

## Fescue Pasture Seed

### Management Strategies of Fescue Pasture for Horses

In many parts of the southeastern one-third of the United States, tall fescue is the most common pasture grass. Fescue was brought to the United States from Europe. The most common variety of fescue for pastures is Kentucky-31. All of the Kentucky-31 fescue originated in one field and, of course, has multiplied and been used to improve pastures extensively. There are some other varieties of fescue grown in the northwest United States and several new varieties have been developed for use in the part of the country where Kentucky-31 is grown.

Tall fescue has greatly increased the productivity of pastureland in most of the areas where it is grown. It is, however, often infected with an endophyte fungus named *Neotyphodium coenophthalam* that causes some problems. Fortunately, we can usually work around these problems and take advantage of the good characteristics of fescue, some of which are: 1) It produces lots of forage; 2) It has a long growing season; 3) It will grow on a wide variety of soils; and 4) It withstands extremes in weather conditions.

The presence of the endophyte, *Neotyphodium coenophthalam* in fescue causes production of ergopeptine alkaloids that have an effect on the hypothalamic hormone dopamine. To make a long story short, when dopamine levels increase due to the intake of these alkaloids, the production of prolactin is inhibited. Most of the time we would probably not notice this except that during the last 2 weeks or so prior to foaling, high levels of prolactin are needed to prepare the mare to give milk. When prolactin levels are depressed, there is a lack

of udder development and no colostrum is available for newborn foal. There are some other problems associated with this, including thick placentas, stillborn foals, abnormally long gestation length, and foaling difficulty. During late gestation, hormones called progestins are produced by the placenta. These normally increase late in gestation in the mare. They fail to do so when the mare is consuming toxic fescue.

It is important to remember that endophyte- infected fescue is more toxic some times than at other times. The ergopeptine alkaloids are most concentrated in the seeds, followed by the stems. Keeping fescue mowed or grazed short is beneficial because of this. Fescue is also more leafy and less stemmy if it is kept mowed which not only should reduce its toxicity, but it should be more nutritious. This may explain why not all mares that graze fescue late in gestation have problems at foaling time. My own experience has been that fescue is most toxic as soon as it heads out.

How can we avoid these problems when we have fescue on our farm? It is generally recommended that mares be removed from fescue 60 to 90 days prior to the expected foaling date. We need to remember that there are some fescue pastures that may be relatively free from the fungus. The fungus is spread by way of seed. Seed which has been stored 2 years or more is thought to be free of the fungus, so there may be fungus free fescue pastures that were sown with older seed. Also, there are some fungus-free varieties of fescue. You can have fescue tested for the presence of the fungus through University of Extension Centers.

A second way to avoid fescue toxicity problems is to replace fescue with other forages or with endophyte-free fescue. The drawbacks to this are: 1) You lose use of the pastures for a while; 2) Most other grasses are not as hardy as fescue, and 3) It is difficult to eradicate infected fescue.

Our research showed that we could prevent foal losses on fescue by the use of a dopamine blocking drug called perphenazine. More recent research at Clemson University has provided us with another drug called domperidone, which is probably safer and a better choice than perphenazine. Drugs are useful when mares are left on fescue too long, but it is better to remove them from infected pastures at the appropriate time. Domperidone is not available "over the counter"

but may be available from your veterinarian in a paste form.

Does infected fescue affect horses other than pregnant mares? It is believed that as pregnancy rate is decreased, there are more embryonic losses and possible long-term problems in foals related to lameness.

One of the problems with the establishment of endophyte-free fescue is that it is less hardy than endophyte-infected fescue. There is a symbiotic relationship between the fungus and the grass, which makes it more hardy. With this in mind, researchers at the University of Georgia developed a fescue called Max Q containing a non-toxic fungal endophyte which give it the hardiness of toxic Kentucky-31 fescue without the toxicity. In the long run, this approach would seem to be ideal, but in the meantime we need to be able to manage the fescue we have by mowing, proper grazing management, and removal of mares 60-90 days before foaling. In addition, the interseeding of legumes like the new lespedeza varieties should be somewhat beneficial, particularly when fescue is cut for hay or grazed in mid-summer.

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