



Vet Call

► by **Bob Larson**, professor of production medicine, Kansas State University

Fescue toxicosis

Tall fescue is a commonly grown forage for cattle, particularly in the Southeastern and lower Midwest states, as well as the Pacific Northwest. This grass originally came from Europe and was discovered growing in a few isolated stands in the United States in the early 1930s. It was recognized as being easy to establish with a long growing season, resistant to drought and insects, and able to grow in many types of soil.

With positives come problems

Because of these positive characteristics, the grass was promoted and introduced throughout much of the Midwestern and Southern United States. However, it was soon discovered that cattle performance was negatively affected by the grass.

Although it was known that cattle weight gains and reproductive performance were often poor when grazing tall fescue, for many years the cause of these problems was not understood. Today, we know that a high percentage of tall fescue pastures are infested with a fungus that grows inside the plant, and the fungus produces a number of chemicals that provide both the positive and negative attributes of the grass.

Not all fescue pastures are infested with endophyte fungus, and the percentage of plants in a given pasture that are infested will vary from one pasture to another. Generally speaking, the greater the percentage of plants infested with the fungus in a pasture, the greater the negative effects of fescue toxicosis.

Although the fungus is found throughout the tall fescue plant, it is found in the highest concentrations in the seedhead and stems, and in lesser concentrations in the leaves. The fungus can be spread to uninfested pastures if infested seeds blow or are transported to bare ground where it can become established.

The effects

The chemicals produced by the endophyte fungus interfere with the

normal processes of many body functions. Cattle grazing heavily infested stands will consume less grass, gain less weight, and have lower pregnancy rates than cattle grazing other types of forage. Cattle with fescue toxicosis syndrome are often recognized as thin and having a rough, long hair coat. In addition, severely affected cattle will have a high body temperature, and they will attempt to cool themselves by standing in water and seeking shade, further reducing grazing time.

Blood flow to the feet, tail switch and ears is reduced. In cold weather affected cattle can slough the ends of their tails; the tips of their ears; and, in some cases, even their hooves. In addition to lower pregnancy rates, it

has been reported in some herds grazing infested fescue that colostrum and milk production is reduced, and calves can be born weak and ultimately fail to thrive.

Mares and their foals are particularly sensitive to endophyte-infested tall fescue, and the symptoms of thickened placenta, lack of milk production and weak foals are commonly reported in this species.

The solutions

Cattlemen with infested tall fescue pastures have a number of options. In many situations, because of fescue's positive properties, they may choose to live with it and work to reduce the negative effects by interseeding legumes such as red clover, white clover, alfalfa, lespedeza or bird's-foot trefoil into the pasture to dilute the intake of fescue. In addition, if other types of forage are available, cattle can be moved off infested

pastures during the summer months when the effects are most severe.

If fescue is grazed heavily so that the plants are kept short, less endophyte will be present in each bite of grass. Grain supplementation also acts to dilute the amount of endophyte consumed. Cows fed grain along with highly infested fescue hay had reduced winter weight loss and improved pregnancy rates compared to cows fed infested hay alone.

The endophyte can be avoided completely by replanting infested stands of tall fescue with noninfested varieties of fescue or other grasses. The use of chemical kill and no-till drilling of noninfested fescue seed has been described. In addition, some producers may be able to use a combination of chemical kill and tillage to remove the infested stand and then rotate other crops such as a summer annual grass through the field prior to reseeded.

There are endophyte-free as well as novel-endophyte varieties of tall fescue that can be used to replace the endophyte-infested stand. The novel-endophyte varieties are infested with strains of fungus that provide some of the beneficial effects with few of the detrimental effects by producing low levels of the offending chemicals.

Attempts to reduce the effects of the endophyte fungus through feed additives or treatments applied to the cattle have not consistently shown benefits. However, it is recommended that cattle grazing infested fescue not be additionally stressed by heavy parasite loads, mineral deficiencies or other disease.

The best approach to managing fescue so that the negative effects of the endophyte are minimized will depend on your local conditions. By working closely with area extension and agronomy specialists, you can develop a plan for coping with this problem.

E-MAIL: rlarson@vet.ksu.edu

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