FAQs On Fescue Answered By Research

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During producer meetings and through other events, many questions have come up regarding the use and management of toxic fescue as well as some myths or misconceptions about the fescue endophyte. Arkansas has about two million acres of fescue, and most of it is infected with the toxic fescue endophyte.

The toxic fescue endophyte is a fungus that grows inside the fescue. It produces toxins that reduce livestock growth, but provides benefits to the plant, making it more tolerant of drought, overgrazing and pest attack. Recent research has focused on replacing the toxic endophyte with a nontoxic novel endophyte to improve animal growth, while maintaining good plant persistence. In this article are answers to some frequently asked questions about fescue and fescue toxicity based on Arkansas research conducted by Dr. Ken Coffey, Dr. Paul Beck, Dr. Mike Looper and Dr. Chuck West.

Question: Aren't fungus-free fescue and NE (novel endophyte) fescue the same?

Answer: No. Fungus-free fescue contains no endophyte. It provides good animal performance but has poor persistence under grazing and stressful growing conditions. The NE (novel endophyte-infected) fescue has a non toxic endophyte that provides both good animal performance and good plant persistence.

Question: Do fields planted with the NE fescue revert back to toxic fescue after a few years?

Answer: No. The toxic endophyte cannot spread from plant to plant, so a NE fescue plant will never become a toxic fescue plant. However, if toxic fescue seed is spread into a NE fescue field, it can become established and spread in the field. Toxic seed can be carried in on equipment, by feeding mature toxic fescue hay and by cattle that have consumed toxic fescue seed in pasture or hay within two days of going into the NE fescue pasture.

Question: What effect does toxic fescue (E+) have on my cows?

Answer: Recent research shows that the toxic fescue affects reproduction rates of spring-calving herds much more than fall-calving herds. Spring-calving herds had calving rates (63-day breeding season) of only 44% when grazing toxic fescue year-round. Converting 25% of the pasture to NE fescue improved spring calving rates to 80%. Fall-calving herds maintained calving rates of over 95% whether on toxic fescue year-round or if 25% of the pasture was converted to NE fescue.

Question: What effect does toxic fescue have on my calves?

Answer: Spring-born calves are more affected than fall-born calves. Spring-born calves on toxic fescue had adjusted weaning weights 73 pounds lower than calves on 100% NE fescue. Converting 25% of the pasture to NE fescue only improved weaning weights by 10 pounds. Fall-born calves on toxic fescue had adjusted weaning weights 49 pounds lower than their spring-born counterparts on 100% NE fescue. Converting 25% of the pasture to NE fescue improved fall-born calf weaning weights by 26 pounds or more simply, converting 25% of the pasture gained 53% more calf weaning weight.

Question: Does fescue hay become less toxic during storage?

Answer: Yes. Levels of ergovaline, the toxic alkaloid produced by the endophyte, has been shown to decline by 23% in hay at Batesville and 79% at Fayetteville between June or July harvest and sampling in February.

Question: Can I reduce fescue toxicity by maintaining mixed pastures with bermudagrass?

Answer: Yes, but not entirely. Calves weaned from cows grazing bermudagrass pastures mixed with either endophyte-free fescue or orchardgrass weighed 48 to 52 pounds per head more than calves weaned from bermuda/toxic fescue mixed pastures. Cows on the bermudagrass pastures mixed with orchardgrass or endophyte-free fescue also had greater body condition scores and body weights than cows on the bermuda/toxic fescue forage.

Question: Does rotational grazing reduce the fescue toxicity?

Answer: No. Studies on cow/calf production on bermudagrass pastures mixed with endophyte-free fescue, orchardgrass or toxic fescue showed no difference in cattle performance for pasture rotation frequencies of twice a month or twice a week. Rotating pastures twice a week did not improve persistence of the orchardgrass or endophyte-free fescue compared to rotating pastures twice a month. This was a well-managed study in which the pastures were not overgrazed. In over-grazing conditions, just maintaining nontoxic forages is difficult, so in an indirect way, rotational grazing may reduce fescue toxicity if it reduces over-grazing and maintains nontoxic forages.

These are just a few FAQs I have heard lately. For more information on managing fescue toxicity, novel endophyte fescues and forage management, contact your local University of Arkansas Extension office. Δ

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