

Extension Workgroup

Tall Fescue Toxicosis and Management Workshop

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Last year, the University of Missouri held its first 2-day workshop on tall fescue toxicosis and management. The workshop was organized by Craig Roberts (Agronomy) and Rich Crawford (Animal Science); its agenda can be seen in Figure 1.

The workshop followed the same approach and justification as those of the University of Missouri Grazing Schools—to focus all attention on a significant problem with the expectation of improving management and increasing profitability of forage-livestock operations in the upper South and lower Midwestern US.

Aspects of the Workshop

The success of this workshop depends on several aspects. One aspect was order of information. In the case of fescue toxicosis, most producers in our region employ some level of denial. Even our best producers frequently associate fescue problems with their neighbor's farm or with distant research; most of them do not believe it is a problem on their farms, even if their pastures are 85% infected Kentucky 31.

With this in mind, the first point made in this workshop deals with the reality of fescue toxicosis—it is a real syndrome, and it causes serious livestock problems on >90% of Missouri's farms. Until this point is understood, all other points made in the workshop are meaningless. After it is understood, a second series of points offers management solutions. The final point is that management requires a systematic approach, not a silver bullet approach. More on this later.

Another aspect of the workshop was reliance on data. Because fescue toxicosis is poorly understood and its proposed solutions are often superstitious, the workshop presented only ideas and solutions that were based on unbiased university research. This type of presentation should be a given, especially among university employees. But in the case of toxicosis, such is not the case.

The third aspect was demo. For each major point, the workshop offered a demo. The first and most important demo was the display of livestock after one month of grazing toxic or nontoxic pastures. While researchers see these differences daily, producers do not always have the opportunity. In this workshop, the livestock were heifers who had been rounded up into pens after grazing toxic Kentucky 31, endophyte-free, and ArkPlus. Additional demos showed how to implement the recommend practices; almost all practices were supported with a demo (Fig. 1).

The fourth and final aspect was the presentation of a system. Over the years, many of us have found it easy to discuss a component of management, such as addition of legumes to a pasture, but we may not have discussed these components within a system that includes all components working simultaneously. Therefore, the workshop concluded with an in-depth discussion of a complete management system; this discussion was intended to be especially beneficial to those producers who chose to retain their Kentucky 31. The underlying concept in this discussion is called *incremental alleviation*. This concept states that, should toxic tall fescue be managed instead of replaced, toxicosis can be alleviated in increments. For example,

incorporation of legumes might add between 0.2 and 0.3 lbs/day to a steer ADG; it would only be, however, a single component in a system that required several other practices.

The system we presented used a two-pasture operation that included tall fescue and bermudagrass. The fescue-based fields would provide spring and fall pasture, and the bermudagrass fields would provide summer pasture. Bermudagrass fields would also provide winter pasture, as they would be interseeded with cereal grass in the early fall.

In addition, this system would call for tall fescue pastures to be interseeded with legumes and receive limited fertilizer application. It would also expect some supplementation for livestock. Most of the management practices would be geared toward *alkaloid management*, which is a style of management that begins with knowledge of seasonal fluctuations of ergot alkaloid production; the recommended practices are geared mainly toward reducing the amount of alkaloid ingested.

Results of the Workshop

The workshop was attended by 25 producers. Our target was to have 20 producers the first year, 30 the second year (2005), and 40 producers each year thereafter. The workshop was also supported by industry.

The evaluations of the 2004 workshop were more favorable than those we have for the Missouri Grazing Schools. We do not know if the success will be repeated, but we are hoping to ensure such by improvements in 2005. These improvements will include economic analyses and better laboratory exercises. The 2005 workshop is scheduled for October 4-5, 2005. It will be held at Mt. Vernon, Missouri, and the cost is \$125 per person.

Figure 1. Agenda for Tall Fescue Toxicosis and Management Workshop, held October 7-8, 2004, University of Missouri Southwest Research Center, Mt. Vernon, Missouri

Oct 7 – Tall Fescue Toxicosis and How to Eliminate the Problem

8:30 Welcome and Introduction to the Workshop (Craig Roberts)

9:15 Identification of the Problem: An Animal Perspective (Richard Crawford)

10:00 Break

10:15 Identification of the Problem: A Plant Perspective (Craig Roberts)

10:45 *Field Demos* (Workshop Staff):

- a. Steers grazing E+, E- and E++ tall fescue
- b. Collect tillers to test for presence of endophyte

Noon Lunch

1:00 *Classroom Demos*: Endophyte Testing Procedures (Ryan Lock)

- a. Microscopic procedures
- b. Immunochemical procedures

1:30 Management Option One: Eradicating Toxic Tall Fescue (Craig Roberts)

2:15 *Field Demos*: Eradicating Toxic Tall Fescue (spray-smother-spray techniques)

3:15 Break

3:30 Questions (Workshop Staff)

4:00 Management Option Two: Managing Existing Tall Fescue (Roberts and Crawford)

- Concept – Managing the alkaloid
- Concept – Incremental improvement

5:00 Steak Dinner (Industry representatives)

Informal discussion

6:00 Adjourn for the day

Oct 8 – How to manage infected Kentucky 31

8:30 Rotations Involving Alternative Summer Pastures (Rob Kallenbach)

9:30 Dilution of Toxic Existing Tall Fescue Pastures (Craig Roberts)

10:00 Break

10:15 Winter Grazing Management (Rob Kallenbach)

11:00 *Field Demos* (Workshop Staff)

a. Rotations with Summer/Winter Pastures

b. Dilution of Toxic Tall Fescue Pastures

Noon Lunch

1:00 Ration Supplementation (Richard Crawford)

1:30 Seedhead Control and Pasture Fertilization (Craig Roberts)

2:00 Ammoniation of Toxic Tall Fescue Hay (Richard Crawford)

2:30 *Field Demos* (Workshop Staff)

a. Ammoniation of Hay

b. Seedhead Control

c. Ration Supplementation

3:30 Break

3:45 Other Practices (Richard Crawford)

4:15 Designing a Simple, Low-Cost Grazing System (Craig Roberts)

5:00 Adjourn

Cost: \$125 single or \$240 couple

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