

Ag and Natural Resources News

February 2023

Cooperative Extension Service
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[Mark your calendars now!](#)

C.A.I.P. Cost Share Program
February 6, 2023 · 4:30pm
Sign up period
Ends—applications due!
Boone County Extension Office

► **Pastures Please!!**

February 6, 2023 · 5:30pm
Fayette County Extension Office
1140 Harry Sykes Way, Lexington

► **Pasture Weed Management**

March 7, 2023 · 6:30pm
Boone County Extension Office

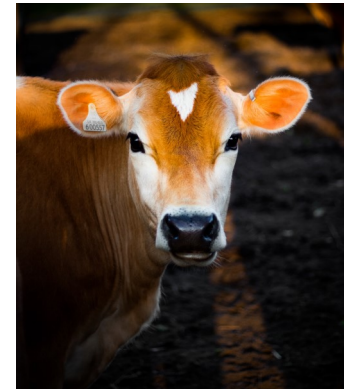
► **Beef on a Budget**

March 7, 2023 · 6:30pm
via Zoom [OR](#)
March 10, 2023 · 10:00am
Boone County Extension
Enrichment Center; Upper Level

Cows & Valentines?

Cows and Valentine's Day may not seem like they have much in common at first glance. However, upon closer examination, it becomes clear that these two things can actually be linked in a number of ways.

To begin with, cows are often associated with love and affection. This is because they are gentle, nurturing animals that are known for their maternal instincts. Cows are also highly social animals, and they form strong bonds with their herd members. In fact, cows have been known to grieve the loss of a herd member, just like humans grieve the loss of a loved one. In addition to their loving nature, cows are also a symbol of abundance and fertility. This is because they are capable of producing large quantities of milk and other dairy products. In many cultures, cows are seen as a symbol of wealth and prosperity, and they are often associated with the earth and the harvest season.



All of these qualities make cows a fitting symbol for Valentine's Day, which is a holiday that is all about love, abundance, and fertility. In fact, cows and Valentine's Day have a long history together. In ancient Rome, for example, cows were often used as symbols of love and fertility, and they were often depicted in art and literature alongside Cupid, the god of love.

Today, cows continue to be associated with Valentine's Day in a number of ways. For example, many people give chocolates and other sweets as gifts on Valentine's Day, and these treats are often made with cow's milk. In addition, cows are often featured on Valentine's Day cards and other items, as a way of adding a touch of whimsy and fun to the holiday.

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In conclusion, while cows and Valentine's Day may not seem like they have much in common at first glance, upon closer examination it becomes clear that these two things are actually linked in a number of ways. Cows are gentle, loving animals that are associated with abundance and fertility, which makes them a fitting symbol for Valentine's Day. Whether you are giving chocolates made with cow's milk, sending a Valentine's Day card featuring a cow, or simply appreciating the gentle nature of these animals, there are many ways to celebrate the holiday with cows.



Join us for the 16th annual
Pastures Please!!
Monday, February 6th, 5:30 – 8:00 pm

Fayette County Extension Office
1140 Harry Sykes Way, Lexington
Hosted by the UK Cooperative Extension and UK Ag. Equine Programs

Program
5:30 Refreshments
6:00 Pasture Recovery and Rejuvenation, Dr. Ray Smith
6:30 Meeting Your Equipment Needs, Dr. Morgan Hayes
7:00 Weed Control after a Drought, Dr. Bill Witt

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

UK College of Agriculture,
Food and Environment
Equine Programs



RSVP online using the QR code or call:
859-257-5582

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Selenium Is an Essential Micronutrient for Cattle

Fertility is a driving factor for a sustainable and profitable cow-calf enterprise. Selenium plays a significant role in fertility, and in states like Kentucky and Tennessee, producers must supplement because their soil is selenium deficient. In an ongoing study at the University of Kentucky, researchers are pitting the industry-standard inorganic selenium against a 50/50 mix of inorganic and organic selenium to determine the most productive option.

"Selenium is an essential micronutrient that is incorporated into selenoproteins. These act as antioxidants, basically getting rid of free radicals, protecting the integrity of cells which allow them to function better," said Phillip Bridges, associate professor in the UK College of Agriculture, Food and Environment Department of Animal and Food Sciences. "Animals can use organic or inorganic forms, but

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we typically supplement using an inorganic form. With this work, we are finding that the form of selenium supplemented can affect a variety of reproductive processes.

For the study, Bridges supplemented sodium selenite as the inorganic form versus a 50/50 mix of sodium selenite and a yeast-derived organic form. They found animals that got the mixed form had increased progesterone levels by days six and seven of the estrous cycle and then throughout pregnancy. Bridges said the early increase in progesterone is perhaps the most intriguing part of the study.

"We've known for decades that increased early luteal phase progesterone stimulates uterine development, length of the conceptus and indicators of fertility," Bridges said.

To start the study, animals received no selenium supplementation for 45 days. Bridges said the animals were not selenium-deficient after the 45 days, but levels did significantly decrease. For the next 45 days, he supplied the industry-standard inorganic selenium. The next 90 days, cattle received either inorganic or a mix of inorganic and organic selenium before researchers bred the animals and examined blood and tissues for differences.



Photo by Matt Barton

Bridges said that by day 17 after breeding, he noticed an altered abundance of progesterone and interferon-tau-induced gene transcripts in the endometrium and an overall increase in conceptus length. He said scientists believe larger conceptuses may help ensure continued establishment and progression of a pregnancy.

Although the work is ongoing, Bridges believes using the 50/50 blend of organic and inorganic selenium will improve fertility at the production level. The grant-funded work will continue through early 2024.

"If you're in an area where you have to supplement selenium, it appears the mixed form should increase fertility," he said. "If you're in a state like Kentucky, Tennessee or other cow-calf states, this is a great benefit to those beef cattle producers in terms of sustainability and profitability."

This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2018-67015-27613. Any opinions, findings, conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the Department of Agriculture.

By Aimee Nielson

Things to Consider If You Want to Produce Your Own Eggs

Backyard chicken flocks are popular in all areas of Kentucky. If you want to have a successful flock and produce your own eggs, preparation and education are essential.

Not everyone is suited for keeping a poultry flock. Make sure you check that your local city and county ordinances allow backyard flocks. Some ordinances require a minimum amount of land, and some subdivisions even have their own rules.

Remember, chickens require daily care. You must feed them, provide clean water and collect eggs every day. It is a good opportunity to teach children responsibility, but make sure they can fit it into their

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Bourbon Street Chicken

1 tablespoon olive oil
2 pounds boneless chicken, cut into bite-size pieces
2 teaspoons garlic powder
¼ teaspoon ginger
½ teaspoon crushed red pepper flakes
¼ cup applesauce
¼ cup light brown sugar
2 tablespoons ketchup
1 tablespoon apple cider vinegar
½ cup water
2 tablespoons Worcestershire sauce
1 (10-ounce) bag frozen stir-fry vegetables and rice

Heat oil in large skillet over medium heat. Add chicken pieces and cook until lightly browned.

Except for vegetables and rice, add the rest of ingredients to the skillet. Stir until well mixed.

Bring to a hard boil, reduce heat, and let simmer for 10 minutes. Meanwhile, cook vegetables and rice according to package instructions.

Serve chicken over vegetables and rice.

Makes 6 servings Serving Size: 1 cup

Per serving: 420 calories; 12g total fat; 2.5g saturated fat; 0g trans fat; 130mg cholesterol; 400mg sodium; 27g carbohydrate; 0g fiber; 13g sugar; 10g added sugar; 49g protein; 0% Daily Value of vitamin D; 4% Daily Value of calcium; 10% Daily Value of iron; 10% Daily Value of potassium.

Source: <https://www.planeatmove.com/recipes/recipe/bourbon-street-chicken/>



daily routine and that you supervise them. Keep in mind that chickens can get sick and very few veterinarians will provide care for them. Anyone handling chickens needs to make sure to wash their hands before and after caring for them. Also, don't bring chickens into the house and don't use your kitchen sink to wash equipment associated with your flock.

Chickens make noise. While it's true only roosters crow, hens are not always quiet and they can make a lot of noise to let everyone know they just laid an egg.

Keep in mind that chickens eat a lot. You probably can't produce eggs cheaper than you can buy them in the store, but you'll have the satisfaction of knowing from where they came. Hens use about 60% of the feed they consume; they excrete the rest



as manure. Make sure you have a plan for what you'll do with all the manure your flock produces. You could compost the manure to produce a valuable, odor-free fertilizer for your garden.

To complicate things, chickens stop producing eggs at some point and they live longer than that window, sometimes a lot longer. You need to have a plan for what you'll do with hens once they stop producing eggs. If you keep them because they are pets, you'll have to be willing to continue paying for food while they are no longer earning their keep.

Another thing to consider is that chickens can destroy gardens. Chickens scratch when they forage and if you let the hens run free, you may need to put a fence around your garden to prevent them from damaging your plants.

As for housing your flock, you'll need a chicken house that provides shelter from the weather, nest boxes where your hens will lay eggs and perches for hens to roost at night. Housing needs to be easy to clean out and provide protection from predators. You'll need to have an open run for hens to get into the open air. It's important to keep your chicken house clean and dry to prevent odor and flies. Manage any bedding well to prevent rodents from making your chicken house their home.

It can be difficult to obtain ready-to-lay pullets, so you'll probably need to raise your hens from chicks. You can buy online and have them shipped to your home, but some hatcheries require a minimum purchase of 25 chicks

for safe shipping. You can also buy chicks at local farm stores, but Kentucky state regulations require a minimum purchase of six chicks. If you only want three, you could go in with a friend or neighbor to meet the minimum requirement. You will need to provide chicks with a heat source, such as a heat lamp, for the first six weeks.

For more information on small or backyard poultry flocks, contact the Boone County Extension office. You may also visit <https://afs.ca.uky.edu/poultry/poultry-publications>.

Source: Jacquie Jacob, extension poultry project manager

Frost Seeding Clover: A Recipe for Success

Legumes are an essential part of a strong and healthy grassland ecosystems (Figure 1). They form a symbiotic relationship with Rhizobium bacteria in which the bacteria fix nitrogen from the air into a plant available form and share it with the legume. Clover also increases forage quality and quantity and helps to manage tall fescue toxicosis. In the past, the positive impact of clover on tall fescue toxicosis has always been thought to simply be a dilution effect, but new research from the USDA's Forage Animal Production Unit in Lexington shows that compounds found in red clover can reverse vasoconstriction that is caused by the ergot alkaloids in toxic tall fescue. The primary compound found in red clover is a vasodilator called Biochanin A.

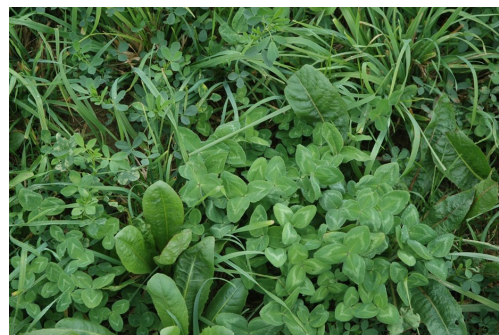


Figure 1. (Photo by Chris Teutsch)



Figure 2. Frost seeding is accomplished by broadcasting clover seed onto closely grazed pastures in late winter or early spring. Using GPS guidance helps operators maintain equal spacing between passes and consistent speed (inset picture). (Photos by Chris Teutsch)

Clover stands in pastures thin overtime due to various factors and require reseeding every three to four years. There are several techniques for reintroducing clover into pastures including no-till seeding, minimum tillage, and frost seeding. Of these techniques, frost seeding requires the least amount of equipment and is the simplest to implement. Frost seeding is accomplished by broadcasting clover seed onto existing pastures or hayfields in late winter and allowing the freezing and thawing cycles to incorporate the seed into the soil (Figure 2 and 3). This method works best with red and white clover and

annual lespedeza. It is NOT recommended for seeding grasses or alfalfa. This article covers the important factors for successful frost seeding.

Frost Seeding Tips

Control broadleaf weeds. Ideally, broadleaf weeds should be controlled prior to seeding legumes since most herbicides will damage clover seedlings. This is best accomplished by controlling weeds the season prior to renovation. More information on controlling weeds in pastures and hayfields can be obtained contacting your local extension office or consulting AGR-207 Broadleaf Weeds of Kentucky Pastures.

Soil test and adjust fertility. For clover and other improved legumes to persist and thrive in pastures, an environment conducive for their growth must be created. This starts with proper soil fertility. Prior to frost seeding clover, soil test pastures and hayfields then lime and fertilize pastures according to the soil test recommendations.



Figure 3. Freeze and thaw cycles during late winter result in the formation of cracks in the soil surface often referred to as a "honeycomb". This heaving incorporates clover seeds into the soil and is commonly referred to as "frost seeding". (Photo by Jimmy Henning)

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Frost Seeding at a Glance

- Legumes are an essential part of sustainable grassland ecosystems.
- Overseeding may be required to maintain and thicken stands.
- Frost seeding is the simplest method for reintroducing clover back into pastures.
- Control broadleaf weeds prior to frost seeding.
- Soil test and apply any needed lime or fertilizer before frost seeding.
- Suppress the existing sod and reduce residue with hard grazing in the fall and winter.
- Choose well adapted varieties of red and white clover using the UK forage variety testing data.
- Calibrate seeder and check spread pattern.
- Broadcast 6-8 lb/A of red clover and 1-2 lb/A of white clover that has been inoculated in February or early March.
- Control post seeding competition by grazing pastures until clover seedlings become tall enough to be grazed off.
- Put pasture back into rotation once seedlings reach a height of 6-8 inches.

Suppress sod and decrease residue. The existing sod must be suppressed and plant residue reduced prior to seeding. The reduction in plant residue allows seed to reach the soil surface where it can be incorporated by freezing and thawing events. Sod suppression and residue reduction is best accomplished by hard grazing in late fall and early winter.

Ensure good soil-seed contact. Good soil-seed contact is required for seed germination and emergence. In frost seedings, this occurs when freeze and thaw cycles form cracks in the soil surface, often referred to as a honeycomb (Figure 3).

Seed on proper date. Frost seeding is best accomplished in late winter or very early spring (February and early March). Frost seeding is accomplished by simply broadcasting the seed on the soil surface and allowing the freeze and thaw cycles to incorporate the seed into the soil. Success with frost seeding can be enhanced by dragging the pasture as the seed is being broadcast or immediately after. Rolling the field with a corrugated roller after seeding will also improve success.

Use high-quality seed and adapted varieties. Choose clover varieties that have been tested in Kentucky. The most current variety testing results can be found on the UK Forage Extension website or by visiting your local county extension office. Using the Long-Term Summary of Kentucky Forage Variety Trials, choose varieties that have performed above average (> 100%) for multiple site-years. This indicates that they are well adapted to conditions found in Kentucky. Use either a certified or proprietary seed to ensure high germination, good seed genetics, and low noxious weed content. Do NOT use common or VNS (Variety Not Stated) seed since there is no way to tell how it will perform in Kentucky.

Legume mixture for Kentucky. In Kentucky, a good mixture for renovating pastures with is 6-8 lb/A of red clover, 1-2 lb/A of ladino or intermediate white clover. On rented farms or where soil fertility is marginal, adding 10-15 lb/A of annual lespedeza can be beneficial. Annual lespedeza is a warm-season

annual legume that was used extensively in the past before producers had ready access to lime and fertilizer. In general, cool-season legumes (red and white clover) will be more productive under good growing conditions.

Use correct seeding rate. Make sure to maintain and calibrate broadcast seeding equipment prior to planting (see video on [KYForages YouTube Channel on seeder calibration](#)). Seeding at too high of a rate needlessly results in higher seed costs. On the other hand, seeding at too low a rate results in weak stands and lower productivity.

Inoculate legume seed. Most improved clover seed comes with a lime-based seed coating that contains inoculant. Make sure that the seed is fresh and has not been stored under adverse conditions. If the seed is not pre-inoculated, inoculate it with the proper strain of nitrogen-fixing bacteria prior to seeding. This is relatively inexpensive insurance that optimum nitrogen fixation will take place.

Check seed distribution pattern. When using a spinner type spreader/seeder make sure and check you spreading pattern. In many cases small seeded forages are not thrown as far as you think. This can

result is strips of clover in your pastures rather than a uniform stand. Also check your seed distribution pattern. Single disk spinners often throw more seed to one side if not correctly adjusted.

Use GPS guidance to maintain a consistent distance between passes and speed. It is often difficult to see where seed has already been broadcast and many ATV/UTVs do not have a functioning speedometer. Using a portable GPS unit can reduce misses and overlaps and help the operator maintain a consistent speed (Figure 2).

Control post-seeding competition. Not controlling post-seeding competition is one of the most common causes of stand failures. One of the best management practices is to leave cattle on pastures that have been overseeded with clover until the clover seedlings have germinated and are tall enough that the cattle start to graze them. Then remove animals from the pasture and allow the clover to reach a height of 6-8 inches. At that time the paddock can be placed back into the rotation. If the existing vegetation is not controlled, the new clover seedlings will be shaded out.

For more information on frost seeding contact your local extension agent or visit the [UK Forage Extension Website](#).

By: Chris D. Teutsch, S. Ray Smith, and Jimmy Henning

Nuisance Weed Spraying Program

NOTE: The registration period for this program is the month of February, and all registration must be done online at <http://www.kyagr.com/consumer/nuisance-weed-spraying-program-application.aspx>. This program consists of weed spraying demonstration plots. The department will provide the sprayer and enough chemical for the treatment of 10 acres of agricultural land or 100 gallons of spot spraying mix to be used on agricultural land. The department's representative will demonstrate proper mixing and application techniques. A number of nuisance weeds can be treated under this program depending on the needs of the participant. This program is limited to broad leaf weeds.

Broadcast Spraying demonstration plots consist of:

- 10 acres of agricultural land will be treated with chemical provided by the department
- Application is performed with a two-wheeled trailer type sprayer equipped with boomless nozzles
- If additional chemical is provided by the participant, an additional 10 acres can be treated

Spot Spraying demonstration plots consist of:

- 100 gallons of broadleaf chemical mix which is applied until sprayer is empty
- Application is performed with a two-wheeled trailer type sprayer equipped with a hand held spray wand used by the tractor operator
- If additional chemical is provided by the participant, an additional 100 gallons can be sprayed

COOPERATIVE EXTENSION
University of Kentucky
College of Agriculture, Food and Environment

BEEF on a Budget

Want to learn how to maximize your beef dollar at the grocery store? Join registered dietitian, Janine Faber, as she discusses the nutritional benefits of beef, budget-friendly beef cuts, proper storage, shopping tips when purchasing beef, and delicious recipes.

Sponsor: The Kentucky Beef Council

TUE, March 7, 2023 6:30 pm
virtually via Zoom (link will be sent day prior to session for those registered)

OR

FRI, March 10, 2023, 10:00 am
Boone County Extension Enrichment Center, Upper Level, 1824 Patrick Drive, Burlington

(859) 586-6101 or boone.ca.uky.edu to register

For each demonstration:

- The participant must provide water source
- The participant must provide tractor and operator
- All chemical products must be labeled and the product label will be strictly followed
- A maximum of 7 participants per county

This program is designed to target weeds that have a negative impact on the participant's agricultural production. There will be an annual online application period to participate in this program. **Applications can be completed from February 1st to February 28th. To submit an application, please go to <http://www.kyagr.com/consumer/nuisance-weed-spraying-program-application.aspx>**

Hair Sheep

Hair sheep are a type of sheep that are well-suited to the conditions found in Northern Kentucky. Unlike wool sheep, which produce a thick fleece of wool, hair sheep have a short, coarse coat that sheds naturally. This makes them easier to care for, as they do not require shearing or other specialized grooming.

Hair sheep are a popular choice for small-scale farmers in Northern Kentucky, as they are well-adapted to the region's climate and soils. They are hardy animals that can tolerate cold winters and hot summers, and they are resistant to many of the diseases and parasites that can affect sheep. Hair sheep are also efficient foragers, and they can thrive on a diet of grasses and other forages that are commonly found in Northern Kentucky pastures.

In addition to their hardiness and foraging ability, hair sheep are also prized for their meat. Hair sheep produce lean, flavorful meat that is leaner and more tender than the meat of wool sheep. This makes them a popular choice for farmers who are looking to produce high-quality meat for local markets.

One of the key benefits of raising hair sheep in Northern Kentucky is their low-maintenance care requirements. Unlike wool sheep, hair sheep do not need to be sheared, which can save farmers time and money. They also do not require specialized feeding or housing, and can be managed using the same equipment and facilities that are used for other livestock. This makes them an attractive option for small-scale farmers who are looking to raise sheep without incurring a lot of additional costs or labor.

Another advantage of raising hair sheep in Northern Kentucky is the potential for economic returns. Hair sheep can be a profitable enterprise for farmers who are able to produce high-quality meat and sell it to local consumers. Farmers can also sell breeding stock and breeding services, which can provide additional income streams.

Overall, hair sheep are a valuable and versatile animal for farmers in Northern Kentucky. They are well-suited to the region's climate and soils, and they can provide a range of benefits, including high-quality meat, low-maintenance care, and potential economic returns. By incorporating hair sheep into their operations, farmers in Northern Kentucky can help to support the local food economy and provide consumers with healthy, locally-raised meat.



Pasture Weed Management

March 7, 2023 • 6:30pm

Boone County Extension Office
6028 Camp Ernst Rd.
Burlington, KY 41005

University of Kentucky
Extension Specialist Dr. JD
Green will be speaking on weed
management practices to
improve the productivity of
grass pastures and hay fields.

Call 859-586-6101 or go online
to boone.ca.uky.edu to register.

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