University of Kentucky
College of Agriculture, Food and Environment
Cooperative Extension Service

Hart County Agriculture

Hart County Extension Office
505 A.A. Whitman Lane
P.O. Box 367
Munfordville, KY 42765
270-524-2451

Spring 2022

The weather this week is hinting that spring is just around the corner. It definitely makes you want to get out and work in the fields a little more. Along with that comes the start of lots of garden projects. Some of those might end up displaying their harvest at the Hart County Farmers Market later this spring and summer. If you have not visited the Hart County Farmers market, I encourage you to do so. That will be held on Tuesdays and Fridays by the Hart County Sherriff's office in Munfordville as well as on Wednesday's in Horse Cave. Watch for updates on the Farmers Market on Facebook via the Farmers Market page or on the Hart County Extension Service page.

If you haven't soil tested this year, I highly suggest getting that done soon. Please keep in mind that the University of Kentucky is now only able to use one lab due to the tornado destruction at the Princeton Research Station. Because of that there is likelihood that getting the results will take slightly longer than it has in the past.

Finally, remember that if you received approval for CAIP this year that information needs to be turned in no later than April 15th. It's important that you look through what is required and make sure all of it is together and ready for completion prior to submitting it.

Adam Estes

Extension Agent for Agriculture and Natural Resources

What's Inside...

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

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, or physical or mental disability. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.

LEXINGTON, KY 40546

Disabilities accommodated with prior notification

College of Agriculture, Food and Environment
Animal and Food Sciences

UK Beef Management Webinar Series

Registration is necessary, however, if you received this email directly from Darrh Bullock then you are already registered. If you received this from another source, or have not registered previously, then please send an email to dbullock@uky.edu with Beef Webinar in the subject line and your name and county in the message. You will receive the direct link with a password the morning of each meeting. This invitation will directly link you to the site and you will be asked for the password which can be found just below the link. Each session will be recorded and posted for later viewing. All meeting times are 8:00pm ET/7:00pm CT.

January 11, 2022
Milk: Benefit or Burden – Darrh Bullock, Professor and Jeff Lehmkuhler, Professor
Video: https://www.youtube.com/watch?v=XlZHfvolGE0

February 8, 2022
AFS Beef Research Update: Selenium's Impact on Female Reproduction – Ben Crites, Director of Beef Market Development, ST Genetics (Former UK graduate student and Extension Associate)
Video: https://www.youtube.com/watch?v=Qw8sUs9ko8Y

March 8, 2022
Shooting the Bull: Answering all your beef related questions! – Roundtable discussion with UK Beef Specialists

April 12, 2022
Simple Tools to Improve Management Decisions – Katie VanValin, Assistant Professor and Les Anderson, Professor

May 10, 2022
AFS Beef Research Update – TBD

June 14, 2022
Shooting the Bull: Answering all your beef related questions! – Roundtable discussion with UK Beef Specialists

For additional information please contact your local Agriculture and Natural Resources Extension Agent.

Cooperative Extension Service
Agriculture and Natural Resources
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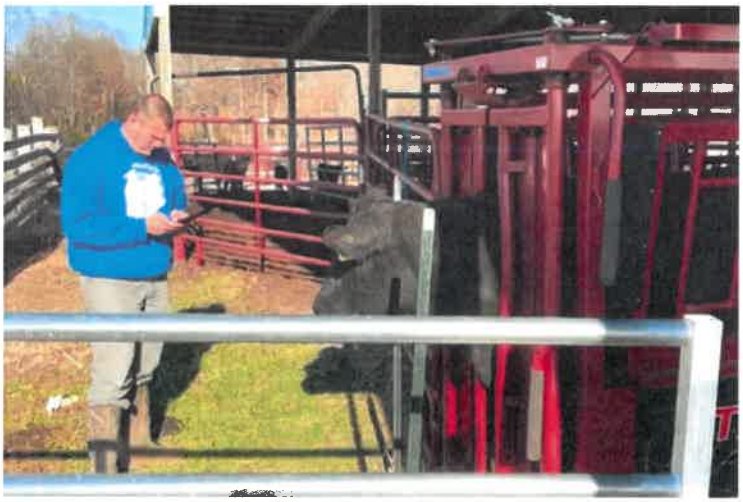

App to extend University of Kentucky beef resources, connect farmers

March 1, 2022 | By Aimee Nielson

LEXINGTON, Ky.

Beef specialists from the University of Kentucky College of Agriculture, Food and Environment and the University of Tennessee created a mobile app called X10D to modernize the way farmers and universities share information.

"It's pronounced 'extend' as it electronically extends what we are doing for farmers," said Les Anderson, UK extension beef specialist and professor. "We have an incredible amount of information through the Cooperative Extension Service and sometimes it's not so easy to find, so we wanted to make it easier for people to find what they need on their phone; they don't want to be sitting at the computer trying to figure it out at 10 p.m."

Anderson describes the app as an information hub for cattle producers to manage, connect and learn about things that matter to their enterprises. UT beef specialist Justin Rhinehart partnered with Anderson to develop X10D.

"Producers will be able to manage data from their operations in one place," Anderson said. "It will enable them to make data-driven decisions; nothing a producer can do can impact revenue and profit more like using data to drive decision-making."

All the users in one county will be connected to each other through a message board. They can network and communicate about beef industry topics, items for sale and production practices. The learning component will allow users to bypass popular search engines and find unbiased educational content on the app. Users may opt to receive regular notifications about current educational content in beef production.

"We created X10D to modernize the connection of the beef industry to information," Anderson said. "X10D links users to their peers and to the most trusted source of unbiased information—the Cooperative Extension Service. It also links other users to their businesses. The X10D platform is simple, easy, convenient and makes daily production data collection possible from any device. Most records can be input in fewer than 10 button pushes and 30 seconds. Reports can be generated in four button pushes and less than 20 seconds."

Brandon Sears, UK extension agent for agriculture and natural resources in Madison County, has been part of the testing phase. He believes the app will help him interact in a more meaningful way with his clients.

"We will be able to interact with producers wherever they are," he said. "In turn, beef cattle farmers can share with us information about their operations or about challenges they may have. X10D will help us develop a network of local farmers for idea sharing and problem solving. It's a win-win."

Anderson said the app received funding from the Kentucky Agricultural Development Board and began beta testing in October 2021. Approximately 50 Kentucky counties have financially supported X10D. Some counties have already paid for subscriptions, so cattle producers should contact their local county agent to find that out before subscribing. Single-user subscriptions are $20 per year, and all the proceeds go to the UK Department of Animal and Food Sciences to support beef extension programming.

For more information, visit https://x10d.org/. The app is available on Apple and Android platforms. Other partners include the Kentucky Cattlemen's Association, Kentucky Beef Network and the Kentucky Department of Agriculture.

Writer: Aimee Nielson, aimee.nielson@uky.edu

UK Forage News

Are Hay Preservative Applicators Worth It?

Weather during harvest can be the biggest challenge in putting up high-quality hay. If hay is still a bit wet but a storm is coming and you want to get it baled and stored before the rain, you might consider using inoculants and hay preservatives. If used correctly, these additives can be beneficial.
Ideal storage moisture depends on bale size. According to agronomy extension specialists at South Dakota State University, small square bales should be baled/stored at about 18%-20% moisture and larger bales about 3%-5% dryer to prevent heating and mold. When moisture levels exceed these ranges, a hay preservative or inoculant may be appropriate, but if moisture reaches more than 30%, these won't help. There are several products designed to help keep hay from heating and spoiling. Bacterial inoculants add more "good" bacteria to aid fermentation and improve aerobic stability (stopping mold growth). These bacteria occur naturally in many plants; inoculants simply add more.

They work best on hay that is wetter than good baling conditions, but less than 25% moisture. Inoculants should be applied uniformly as hay is baled and before any rain gets on it. They help protect against small moisture changes (3%-5% higher than you would typically bale) to reduce or stop mold growth, improve hay quality and palatability, and maintain green color.

Hay preservatives are different than inoculants and different than desiccants, which are drying agents applied at cutting to increase drying rate. Preservatives are applied to hay as it is baled to minimize spoilage during storage. Both products are usually applied through a spray system, either on the mower (for desiccants) or on the baler (for preservatives).

A preservative can be applied through spray nozzles fastened above the pickup attachment on the baler, which is common for large round balers, or discharged directly onto the hay within the bale chamber for small or large square bales. Preservatives prevent heating of hay baled at higher moistures by inhibiting growth of aerobic microbes. They allow hay to be baled sooner, reducing the time it lies in the field exposed to precipitation risk.

Preservatives are cost-effective if used as needed to prevent rain damage, when applied uniformly to the windrow as it enters the baler. The most effective preservatives for alfalfa are organic acids, mainly propionate (propionic acid) and acetate (acetic acid).

Effective application relies on using proper rate (dependent on moisture content and size of bale) and quality of forage. Preservatives containing high amounts of propionic acid are generally effective in reducing spontaneous heating in moist hay, but ammonium propionate (buffered propionic acid) is often recommended because it's less caustic. The preservative should be sprayed using the most uniform application possible.

Small bales ranging from 20%-25% moisture should be treated with approximately 0.5% propionic acid. A 1% increase in application rate may be needed for hay with 25%-30% moisture. Many studies have shown no benefit from preservatives used on hay that's over 30% moisture.

Research has shown that propionic acid, as well as buffered propionic acid, is not harmful to animals. Since propionic acid can be corrosive to equipment, buffered acids and salts of acids have been developed to help overcome some of these issues. Both propionic acid and buffered forms may cause some hay discoloration but help protect feed value.

Even though hay might be higher-quality/higher-value when preservatives are used judiciously, some producers are hesitant to invest in preservative applicators, thinking these are too expensive or too complicated. "They are more affordable and simpler than you may think," says Andrew Frankenfield, agronomy extension educator, Penn State Extension. "With challenges of making dry hay, this may be a change you can't afford not to make." Many times, hay is almost ready to bale but a little tough and you go ahead and bale it and hope it doesn't mold. "These are the times you wish you had a preservative applicator, so you could bale and not have problems." Yet you hesitate to buy one, thinking applicators are too expensive if you are only baling a couple thousand small square bales a year.

"You can buy a 25-gallon baler liquid applicator for around 500 dollars. These are not complicated – just a small electric sprayer you mount on the baler," he says. You also need a baler-mounted moisture tester so you can assess moisture of the hay as you bale it. "A moisture tester can be purchased for 350 to 500 dollars. For less than 1,000 dollars you can outfit your baler with ability to apply a hay preservative when conditions are not perfect and get the hay off the field before rain destroys quality."

If you want something fancier, you can spend several thousand dollars for fully automatic controls. These systems have a monitor that regulates flow of the preservative depending on moisture content of the hay, and with use of an electric eye, the applicator turns off and on when hay is flowing through the baler pickup. You can get the same results, however, with cheaper models.

"Consider the value of 5 acres of hay that you don't get baled because of rain. It could have been worth 2,500 dollars [$250 a ton times 2 tons per acre times 5 acres], but now is only worth about half as much – maybe 125 dollars a ton and valued at 1,250 dollars. The 1,250 dollar lost could have paid for the applicator, moisture tester and preservative, and you'd still have money left in your pocket," says Frankenfield.

"You can buy various types of preservatives in multiple unit sizes. One product for example: If you buy a 50-gallon drum [450 pounds], [it] costs about 450 dollars or one dollar per pound. If you buy a 275-gallon tote [2,380 pounds], it costs about 2,000 dollars or 84 cents per pound," he says.

He gives examples, looking at stem moisture, application rates for small square or round bales and application costs per ton (based on $1 per pound). When stem moisture is 22% and under, preservative should be applied at 4 pounds per ton, at a cost of $4 per ton. Stem moisture of 23% to 25% would require 8 pounds per ton, or $8 a ton. Stem moisture of 27% to 30% would require 16 pounds per ton, at $16 per ton. Anything above 30% moisture should not be baled. For larger square bales: stem moisture of 22% and under requires 6 pounds per ton, or $6; stem moisture of 23% to 26% requires 10 pounds per ton. If moisture is 27% or above, do not bale.

When calculating how much preservative to apply, he says it's like calibrating a sprayer, but instead of gallons per acre, you calculate pounds per ton. "Figure out how many tons per hour you bale. Count the number of small square bales you make in three minutes. Let's say it's 15 bales. Weigh several bales to get average weight. If they are 40 pounds and you bale 15 bales in 3 minutes, in an hour of baling you'd bale 300 bales with average weight of 40 pounds. 40 [pounds] times 300 [bales] equals 12,000 pounds per hour or 6 tons per hour."

In this scenario, to apply 4 pounds of preservative per ton, you'd need 24 pounds per hour. "If the preservative weighs 9 pounds per gallon, that's 2.7 gallons per hour or 0.045 gallons per minute. The preservative is slightly heavier than water," he says. "In this example we would use one TP110050 spray tip at 35-40 psi to achieve our desired 4 pounds of preservative per ton of hay. If we need 8 pounds per ton, we can turn on a second spray tip or replace the single TP110050 tip with a tip with twice the output, such as TP11001," says Frankenfield.

The applicator for your baler may pay for itself the first year you install it. ~ Health Smith Thomas for Progressive Forage, full article here. For recent issues of Progression Forage, go to their website or sign up to receive regular issues at https://www.progressiveforage.com/

----------County Calendar----------

Home Based Microprocessing Workshop
Friday, April 22, 2022 at the Extension Office

VIRTUAL

Backgrounding/Stocker Profitability Conference

Kenny Burdine

Greg Halich

Jonathan Shepherd

UK Agricultural Economics is partnering with the Kentucky Beef Network to offer a virtual backgrounder/stocker profitability conference over three consecutive evenings. This conference is funded by the Kentucky Agricultural Development Fund through the Kentucky Beef Network. Each session will begin at 7:00 pm Eastern time and run until 8:30 or 9:00 pm.

3 SESSIONS @ 7:00 pm ET nightly

March 22nd Key Concepts for Margin Operations

- Understanding the current market environment
- Cost of gain vs value of gain
- Using futures to estimate sale prices

March 23rd Budgeting for Profit

- Stocker and backgrounding budget scenarios
- Estimating target purchase prices
- Key marketing concepts

March 24th Managing and Protecting Your Profits

- Tax and financial management
- Livestock Risk Protection Insurance
- Revisiting the current market environment (focus on feed cost implications)

Register at https://bit.ly/BSPconf

Scan with phone camera to register

Department of Agricultural Economics
400 Charles E. Barnhart Building
Lexington, KY 40546-0276
(859) 257-5762 | agecon.ca.uky.edu

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KBN KENTUCKY BEEF NETWORK

KADF KENTUCKY AGRICULTURAL DEVELOPMENT FUND

A UNIVERSITY OF KENTUCKY &
UNIVERSITY OF TENNESSEE COLLABORATION

SPRING INTO THE PRODUCTION SEASON

Register for one or more sessions here:
https://tinyurl.com/4k899hnn

Tuesdays on Zoom from 6-7:30 PM EST

February 15- Tools & equipment for vegetable production

March 1- Ins and outs of fertilizers and soil fertility for organic vegetable production

March 15- Tomato grafting & root-knot nematode management

March 29- High tunnel crop rotation

UTEXTENSION
INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service
Horticulture

Understanding trapping and other tools to manage common wildlife problems in agricultural production systems

About this event:
Date and time
Thu, March 24, 2022
9:00 AM – 3:30 PM CDT

This training will provide introduction to common issues and concerns related to wildlife damage and disease for species that commonly come in conflict with agricultural producers in western Kentucky. Training will begin with some classroom discussion then quickly move to the field to go over various trapping techniques to deal with raccoons, beavers, muskrats, and many other wildlife species along with demonstration of non-lethal techniques.

Sign in begins at 8:30 am CT with the training beginning at 9:00. This training will mostly be held in a barn setting and outdoors at the Phelp's farm at 1470 Cadiz Road, Princeton, KY 42445. Look for KATS sign. Please consider wearing boots and dress according to the weather. Lunch will be provided at Adams Breezy Hill Farm.

Questions can be directed to Lori Rogers lori.rogers@uky.edu or 270-625-2143

Pub of the Month: Fundamental Principles of Plant Pathology for Agricultural Producers (PPA-41)

All crops grown in Kentucky have the potential to become diseased under the right conditions. A plant is diseased when it is affected by some agent that interferes with its normal development. Plant pathology, the study of plant diseases, can be a very confusing subject for many. This publication presents current basic concepts in plant pathology for growers. Topics include: Infectious Organisms that Cause Diseases, The Disease Triangle, Managing Plant Diseases, Integrated Disease Management, and Sources of Information on Plant Diseases. Please let us know if you would like a copy of this publication.

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P.O. Box 367
Munfordville, KY
42765-0367

RETURN SERVICE REQUESTED

Apple Nachos

Makes 6 servings • **Serving size: 1/6 of nachos**

INGREDIENTS:

¼ cup peanut butter
¼ cup non-fat Greek yogurt
2 tablespoons milk
1 tablespoon honey
2 red apples, cored and cut into ¼ inch slices
2 green apples, cored and cut into ¼ inch slices

DIRECTIONS:

1. In a blender, combine peanut butter, yogurt, milk and honey. Blend until smooth.
2. Place apple slices on a large plate or platter and drizzle with peanut butter sauce.
3. Add toppings of choice if desired and serve immediately.

Optional toppings: coconut, dried cranberries, granola, peanut butter chips, peanuts, pecan pieces, raisins.

Note: Brush the surface of the apples with lemon juice to prevent browning.

NUTRITION FACTS PER SERVING:

160 calories; 6g total fat; 1g saturated fat; 0g trans fat; 0mg cholesterol; 5mg sodium; 27g carbohydrate; 4g fiber; 20g sugar; 4g protein; 2% Daily Value of vitamin A; 8% Daily Value of vitamin C; 4% Daily Value of calcium; 2% Daily Value of iron.

SNAP
Putting Healthy Food Within Reach
USDA Supplemental Nutrition Assistance Program

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