

PLOWING AHEAD

AGRICULTURE & NATURAL RESOURCES

November 2024



UK Martin-Gatton
College of Agriculture,
Food and Environment

Cooperative Extension Service
Madison County
230 Duncannon Lane
Richmond, KY 40475
(859) 623-4072
Fax: (859) 624-9510
<http://extension.ca.uky.edu>

GENOMIC TESTING FOR BEEF CATTLE

November 14th at 6:00 pm

Madison County Extension Office, 230 Duncannon Lane, Richmond, KY 40475

Join us as UK Extension Beef Cattle Genetics Specialist Dr. Darrh Bullock will provide an update on the following topics:

- Why Genomics Testing is Important for Kentucky Beef Producers
- Improved EPD accuracy with Genomics
- Genomic use in commercial heifer testing
- Considerations for incorporation in your herd



A meal will be served, please call 859-623-4072, to make your reservation by November 12th.

This program is CAIP education credit eligible.

BEEF MANAGEMENT 101

Managing your cattle this winter: Health, Reproduction, Genetics, & Nutrition

*Presented by: Animal Science Students from the University of Kentucky
and Dr. Darrh Bullock, Extension Beef Specialist*

When: Wednesday December 11th, starting at 6:00 pm

Where: 230 Duncannon Lane, Richmond, KY (Madison County Extension Office)

A meal will be served. Call ahead 859-623-4072 by Monday, December 9th.

**** This is a CAIP Education Credit Eligible Meeting ****

Brandon Sears

Brandon Sears, County Extension Agent for Agriculture & Natural Resources
859-623-4072 brandon.sears@uky.edu

Cooperative
Extension Service

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.

Lexington, KY 40506



Disabilities
accommodated
with prior notification.

Controlling Invasive Plants

Monday November 18th

5:30 to 7:00 pm

**Madison County Cooperative Extension Office
230 Duncannon Lane, Richmond, KY 40475**

If weather allows, a portion of this program will be outside.

Have you had trouble controlling bush honeysuckle? Is wintercreeper inching its way onto your property? Are your Bradford pear trees splitting?

At the Controlling Invasive Plants program Dr. Ellen Crocker from the University of Kentucky Forestry Department will share information on these and other invasive plants.

- Learn about invasive plants and why are they a problem
- Hands on demonstration of control methods
- Plant control Q&A

This program qualifies for CAIP Educational Credit

A light meal will be provided at this program. **Please call the Madison County Cooperative Extension office at 859-623-4072 to register for this meeting.**



Bush Honeysuckle



Callery Pear



Winter Creeper





Martin-Gatton
College of Agriculture,
Food and Environment
University of Kentucky.

Join us for an evening of all things hay!

CENTRAL KENTUCKY HAY PROGRAM

PROGRAM FEATURES:

- ✓ Central KY Hay Contest Awards
- ✓ Understanding your forage test results
-Dr. Jimmy Henning, UK Extension Forage Specialist
- ✓ Determining quality horse hay
-Dr. Bob Coleman UK Extension Equine Specialist
- ✓ How I make quality hay: Tips for Success
-Producer panel



When: Monday, December 16th, 2024

Where: Fayette County Extension Office,
1140 Harry Sykes Way, Lexington, KY 40504

Time: 6:00 – 8:00pm

Dinner will be served so please RSVP to the Fayette County Extension Office at 859-257-5582 or fayette.ext@uky.edu before December 9th!

Cooperative Extension Service

Agriculture and Natural Resources
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4-H Youth Development
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Disabilities accommodated with prior notification.

BEEF MANAGEMENT WEBINAR SERIES

If you are interested and would like to be registered send an email to dbullock@uky.edu with Beef Webinar Series in the Subject and your name and county in the message to receive a Zoom link and password. You will receive an invitation and password the morning of the presentation.

November

12

Shooting the Bull: Answering all your Beef Related Questions!

Updates and Roundtable discussion with UK Specialists

December

10

Winter Feeding Strategies to Extend Short Hay Supplies

Dr. Lawton Stewart, Professor, University of Georgia

January

14

Important Traits for Bull Selection in Kentucky

Dr. Matt Spangler, Professor, University of Nebraska

February

11

Marketing Opportunities for the Spring

Dr. Kenny Burdine, Professor, and Kevin Laurent, Extension Specialist, University of Kentucky

March

11

Preparing for a Successful Spring Breeding Season

Dr. Les Anderson, Extension Professor, University of Kentucky

April

8

Health Update and Internal Parasite Field Study Results

Dr. Michelle Arnold, Extension Veterinarian, and Dr. Jeff Lehmkuhler, Extension Professor, University of Kentucky

If you have any questions or need additional information please email dbullock@uky.edu. If you are already registered you will get a Zoom invitation the morning of each session with the link and password.

These are CAIP Education Credit Eligible Programs

And a Partridge in a Pear Tree!

Learn more about winter birds and make an ornament for your feathered friend!

Wednesday December 4, 2024 - 10:00 am to 11:30 am
Madison County Extension Office, 230 Duncannon Lane,
Richmond, KY 40475

We may not have partridges in our pear trees here in Madison County, but there are still plenty of birds to enjoy this time of year!

If you are interested in attending this class, let us know by calling 859-623-4072 or email amanda.sears@uky.edu.



FREE SOIL TESTING!

Madison County Cooperative Extension Service offers free soil testing year round. We need at least two cups of dry soil to run a test. If you have questions on how to collect your samples, call 859-623-4072.

Agricultural and horticultural samples **from Madison County residents** will be accepted. **There is a 10 sample limit per farm or home per calendar year!** (Please note: Commercial lawn care companies submitting samples should call 859-623-4072 for pricing.) We would like to thank our sponsors for making this possible:

Madison County Extension District Board and Madison County Conservation District



Roast Venison

Roast Venison

- 4 pounds venison roast
- 1 teaspoon salt
- 2 tablespoons flour
- 2 tablespoons oil
- ¼ teaspoon garlic powder
- 1 onion, sliced
- 2 tablespoons brown sugar
- ¼ cup lemon juice
- 4 cups low-sodium canned tomatoes
- ¼ teaspoon browning sauce, if desired

Season roast with salt and roll in flour. Brown on all sides in hot oil in a heavy skillet. Place in a slow cooker and add remaining ingredients. Cook on low for 10 hours or on high for 6 hours.

Leftovers ideas: cold sandwiches, heated in barbecue sauce for hot sandwiches, or diced into soup or stew.

Yield: 12 servings

Adapted from Venison Recipe Collection, Compiled by Becky Nash, Extension Agent for Family and Consumer Sciences

Nutrition Facts	
12 servings per container	
Serving size 5 ounces (255g)	
Amount per serving	
Calories 250	
% Daily Value*	
Total Fat 6g	8%
Saturated Fat 2g	10%
Trans Fat 0g	
Cholesterol 130mg	43%
Sodium 300mg	13%
Total Carbohydrate 10g	4%
Dietary Fiber 2g	7%
Total Sugars 5g	
Includes 2g Added Sugars	4%
Protein 36g	
Vitamin D 0mcg	0%
Calcium 11mg	0%
Iron 5mg	30%
Potassium 496mg	10%

*The % Daily Values (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,300 calories a day is used for general nutrition advice.



This institution is an equal opportunity provider. This material was funded by USDA's Supplemental Nutrition Assistance Program — SNAP.



University of Kentucky
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Food and Environment
Cooperative Extension Service

Find this Cook Wild Kentucky recipe and others for Fish, Venison, Rabbit, Dove, Frog Legs, and more at: <https://www.planeatmove.com/recipes/>, then Browse by Category, and choose Cook Wild Kentucky.

MADISON COUNTY BEEKEEPERS ASSOCIATION

Madison County Beekeepers Association will meet Monday, November 25, 6:00 pm, at the Madison County Extension Office. For information, call Kent, 859-623-3576, or Paul, 859-582-6172.



PLATE IT UP! KENTUCKY PROUD!

Whether it's spring, summer, fall or winter, you can Plate It Up with delicious recipes that put a new twist on your favorite Kentucky Proud foods.

Visit <http://fcs-hes.ca.uky.edu/piukp-recipes> to find all the Plate It Up recipes using Kentucky Proud products.

THE ASIAN LONGHORNED TICK AND THEILERIA ORIENTALIS IKEDA

What have we learned in the last 2 years?

Dr. Michelle Arnold – DVM, MPH UK Ruminant Extension Veterinarian

In late June 2022, the UKVDL received a yearling Hereford bull for necropsy with a history of “symptoms of pneumonia.” At necropsy, the sclera (white of the eye), mucus membranes, and fat were yellow. Serologic (blood) testing for *Anaplasma sp.* was negative and PCR testing for *Anaplasma marginale* was also negative. A sample of spleen submitted to the Virginia Tech Animal Laboratory Services (ViTALS) was positive for *Theileria orientalis*. Further genotyping confirmed the genotype as Ikeda. This was the first known case of “bovine theileriosis” diagnosed in Kentucky, a tickborne disease caused by the protozoan blood parasite *Theileria orientalis* Ikeda. *Theileria* sporozoites (the infective stage) are primarily transmitted to susceptible cattle through the bite of an infected Asian Longhorned Tick (ALHT). In 2022, ALHT had been identified in 16 states, including Kentucky, and the list has now grown to 22 states and Washington DC (Figure 1). While cattle deaths in KY due to theileriosis have been limited in number, they continue to occur, especially as diagnostic capabilities improve. So, the question becomes, what have we learned about this disease and the tick responsible for spreading it since its arrival in 2022?

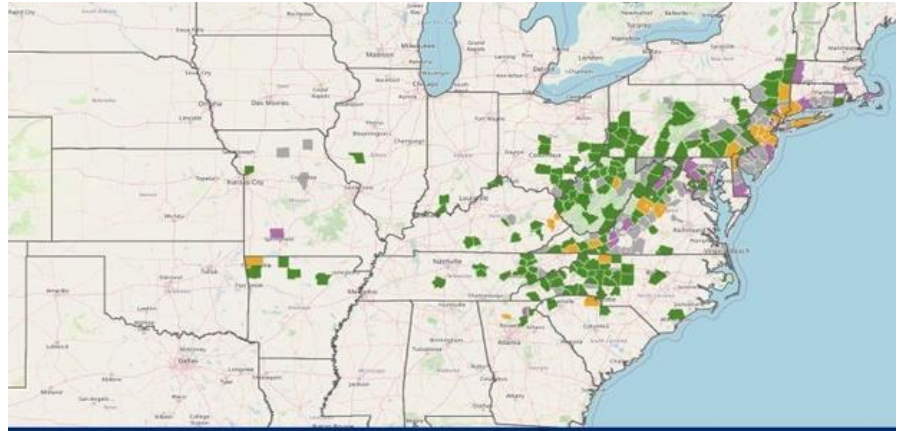


Figure 1: ALHT in the US as of 8/1/2024. A minimum observation period of one year is necessary to determine if this tick species can survive and thrive throughout the various local and seasonal changes. The critical environmental factors involved in establishment of the ALHT are climate, habitat suitability and host availability.

The ALHT, scientifically known as *Haemaphysalis longicornis*, requires warm-blooded animals such as humans, wildlife (white-tailed deer, raccoons, birds), and domestic animals to feed on for survival. Only parthenogenetic strains of ALHT exist in the USA, meaning male ticks are not required for reproduction. In the US, all ALH ticks are female, and each can produce 1,000-2,000 female offspring, allowing the tick population to rapidly explode. This means an individual animal could host hundreds to thousands of ticks and a severe infestation can kill the animal from excessive blood loss (Figure 2). The ALHT is a “three-host” tick species, meaning they seek a new individual animal on which to feed for each life stage. The tick lifecycle consists of four consecutive stages – eggs hatch into larvae, larvae feed on blood (from Host #1), fall off and molt to nymphs, nymphs feed on blood (from Host #2), fall off and molt to adults, and adults feed on blood (from Host #3) then lay eggs. All tick stages live at the base of pasture plants and “quest” (search) for a host by climbing up plant stems and attaching to a passing animal. Blood-feeding lasts anywhere from 5 to 14 days, longer with older life stages. In the United States, host-seeking nymphs are most active in the spring, adults in the summer, and larval stages in the fall but all stages may be observed questing throughout the warm seasons. Cattle begin to show signs of disease 4-6 weeks after infected ticks take their blood meal. Keep in mind that wildlife can serve as tick hosts and accelerate their spread in the absence of cattle. Ticks can remain infective on pasture for up to 2 years under favorable conditions so removing cattle from infested pastures for extended periods will not remove ticks from the area.



Figure 2: Asian longhorned ticks on the ear of a cow that died due to anemia from the massive tick infestation (Photo courtesy of the UKVDL).

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THE ASIAN LONGHORNED TICK AND THEILERIA ORIENTALIS IKEDA

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Regardless of life stage, whether larva, nymph or adult, the ALH tick acquires the *Theileria orientalis* blood parasite when it feeds on blood from an infected cow and the tick remains infected throughout its life stages. Fortunately, an infected adult tick cannot pass the *Theileria* organism to her eggs so newly hatched larvae can only acquire the parasite with their first meal. Therefore, only the nymphs and adult ticks can infect naïve cattle with *Theileria orientalis* and cause disease. Infected nymphs that go dormant during winter (known as “diapause”) in the grass and woods can transmit the disease to cattle the following spring. It is also possible for eggs, larvae and adults to survive mild winters and resume development when the weather warms. The *Theileria orientalis* organism is a protozoon that infects and destroys red blood cells, causing anemia in infected cattle. This disease, called “bovine theileriosis”, is often mistaken for anaplasmosis, another tick-borne disease caused by a blood bacterial parasite, *Anaplasma marginale*. Clinical signs seen in both *Theileria*-infected cattle and *Anaplasma*-infected cattle are due to severe anemia and include lethargy, anorexia, fever, exercise intolerance, difficulty breathing, foamy nasal discharge, an increased incidence of abortion, pale mucous membranes or jaundice, aggression, and death. Most theileriosis cases occur between April-June and September-November but can be seen year-round and in all ages of cattle. After initial infection, animals that survive become chronic carriers and can relapse during periods of stress. Anaplasmosis, on the other hand, usually occurs in the fall (September-November), only affects adult cattle, and cattle tend to show more aggressive behavior. There is no effective treatment for Theileriosis or vaccine to prevent infection. *T. orientalis* Ikeda is not a public health concern and contact with affected cattle does not pose a human health risk.

At the UKVDL, diagnostic testing for detection of *T. orientalis* in live animals is performed on whole, anticoagulated bovine blood (collected in purple top blood tubes) or from the spleen collected at necropsy. A duplex PCR, the “Anaplasma/Theileria Tick Panel PCR” (\$68.50 + Accession fee) can detect both of the blood-borne organisms that cause anemia, *Theileria orientalis* and *Anaplasma marginale*. There are 11 different genotypes related to *T. orientalis* so a second test, the “Theileria Duplex Real-time PCR” (\$40 + Accession) is necessary to confirm the Ikeda genotype.

Because ALHT can vector *Theileria* to cattle and can cause extreme blood loss in farm animals, careful monitoring of livestock and use of tick prevention methods is highly recommended. Routinely inspect livestock, pets, and humans for ticks. In cattle, check the head, neck, ears, flanks, armpit, groin, udder and under the tail (areas where the skin is thinner).



Photo credit: CDC and Tick and Hand Photo credit: Michael Greenwood

Figure 3: Top: Asian longhorned ticks are light brown in color and are very small, often smaller than a sesame seed, as seen in the photo on the fingernail. Bottom left: The nymph and adult stages (a dime is in the background). Bottom right: The adult female is only about the size of a pea when it is full of blood.

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THE ASIAN LONGHORNED TICK AND THEILERIA ORIENTALIS IKEDA

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Cattle that seem lethargic or unthrifty should be closely inspected for ticks. The most common areas on cattle that ticks will be found are around the tailhead, on the udder, inside the legs, on the brisket, in the ears (particularly near the insertion sites of ear tags) and occasionally on the face and neck.

Tick identification is helpful for both disease diagnosis and premises assessment. Laboratory identification is the best way to confirm the identity of ALHT. The ticks are light brown and often smaller than a sesame seed. The adult female is about the size of a pea when full of blood (Figure 3). If concerned about the identification of the Asian longhorn tick, or if you find an unusual tick species on an animal, it can be submitted to the National Veterinary Services Laboratory, and they will appropriately identify the tick. Contact the UKVDL for further information.

Tick control should be approached from both the animal and the environmental perspectives. Integrated tick management includes a combination of tick surveillance, altering tick habitat, strategic application of insecticides to cattle, and careful management of cattle movement. Currently there are no known “acaricides” (tick pesticides) labeled for use against the ALHT. The use of pesticide impregnated ear tags, pour-ons, sprays, and back rubs labeled for control of the American dog tick and the Lonestar tick should also provide beneficial ALH tick control. Employing more than one control method for cattle (such as using ear tags and back rubbers) will yield better results.

Control through treating cattle with acaricides alone is difficult due to the limited time ticks are attached to the host as ticks spend nearly 90% of their lifetime in the environment. The main environmental goals are to modify the habitat so ticks are unable to survive there, and hosts are not present in the tick-infested areas. Environmental control involves mowing pastures, especially overgrown grasses and weeds, and for extreme numbers of ticks, acaricides can be applied to vegetation. Apply acaricide using label instructions to sections of pasture with the highest number of ticks, such as woodland edges and grassy patches, during times when ticks are most actively seeking hosts. Although it varies by year, ALH ticks are generally active from March to November, with chemical applications on vegetation most successful in the spring. Perimeter fencing of a minimum of 20 feet from wooded areas will also help reduce cattle contact with ticks in the pasture. Perimeters can be treated with pyrethroid products (such as bifenthrin) though this should not be done to entire pastures. Bifenthrin 2E[®], Paradigm VC[®], (pyrethroids), and Sevin SL[®], (carbaryl insecticide) are approved for pasture applications in certain states; check with your local county agent or regulatory official before using any pesticide.

Lastly, remember that when animals move, ticks move with them whether it is across state lines or across personal properties. When rebuilding or expanding herds, learn something about the source area and make sure to inspect and treat new purchases to remove ticks, quarantine them for observation and ask your veterinarian to conduct appropriate diagnostic tests before mixing the new cattle with the home herd.

Virginia Cooperative Extension has produced a fact sheet entitled “Managing the Asian Longhorned Tick: Checklist for Best Management Practices for Cattle Producers” that covers animal inspection, chemical control, and herd management options. It may be downloaded at https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/ENTO/ento-382/ENTO-382.pdf

Figures 1 and 3: Accessed from <https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/asian-longhorned/asian-longhorned-tick-what-you-need-know>