



Your local link to MU for ag extension and research information

<http://agebb.missouri.edu/agconnection>

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Cattle Heat Stress and Tall Fescue Toxicosis

Tall fescue (*Festuca arundinacea*) is Missouri's most widely used forage crop. It is insect and nematode resistant, tolerates poor soil and climatic conditions well and has a long growing season. Unfortunately, tall fescue also has a downside. Most tall fescue in the state is infected with a fungal endophyte, *Neotyphodium coenophialum* (formerly called *Acremonium coenophialum*) which is toxic to animals.

Endophyte toxicity symptoms may include rough hair coat or fescue foot; however, many cases are less severe resulting in significantly reduced performance (reduced rate of gain) without obvious symptoms. The toxin reduces the animal's ability to transfer heat, resulting in elevated body temperature. On hot days, this results in cattle seeking shade and entering bodies of water more frequently. The heat of summer provides an opportunity to observe animal behavior and estimate if the endophyte is causing reduced performance. If there is a concern of tall fescue toxicity, there are resources available to address the extent of the problem and how to minimize and/or eliminate the source of the toxicity.

Samples of tall fescue can be tested for the endophyte, which produces the toxin. For more information about testing, go to <http://www.agriagnostics.com/>. Testing may not be necessary if animal behavior indicates the toxin is present.

Learn more about the toxin, how it is produced, and the effects environmental conditions have on the toxin levels. University of Missouri publication G4669 titled "Tall Fescue Toxicosis" provides information on managing toxic tall fescue and is available online at <http://extension.missouri.edu/p/G4669>.

Toxin elimination can be accomplished by switching to any forage not infected with a toxin producing endophyte. Tall fescue varieties are now available which contain a "novel" endophyte that essentially eliminates the toxin. For more information about novel endophyte tall fescue, including how to ensure tall fescue seed is certified as a novel endophyte tall fescue variety, visit the Alliance for Grassland Renewal web page at <http://grasslandrenewal.org/>.

Source: Max Glover, agronomy specialist



Summer Tasks in the Garden

By mid-summer weeds can take over a garden and flower bed. Weeding is essential to keep the weeds from going to seed and should be done regularly. Grassy weeds like foxtail, barnyard grass, and crabgrass are warm-season annuals and can be a problem in a vegetable garden. Organic Preen, containing 100% corn gluten meal, can be applied around vegetable plants to control these weeds. Preen keeps weed seed from germinating, so existing weeds must be controlled by an alternative method. Mulching with straw, hand pulling and hoeing are other options for weed control in a vegetable garden. Preen containing the active ingredient 'trifluralin', can be applied to flower beds including irises for control of grassy weeds, but must be applied before the weeds germinate. Existing weeds must be pulled. Asparagus and strawberry harvest is now over, and weeds will start taking over those beds. For control, pull existing weeds, and broadcast Preen over the beds. At this time Preen with 'trifluralin' can be applied to these edible crops.

Harvest garlic when the tops begin to yellow and fall over. Pull the plants carefully or use a garden fork to lift them out of the soil. Move them to a dry, shady location with good air circulation to cure for two weeks. Garlic plants can be tied together in bunches of 4-6 plants and hung upside down to dry. Store cured garlic bulbs in containers or bags with ventilation holes. Never store them in sealed containers or bags to avoid molding or sprouting.



Harvest onions when the tops turn brown. Spread them in a single layer in a dry, shady location to cure for 2-4 weeks. Never place garlic and onions in direct sunlight during the curing process.

Potatoes are ready to harvest when their tops turn brown and die. Carefully dig potatoes and cure for 1-2 weeks in a cool, dark location. Storage potatoes should be kept in a cool, dark location to prevent sprouting. Potatoes for fall harvest should be planted by July 15th.



Dry, hot weather can cause problems for some plants. Blossom end rot of tomatoes and peppers is potentially one of these. To prevent it, keep soil moist. This can be done by watering regularly during hot weather and placing a 2-3 inch thick layer of mulch around the plants. Drought conditions can cause cucumbers to be bitter, so keep them well-watered.

Sow seeds of carrots, beets, turnips, and radish for fall harvest the last week of July. Broccoli, cabbage, and cauliflower transplants should also be planted now for a fall crop. A second planting of squash and cucumbers can also be made at this time.

Early grape varieties start to ripen in late July. Birds love grapes; therefore, place netting over the grapevines to protect the grapes. Another method is to cover the grape clusters loosely with paper sacks to give some protection. In July, old fruiting canes of raspberries should be pruned out after all the berries have been picked. Blackberries will soon be ripening this month. Apply a second spray to the trunks of peach trees for peach borers. Some early varieties of peaches start to ripen at this time.

Watch for spider mites during hot, dry weather. Plant leaves will become speckled above and yellowed below. Evergreen needles appear dull gray-green to yellow or brown. Miticides are available for control of this pest. Black Spot may be a problem on roses. Remove and pick up infected leaves and spray fungicides as needed.

For more information, contact your local University of Missouri Extension center.

Source: *Jennifer Schutter, horticulture specialist*

2017 | CENSUS OF AGRICULTURE

Be Counted - 2017 Census of Agriculture

This December, the U.S. Department of Agriculture's National Agriculture Statistics Service (NASS) will begin the 2017 Census of Agriculture. The Census of Agriculture is the Nation's largest and most comprehensive information-gathering project for agriculture. It is the only source of consistent data on agricultural production and operator characteristics for each county, state, and the entire U.S. The census provides a current assessment of where farmers and

ranchers stand on issues, farm supply needs, production costs and cropping systems. It also shows how trends in agriculture are changing. Congress requires USDA's NASS to conduct the census every five years.

The census data benefits producers in a number of ways. Farm and ranch organizations use the data to evaluate and propose programs and policies, which will help farmers and ranchers. Agribusinesses use the information to develop marketing strategies and determine locations of facilities that will serve producers. Farmers and ranchers use the census data to determine potential business opportunities, and to evaluate their operation in comparison to local, state, and national averages. Extension specialists and universities use census statistics to develop new improved methods to increase agricultural production and profitability. Additionally, elected local and state representatives will use the census data to develop farm programs that will benefit producers and promote U.S. agriculture.

Every farmer and rancher needs to be counted regardless of the size and type of operation. Information on individual operations will remain strictly confidential by law (Title 7, U.S. Code). NASS safeguards the confidentiality of operators' responses and will not disclose any information about an individual farm or ranch operation.

In December, the census forms will be mailed out. U.S. law (Title 7, U.S. Code) requires operators/producers to respond to the census. Responses are important because only U.S. farmers and ranchers can supply the answers needed to generate an accurate picture of the Nation's agriculture. Forms can be returned by mail, or by filling out the Census online via a secure website. Please take the time to be counted! For more information on the 2017 Census of Agriculture contact your local Extension office or USDA Service Center.

Source: *Karisha Devlin, ag business specialist*

2017 Fall Calving Show - Me - Select Heifer Sale

The Northeast Missouri Show-Me-Select Replacement heifer program held a fall calving heifer sale where 120 heifers averaged \$1,928. The sale was held on Saturday, June 3rd at F & T Livestock Auction.

The 12 producers were enrolled in the University of Missouri Extension's educational heifer management

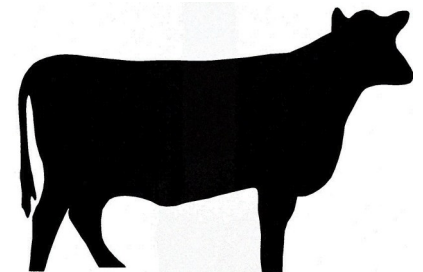
program. The heifers were bred to sires with both calving-ease and growth genetics. The top selling lot, consigned by Richards Farms Inc., brought \$2,550.

Highest consigner average was \$2,300 on four head from James Penn, Edina, Mo. Other high averaging consignors were Richards Farms Inc., Keytesville, Mo. \$2,074 on 21 head; McCutchan Angus, Monticello, Mo. \$2,067 on three head; Deer Creek Cattle Co., Clarksville, Mo. \$1,940 on 10 head.

Sixteen buyers purchased over \$230,000 worth of bred heifers; exchanging hands in less than 45 minutes. Calving surveys returned by buyers provide important information to consignors to guide improvements in future years.

The Show-Me-Select heifer development program takes nearly a year to complete. Pre-breeding exams are completed on heifers usually 4 to 8 weeks before being bred. These exams include a pelvic measurement, reproductive tract score, and weight record. Heifers may be bred artificially or be exposed to natural service, however; the service sires must meet specific calving ease EPD requirements based on breed. This year 75 head, or 63 percent, of the heifers in the sale were synchronized and bred AI. In this sale, the choice to AI, showed a \$127 price advantage over those bred naturally.

All heifers must be pregnancy tested within 90 days of breeding by a veterinarian to determine expected calving date. The use of ultrasound has helped many of the



veterinarians improve their accuracies on calving dates. During the development period the heifers undergo an extensive health program and are vaccinated at weaning, pre-breeding, and pregnancy examination as well as treated several times for internal and external parasites. Heifers are also screened for blemishes, condition, muscling and structural soundness by an MU Extension livestock specialist and Missouri Department of Agriculture grader.

This is the 21st year for the Show-Me-Select heifer sale in Palmyra, Mo. and over 36,000 heifers have been through the program and 5,951 head have been sold. If you are interested contact your local MU Extension Livestock Specialist.

Source: *Daniel Mallory, livestock specialist*

2017 University of Missouri Field Days

Online calendar <http://cafnr.org/events/>

July 7 (Fri.) Bradford Research Center will host its Pest Management Field Day

July 13 (Thur.) Bradford Research Center will host its Crop Diagnostic Clinic

July 14 (Fri.) Bradford Research Center will host its Soybean College

Aug. 1 (Tues.) MU South Farm will host the MU Turfgrass & Landscape Field Day

Aug. 3 (Thur.) Bradford Research Center will host its Vegetable Grower Field Day

Aug. 8 (Tues.) Greenley Research Center Field Day will run from 7 a.m. to 2 p.m. at the new Grace Greenley Conservation Showcase Farm.

Aug. 22 (Tues.) Graves-Chapple Research Center will host its annual field day at the Center near Rock Port.

Aug. 22 (Tues.) Hundley-Whaley Research Center

will host its annual twilight tour at the Center in Albany.

Sept. 7 (Thur.) Bradford Research Center will host its Tomato Festival

Sept. 9 (Sat.) Southwest Research Center will host its annual field day at the Center near Mt. Vernon.

Sept. 12 (Tues.) Forage Systems Research Center will host its annual field day at the Center near Linneus.

Sept. 21 (Thur.) Thompson Research Center will host its annual field day at the Center near Spickard.

Sept. 30 (Sat.) South Farm Research Center will host its annual South Farm Showcase at the Center in Columbia.

Oct. 5 (Thur.) Wurdack Research Center will host its annual field day at the Center near Cook Station.

Oct. 7 (Sat.) The Missouri Chestnut Roast will run from 10 a.m. to 4 p.m. at the Horticulture and Agroforestry Research Center in New Franklin.