 13 cents return on each dollar of input.

Clovers and annual grasses provide extremely high quality forage, much more so than our perennials, says Dalrymple. Double-crop annuals and mixtures of annuals are ideal in grazing situations.

There are six species of crabgrass in Oklahoma, some more productive than others. Red River crabgrass was developed and released by the Noble Foundation. It can grow a cumulative 7 feet in a season compared to 6 inches for some species.

"Fescue and crabgrass usually don't work well together. Fescue has some qualities which don't allow the crabgrass to prosper in the stand," says Dalrymple. However, small grains, Caucasian bluestem, smooth bromegrass and orchardgrass work well with crabgrass.

Developing productive forage bases for a particular class of cattle and designing a grazing system to take advantage of the forage are areas open to innovation at the producer level.

*David Langston*

## Prescribed Burning Affects Tall Fescue Stands

Tall fescue is an important crop for forage and soil conservation throughout states in the transition zone. On Conservation Reserve Program (CRP) land, tall fescue stands are deteriorating due to residue build-up. Residue may be controlled with prescribed burning, a practice commonly used to manage residue build-up in warm-season grasses. Prescribed burning may also be helpful in renovation of grasses; if so, it could reduce the use of herbicides that are being outlawed on public lands.

In University of Missouri research studies, burning left some tall fescue in stands for improved grazing, but the amount left depended on when stands were burned as well as the number of years they were burned. Other than tall fescue, species commonly found in the burned plots included annual bluegrass, crabgrass, asters, green foxtail, black-eyed susan, red clover, tick clover, purslane, common ragweed, partridge pea, yellow sweet clover, and purpletop. If tall fescue is burned prior to germination of one of these other species, that species could dominate the stand.

Prescribed burning of tall fescue can be used as a management tool to improve forage quality, dilute the effect of the endophyte, and increase plant diversity.

1. To improve stands where built-up residue has decreased production, burn one time only in late winter (February) or early spring (after 2 inches green growth). This will increase forage quality, tillering, and yield. Burning earlier in winter will substantially increase soil erosion and should be avoided. Burning in consecutive years will be detrimental to tall fescue stands.
2. To improve seed production, burn one time in the summer after seed harvest. Burning in consecutive years will reduce seed heads significantly. In Oregon, tall fescue seed fields are burned each year after seed harvest without reducing seed production; however, Oregon has a milder winter, allowing more time for tall fescue to store carbohydrates before its short dormancy. Plants remain dormant much longer in Missouri between the hot summers and long winters, so there is not time to build up carbohydrate reserves each year and maintain desired seed production.
3. To increase diversity and dilute tall fescue stands, burn two or three years consecutively, depending on desired change in vegetation. Stands can be burned during late winter, early spring or summer. Because it is easiest to burn in late winter (February) or early spring (after 2 inches green growth), burning on one of these dates is recommended.
4. To direct diversity of stands, burn two consecutive years. Combinations are endless depending on the plant species that is seeded and desired reduction of the tall fescue stands. For a spring planting, after burning two years late winter or early spring, interseed desired species directly into ashes after the second burn. For a fall planting and to reduce the stand significantly, burn one year in the summer and drill wheat to be used for fuel the following year. Then the second summer, burn off the wheat stubble and inter-seed the desired species.

It is important to note here that to accomplish any summer burn successfully, there needs to be a significant build-up of residue and very dry conditions.

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By using prescribed burning in place of herbicides, management of tall fescue can be more profitable, both in time and money. Livestock producers and wildlife managers can benefit with this management strategy to improve stands or develop desired plant populations by adjusting timing and repetition of prescribed burns.

**-B.J. Aulabaugh and D.A. Sleper,**  
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## Preventing Grass Tetany In Your Cow Herd

Grass tetany — also known as magnesium tetany, grass staggers, winter tetany, hypomagnesemia and wheat poisoning — occurs in all areas of the United States. It usually occurs in cows during early lactation, especially during cool weather in spring or fall when cool — season forages come out of dormancy and grow rapidly.

Although the highest risk is in spring, grass tetany can occur in the middle of winter or summer when unusual weather results in rapid, lush growth on farms where fertility (especially nitrogen and

potassium) is high. Cows nursing calves under two months of age are more likely to be affected by grass tetany.

Grass tetany usually results from a low level of magnesium in rapidly growing forages, but has also been associated with nutrients that interfere with the absorption of magnesium. Often the first sign will be a dead cow that was apparently healthy the last time she was checked. During the early stages of the disease, the cow may become excitable, expressing a wild stare with erect ears, appear to be blind, and have a stiff gait and possible muscle tremors. The cow will then become uncoordinated, dull in appearance, and finally will go down and may thrash violently before death occurs.

Grass tetany can also afflict less susceptible animals such as stocker cattle, dry cows, and cows with older calves, especially when they are grazed on small grain.

Prevention has been accomplished by feeding cattle supplemental hay or grain, fertilizing pastures with magnesium (by applying dolomitic limestone) or providing a mineral mix or supplement containing magnesium oxide. Supplementing with magnesium oxide during moderate or high risk periods is most effective and practical. One ounce per day will generally completely prevent or greatly reduce

incidence of the disease. Magnesium oxide may be provided in a home mixed mineral (30 percent trace mineralized salt, 30 percent dicalcium phosphate, 30 percent magnesium oxide and 10 percent dried molasses), in a commercial high-mag mineral mix (8 to 14 percent Mg) or mixed at 6 percent of a grain mix to be fed at 1 lb./head/day.

When high magnesium mineral supplements are used, the producer should carefully monitor intake to ensure that cows are eating an average of 1 oz./day of magnesium oxide (usually 3 to 4 oz./day or 2 lb./week of a high-mag mineral mix per cow). If intake of the mineral supplement is low, add grain to stimulate intake. The high-mag mineral should be the only source of salt available to cattle. Other salt containing supplements, such as protein blocks or licks should be removed from pastures when the risk of tetany is high.

Even with a well-consumed supplement, some animals may not consume enough and may be susceptible to magnesium tetany. Using the 6 percent magnesium oxide grain mix with adequate bunk space will be the best way of ensuring that all cattle consume enough. If supplemental protein is needed this concentrate can be based on soybean or cottonseed

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meal. If protein is needed, this concentrate can be based on soybean or cottonseed meal. If protein is not needed, the cheapest source of concentrate available can be used. Two lb./head/day of this 6 percent mix is recommended in situations of very high risk or following an outbreak of grass tetany.

Legume or legume-grass pastures should be used for the most susceptible animals, since tetany seldom occurs where legumes are grazed. Less susceptible animals can be grazed on higher-risk pastures.

Animals that have been down more than 12 to 24 hours usually will not recover. In rare cases where symptoms are noted earlier than this, affected animals should be treated promptly. Two hundred cubic centimeters (cc) of a sterile solution of magnesium sulfate (epsom salts) injected under the skin in four to six different sites will give a high level of magnesium in the blood within 15 to 20 minutes. It is imperative that afflicted animals be handled gently to prevent excitement.

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