

Max Q Tall Fescue

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What is Max Q?

Max Q is the name trade-marked by Pennington Seed for a new non-toxic endophyte technology. This non-toxic endophyte inserted into tall fescue furnishes the excellent animal performance of endophyte-free tall fescue varieties but has the toughness and stand persistence of toxic endophyte-infected varieties. To obtain this unusual combination, Dr. Joe Bouton at the University of Georgia and Dr. Gary Latch at AgResearch in New Zealand re-infected a non-toxic fungal endophyte into the endophyte-free Jesup and Georgia 5 tall fescue varieties. Since there are many naturally occurring strains of these endophytes and they vary in their ability to work effectively with the host tall fescue variety, it was a big task to find the right combination. Max Q is therefore an endophyte technology that has been inserted into Jesup or Georgia 5 varieties to give stand persistence and animal performance benefits.

How have animals performed in Max Q grazing trials?

The initial grazing trials at the Central Georgia Branch Station were done with lambs because the limited amount of seed available allowed only planting of small paddocks. Max Q with Jesup or Georgia 5, and endophyte-free Jesup furnished similar average gains, 0.37 lb/day or nearly twice that of lambs on toxic endophyte-infected Jesup, 0.22 lb./day, when grazed from March to June in 1998 and 1999. In autumn, grazing from October to December also resulted in superior daily gains on Max Q tall fescue as compared to that on endophyte-infected tall fescue. However, because of greater productivity during dry weather, Max Q allowed a higher stocking rate than endophyte-free tall fescue, resulting in higher lamb gains per acre. At no time were animal toxicity symptoms exhibited with Max Q as seen for the toxic endophyte-infected pastures.

Beef steers grazed on Max Q Jesup and Georgia 5 from April to June in 1999, also at the Central Georgia Branch Station, had average gains of 2.6 lb/day as compared to 1.7 lb/day on toxic endophyte-infected

Jesup. When repeated for the autumn grazing period of 1999 (October to December), Max Q Jesup and Georgia 5 furnished average daily gains similar to endophyte-free Jesup (2.7 lb/day) and much better than endophyte-infected Jesup (1.9 lb/day). Again, there was never any expression fescue toxicity symptoms with Max Q tall fescue. These grazing trials are being continued in 2000.

Will Max Q survive in pastures?

Our research has shown that when managed as recommended, Max Q tall fescue gave excellent animal performance and stand survival. In our harshest testing conditions at the Central Georgia and Northwest Georgia Branch Stations under close continuous grazing during two years of drought, endophyte-free tall fescue stands deteriorated quickly while Max Q Jesup survived as well as toxic infected

Jesup. Max Q Georgia 5 did not survive as well as toxic Georgia 5 but much better than endophyte-free Georgia 5. More work will be needed to determine the best areas suited for these new varieties, but at this time use of Max Q is recommended on fertile sites with good management.

How should Max Q be planted and managed?

Max Q is a premium product and deserves only top management in planting. Ideally, it can be planted from September to early November on a firm, well-prepared seedbed at a seeding rate of 20 lb/acre. Cultipack before and after planting. Soil test and apply needed lime and fertilizer.

Renovating an existing toxic tall fescue pasture with Max Q will require more effort. Work must begin in spring of the planting year.

Spring

- (1) Do not allow existing toxic tall fescue pasture to bloom and produce seed during the spring.
- (2) Graze pasture closely or mow off existing forage.
- (3) Apply recommended fertilizer and lime.
- (4) Apply herbicide to kill existing tall fescue and bermuda grass.
- (5) Leave sod alone during summer or drill pearl millet or sorghum-sudangrass seed into the dead tall fescue sod in late spring.
- (6) Graze the summer annual forage or harvest for hay. Do not move animals from toxic tall fescue pastures to this area without a 3-day interval on another forage to prevent contamination with infected tall fescue seed.

Autumn

- (1) In September, closely graze or mow off existing forage, apply herbicide to kill any remaining tall fescue or bermudagrass.
- (2) Apply recommended fertilizer.
- (3) No-till drill Max Q at 25 lb./acre during late September to early

November. Plant alone or with a companion legume such as red or white clover. Do not plant rye, wheat, or annual ryegrass with Max Q as it will directly compete with tall fescue growth and delay good establishment.

Winter and Spring

- (1) Don't graze seedling pasture until plants are at least 8 inches tall or cut for hay at boot stage.
- (2) Apply fertilizer in late February.
- (3) Don't move animals from toxic tall fescue pastures to Max Q without a 3-day wait on another forage.

Summer

- (1) Rest seedling pasture stand or graze lightly for short periods (dependent on rain and forage growth).

Autumn and Winter

- (1) Soil test and apply recommended fertilizer in late September.
- (2) Graze as desired or stockpile for winter feeding.
- (3) Don't feed toxic tall fescue hay to livestock on Max Q.

Should you plant Max Q?

Max Q is not for everyone. It is currently only recommended for cattle and sheep until safety trials are completed with horses. Higher seed costs require that best management procedures be strictly adhered to in order to realize the potential benefits of Max Q. Due to its management requirements, Max Q is recommended for the professional livestock producer. As data is obtained from different locations and management conditions, it may be recommended in the future for the general producer. In the interim, it may not make much sense for the general producer to invest money in this new technology. Broadcasting clover seed on your endophyte-infected tall fescue pastures is still a cheaper and easier way to improve cattle performance although it is less dependable and will not match the higher production potential of Max Q. If you are a serious cattle producer and are willing to manage Max Q Jesup or Georgia 5 properly, it will not only eliminate any toxicity problems but give greater productivity and potential for profit.