



Strategies to Reduce the Effects of Fescue Toxicosis in Beef Cattle

Fescue toxicosis is a serious problem facing beef producers throughout the fescue belt of the United States. The detrimental effects of fescue toxicity are well documented and include reductions in calving rate, grazing time, forage intake, gain, milk production & calf weaning weights (Table #1).

Table #1

Toxic Fescue Effects in Cow/Calf

- ◆ Reductions in:
 - ◇ Calving rates
 - ◇ Grazing times
 - ◇ Forage intake
 - ◇ Milk production
 - ◇ Weaning weights
- ◆ Early pregnancy abortions
- ◆ Increased baby calf mortality
- ◆ Longer breed back time

Acknowledgements: Ball, Schmidt, Lacefield, Hoveland & Young

The cause of fescue toxicity has been traced to a tiny threadlike fungus living symbiotically within the plant tissues of many traditional fescue varieties. This fungus produces ergot alkaloids that, when ingested, are toxic to livestock.

Much has been learned over the years about this fungus enabling scientists to develop grazing systems to significantly reduce the effects of fescue toxicity. The remainder of this article will focus on strategies to eliminate or reduce fescue toxicosis problems in beef cattle operations.



► **Replace toxic fescue stands with non-toxic forages.** Destroying and replacing toxic fescue pastures with non-toxic forages is the only way to completely eliminate fescue toxicity. Early on, many producers used fungus free fescue varieties to accomplish this. However, they found fungus free varieties would not survive continuous grazing pressure and drought stress. More recently, a new variety of tall fescue has been developed jointly by plant breeders at the University of Georgia and AgResearch – New Zealand that solves cattle performance issues associated with toxic tall fescue and also provides the same plant persistence offered by toxic varieties. **Jesup MaxQ** tall fescue contains a non-toxic endophyte that provides plant stress protection with no adverse effects on animal performance (Table #2).

Table #2
Effect of Fescue Endophyte on Stocker Cattle Gain
University of Georgia, 1999-2002

Autumn	ADG (lbs)	Gain/A (lbs)	*\$Value
MaxQ (non-toxic)	1.8	181	\$159
Toxic Fescue	1.06	130	\$114
MaxQ Advantage	+ .74	+51	+\$45

Spring	ADG (lbs)	Gain/A (lbs)	*\$Value
MaxQ (non-toxic)	1.66	312	\$275
Toxic Fescue	.88	150	\$132
MaxQ Advantage	+ .78	+162	+\$143



► **Add clover, orchard grass or small grains to toxic fescue pastures.** Diluting toxic fescue with non-toxic forages such as clover, orchard grass or small grains reduces the amount of toxin ingested by the animal. In University of Georgia studies, overseeding non-toxic forages into toxic fescue did not totally eliminate fescue toxicity effects, but did significantly improve animal performance (Table #3).

Effects of adding white clover or replacing toxic tall fescue with MaxQ on beef stocker performance

Forage	ADG (lbs./hd)	Gain/A (lbs)
Toxic fescue	1.29	116
Toxic fescue & clover	1.38	139
Non-toxic Jesup MaxQ	1.70	169

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► **Clip fescue seed heads.** Some of the highest concentrations of toxins are found in fescue seed heads. If allowed access, cows will feed on seed heads. Preventing seed head development by mowing reduces the level of toxin available to livestock.

► **Avoid summer grazing of toxic fescue pastures.** The effects of fescue toxicity are greatest during the summer months. Animals grazing toxic fescue have difficulty staying cool in the summer. Cattle spend excessive amounts of time in shady areas and/or in streams and ponds rather than out foraging. Removing cattle from fescue pastures during summer months helps reduce the slump in animal performance.

Fescue in unused pastures can be stockpiled for late fall or winter grazing. Toxin content in the plants is lower in the fall. Also, cattle are more tolerant of toxic effects in the fall and winter months.

► **Feed non-toxic hay.** Just as adding non-toxic forages to pastures dilutes the amount of toxin ingested, feeding non-toxic

hay can be beneficial.

► **Other strategies.** Providing supplemental grain or silage also dilutes the effect of toxic fescue. However, this practice may not be economical or practical on all farms. There is some evidence that deworming can help overcome toxic effects. Scientists are not sure if dewormers reduce the toxins available to the animal or simply eliminate another growth limiting factor.

While there are several strategies to reduce the effects of fescue toxicity, it should be emphasized that the only way to completely eliminate toxicity problems is to replace existing toxic fescue pastures with non-toxic forages. Producers planning for the long term should give strong consideration to pasture renovation. Renovating 10%-20% of the pastures each year is a practical method of ridding the farm of toxic fescue without putting undue strain on the cattle operation.

Cattlemen should treat fescue toxicity as a serious profit robbing issue and take steps to eliminate or reduce its effects.



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