Bourbon County Cooperative Extension Service

AGRICULTURE & NATURAL RESOURCES NEWSLETTER

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

March 2024

Lindsay Arthur

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Upcoming Events:

- **March 14th– Cow-Calf Profitability Conference**
- **March 25th– Beef Quality Care & Assurance Training (BQCA)**
- **March 27th– Bourbon County Conservation District 2024 Tree Seeding Giveaway**

More details about events inside newsletter

Martin-Gatton College of Agriculture, Food and Environment

April 4, 2024
8 am-2 pm

KATS Kentucky Agriculture Training School

PLANTER CLINIC

Hands-on training covering basic to advanced planter function to maximize planter performance.

University of Kentucky Research and Education Center
1205 Hopkinsville St.
Princeton, KY 42445

- ***Identification of improper planter settings and the resulting consequences on plant performance.***
- ***Discussion of planter components and proper maintenance.***

Pre-registration is required at
https://KATSPlanterclinic2024.eventbrite.com
$105
Lunch is included

Credits pending

For more information contact Lori Rogers
270-365-7541 ext 21317 lori.rogers@uky.edu

KENTUCKY Small Grain GROWERS' ASSOCIATION

Cooperative Extension Service

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

Economic & Policy Update
E-newsletter Volume 24, Issue 2
Editors: Will Snell & Nicole Atherton
Department of Agricultural Economics
University of Kentucky
FEB 2024

Old Crop Balance Sheets and New Crop Projections: What would it take to get $6.00 Corn and $14.00 Soybeans?

Author(s): Grant Gardner

Published: February 28th, 2024

The first projections for the 2024/25 crop year were released on February 15th at the Ag Outlook Forum (AOF). These estimates indicate a more bearish situation in the 2024/25 marketing year than we are currently experiencing in 2023/24. As we came out of COVID/Russia-Ukraine-induced highs, prices have fallen rapidly. The season average price for corn in 2022/23 was $6.54/bu and is projected to decrease to $4.80 in 2023/24 and $4.40 in 2024/25. Similarly, soybeans, which still had high futures prices at harvest, fell from a season average price of $14.30 in 2022/23 to a projected season average of $12.65 in 2023/24 and are projected to decline further to a season average of $11.20 in 2024/25. Farmers will likely experience lower commodity prices until another economic shake-up or drought-induced supply shock occurs. Prices returning to $6.00/bu for corn and $14.00/bu for soybeans seem unrealistic in the current environment.

The crop balance sheets from the AOF are depicted in Figure 1 and Figure 2 and give specific insight into supply and demand changes causing the fall of commodity prices. Looking at Figure 1, large corn production in 2021/22 was offset by abnormally high export numbers, where supply dropped in 2022/23, causing a low stocks-to-use (stocks/use) ratio. A similar story can be told for soybeans in Figure 2. Overall, as production has increased and demand has fallen, ending stocks have grown, and prices have declined.

The stock/use ratio is likely the most important number in the crop balance sheet and can be calculated by dividing the ending stocks by the total use. In both the case of soybeans and corn, we can see that higher prices occurred when the ratio was closer to zero. The ratio is projected to increase in both 2023/24 and 2024/25, indicating a bearish market. The stocks/use ratio provides a simple but accurate way to predict price environments. Using this ratio, I estimate how large of a shock would need to occur in supply or demand to induce prices near $6.00/bu in corn and $14.00/bu in soybeans in 2024/25.

On the supply side, if we held all else constant, corn supply would have to fall by 5.87 million acres or 12.79 bu/acre to near $6.00/bu. Soybean supply would have to drop by 3.25 million acres or 1.95 bu/acre to near $14.00/bu. On the demand side, total use (exports and domestic use) would have to increase by nearly 950 million bushels in corn and 159 million bushels in soybeans, respectively. Changes for upside potential seem more realistic in beans; however, beans are typically the hardier

crop, and yield changes are less probable. Additionally, soybeans are lower yielding; thus, a smaller shift in yield indicates a larger percentage change and induces a larger price swing, which is reflected in the volatility of soybean markets.

The sad fact is that corn and soybean prices are likely to remain depressed for the foreseeable future, at least until a large supply or demand shock occurs. The push for renewable/sustainable energy in both crops shows some promise and could have long-term upside potential; however, large changes are unlikely to happen in the short term. Returns to expansion in biodiesel and ethanol/sustainable aviation fuel are further on the horizon. Until these changes occur, producers should think about how to sustain their operations in lower-price environments.

Figure 1: AOF Corn Balance Sheet

U.S. Corn Supply and Use

Marketing Year (2022 = 9/1/22 to 8/31/23)		2021/22	2022/23	2023/24 (WASDE)	2024/25 (AOF)
Area Planted	(mil. acres)	92.9	88.2	94.6	91.0
Area Harvested	(mil. acres)	85.0	78.7	86.5	83.1
Yield	(bu./acre)	176.7	173.4	177.3	181.0
Production	**(mil. bu.)**	**15,018**	**13,651**	**15,342**	**15,040**
Beg. Stocks	(mil. bu.)	1,235	1,377	1,360	2,172
Imports	(mil. bu.)	24	39	25	25
Total Supply	**(mil. bu.)**	**16,277**	**15,066**	**16,727**	**17,237**
Feed & Residual	(mil. bu.)	5,671	5,487	5,675	5,750
Food, Seed, and Industrial	(mil. bu.)	6,757	6,558	6,780	6,805
Ethanol	(mil. bu.)	5,320	5,176	5,375	5,400
Exports	(mil. bu.)	2,472	1,661	2,100	2,150
Total Use	**(mil. bu.)**	**14,900**	**13,706**	**14,555**	**14,705**
Ending Stocks	(mil. bu.)	1,377	1,360	2,172	2,532
Stocks/use	(percent)	9.24	9.92	14.92	17.22
Season-Average Price	($/bu.)	6.00	6.54	4.80	4.40

Figure 2: AOF Soybean Balance Sheet

U.S. Soybean Supply and Use

Marketing Year (2022 = 9/1/22 to 8/31/23)		2021/22	2022/23	2023/24 (WASDE)	2024/25 (AOF)
Area Planted	(mil. acres)	87.2	87.5	83.6	87.5
Area Harvested	(mil. acres)	86.3	86.2	82.4	86.6
Yield	(bu./acre)	51.7	49.6	50.6	52.0
Production	**(mil. bu.)**	**4,464**	**4,270**	**4,165**	**4,505**
Beg. Stocks	(mil. bu.)	257	274	264	315
Imports	(mil. bu.)	16	25	30	15
Total Supply	**(mil. bu.)**	**4,737**	**4,569**	**4,459**	**4,835**
Crush	(mil. bu.)	2,204	2,212	2,300	2,400
Seed and Residual	(mil. bu.)	107	101	124	125
Exports	(mil. bu.)	2,152	1,992	1,720	1,875
Total Use	**(mil. bu.)**	**4,463**	**4,305**	**4,144**	**4,400**
Ending Stocks	(mil. bu.)	274	264	315	435
Stocks/use	(percent)	6.10	6.13	7.60	9.89
Season-Average Price	($/bu.)	13.30	14.30	12.65	11.20

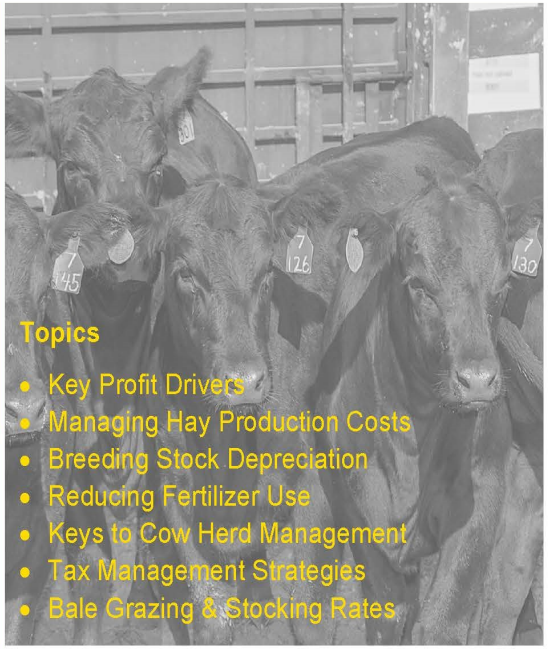
Cow-Calf Profitability Conference

Cow-Calf Profitability Conferences are one day, intensive seminars focusing on key topics for beef producers. Conferences are funded by the Kentucky Agricultural Development Fund through the Kentucky Beef Network and delivered by UK Agricultural Economics' Kenny Burdine, Greg Halich and Jonathan Shepherd.

Thursday,
March 14, 2024

9:00 am – 4:00 pm

Madison County
Extension Office
230 Duncannon Lane
Richmond, KY 40475



Topics

- Key Profit Drivers
- Managing Hay Production Costs
- Breeding Stock Depreciation
- Reducing Fertilizer Use
- Keys to Cow Herd Management
- Tax Management Strategies
- Bale Grazing & Stocking Rates

Call
859-623-4072
to RSVP

Doors open at
8:00 AM

Sponsored Lunch
provided by
AgCredit

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KENTUCKY BEEF NETWORK

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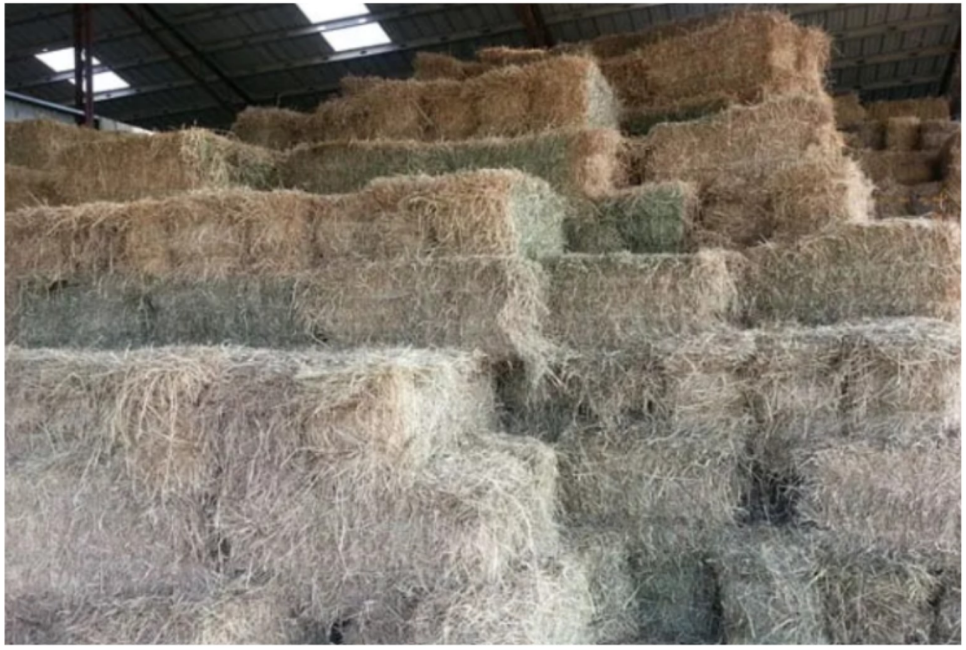
Lexington, KY 40506

Disabilities accommodated with prior notification.



HAY YOU! The Kentucky Horse Council Needs Your Help!

Calling all hay suppliers in Kentucky - we need to hear from you! The Kentucky Horse Council is working to provide members with a comprehensive list of hay suppliers in Kentucky. If you would like to be included in our list, please complete the short form provided below or forward it to your hay supplier. All we need is your contact information, location and the type of hay you grow -- we'll take care of the rest! **Email Lindsay at Lindsay.Arthur@uky.edu to be added to the list.**

Q Red Clover Released from Univ. of Florida

Q red clover was recently released from the breeding program of Dr. Ken Quesenberry at the University of Florida (he did his PhD under Dr. Norm Taylor at UK). Although it's being sold in KY this year, we have just been able to include it in our variety tests so we currently have no idea if it will survive KY winters. It was developed to have tolerance to 2,4-D, but without KY testing we recommend that you wait for local data before incorporating into your frost seedling mixtures.

Poison Hemlock – A Growing Concern

Poison hemlock (*Conium maculatum*) has become widespread throughout most of Kentucky. Although this plant is often seen along roadways, fence rows, and other non-cropland sites, it has expanded out into grazed pasture lands and hay fields. It has also become an increasing concern in residential locations when it is observed in areas that are not frequently mowed such as vacant and abandoned lots. The concern not only stems from its invasive nature, but the fact that it is one of the most toxic plants in the world. Throughout history, the toxicity of poison hemlock is well known for accidental deaths of humans and other animals. Description– Poison hemlock is classified as a biennial that reproduces only by seed. It is capable, however, of completing its lifecycle as a winter annual in Kentucky if it germinates during the fall months. New plants emerge in the fall or late winter forming a cluster of leaves that are arranged as a rosette on the ground (Figure 1). The individual leaves are shiny green and triangular in appearance. Although poison hemlock is most noticeable in late May and June during the flowering stage of growth, the vegetative growth stage is readily observed during the cooler months of the year (Figure 2) with its parsley-like leaves which are highly dissected or fern-like.

Figure 1. Poison hemlock rosette. (photo by JD Green)

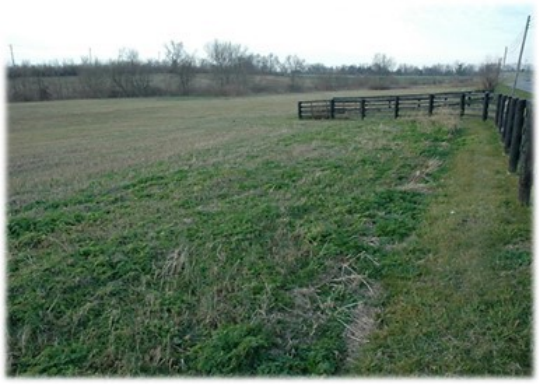


Figure 2. Poison hemlock plants growing along a fence line in late December. (photo by JD Green)

As the plant begins to send up flower stalks in the spring, the leaves are alternately arranged on the main stem. Each individual leaf is pinnately compound with several pairs of leaflets that appear along opposite sides of the main petiole. As the plant matures, poison hemlock creates a taproot and grows upwards to about 6 to 8 feet tall. At maturity the plant is erect, often with multi-branched stems (Figure 3). Poison hemlock has hollow stems which are smooth with purple spots randomly seen along the stem and on leaf petioles. There are no hairs on the plant that helps distinguish it from other plants similar in appearance. The flowers, when mature, are white and form a series of compound umbels (an umbrella-shaped cluster of small flowers) at the end of each terminal stalk. Poison hemlock can be associated with areas having adequate moisture throughout the year, as well as, drier environments.

Figure 3. Mature poison hemlock plant. (photo by JD Green)

Toxicity – The risk of exposure to poison hemlock toxicity is primarily through ingestion. Just small amounts of ingestion can result in possible death to all mammals. The principal toxin in poison hemlock is coniine and a few other toxic alkaloids, which are present in all parts of the plant, including the seeds and roots. A well known case of human toxicity was the death of Socrates, a Greek philosopher, who was sentenced to death in 399 BC by ingestion of a poison hemlock potion. There have been some concerns expressed that toxicity such as dermal reactions may occur by simply being in proximity of poison hemlock plants. However, it is unlikely that most people will experience skin rashes who come in direct contact with poison hemlock as opposed to exposure to other plants such as wild parsnip or other potentially toxic plants within the carrot plant family Apiaceae.

If consumed, all classes of livestock are known to be affected by poison hemlock. Cattle, horses, and goats are considered to be the most susceptible domestic animals although other animals can be affected as well. Symptoms of poisoning can occur rapidly anywhere within 30 minutes to 2 hours depending on the animal, quantity consumed, and other factors. Initial symptoms can include nervousness, trembling, muscular weakness and loss of coordination, dilation of pupils, coma, and eventually death from respiratory paralysis. Lethal doses for cattle are considered to be in the range of 0.2 to 0.5% of the animal's body weight. Poison hemlock is also known to cause fetal deformation when pregnant animals consume the plant. Fortunately, most animals tend to avoid grazing poison hemlock if other forage is readily available. However, animals may be more prone to consume green plants during the late winter and early spring when other forage species are more limited. Toxicity may be somewhat reduced in dried plants, but the potential for toxicity still exists, particularly when a sufficient quantity is consumed in dried hay. Therefore, extreme caution should be considered before feeding animals hay known to contain large quantities of poison hemlock. Also, animals may be attracted to consume poison hemlock when plants are treated with a herbicide.

Control -The principle strategy for poison hemlock control is to prevent seed production, which can be a challenge since a fully mature plant is capable of producing over 35,000 new seeds. Once plants have produced flowers it is generally too late to utilize herbicide control methods. Whereas, mechanical control efforts (where it is feasible), such as mowing or cutting down individual plants should be initiated just before peak flower production to avoid or reduce the amount of new seed being produced.

As an overall strategy, make note of areas known to contain populations of poison hemlock and begin to look for emergence of new plants in the fall and during the winter months. Throughout the fall (October/November) or early spring (late February/March) is the best time of year for herbicide treatment. Herbicide products containing 2,4-D can be effective when applied to actively growing plants that are still in the younger rosette stage of growth. As plant rosettes become more mature, premixtures of products containing dicamba + 2,4-D (eg. Weedmaster, Brash, Rifle-D, etc.), triclopyr + 2,4-D (eg. Crossbow, Crossroad, etc.), or aminopyralid (eg. Duracor, etc.) are needed for best results. Always consult product labels for approved sites of application and for precautions that should be considered when applying herbicides. ~Dr. J. D. Green, UK Extension Weed Scientist

PLATE IT UP RECIPE

Try out this soup recipe!

Butternut and Acorn Squash Soup

1 butternut squash, halved and seeded
1 acorn squash, halved and seeded
1 tablespoon olive oil
½ cup chopped sweet onion
4 cups chicken broth
3 tablespoons peanut butter
⅓ cup packed brown sugar
½ teaspoon ground black pepper
¾ teaspoon ground cinnamon
¼ teaspoon nutmeg
Fresh parsley for garnish

Using a vegetable peeler, **remove** the skin from the butternut and acorn squashes and **cut** into 1-inch cubes. In a large soup pot, **heat** the oil on medium high. **Add** the onion, and **cook** 1 to 2 minutes until it starts to become translucent. **Add** cubed squash, and cook 4 to 5 minutes. **Add** chicken broth, and bring to a boil. **Lower** heat, and **simmer** 30 to 35 minutes, until the squash is fork tender. Allow to **cool** slightly, then **blend** until smooth in a food processor or blender. **Return** mixture to the pot, and **heat** to medium low. **Add** peanut butter, brown sugar, pepper, cinnamon, and nutmeg. **Stir** until well blended. **Garnish** with fresh parsley. **Serve** warm.

Yield: 7, 1-cup servings

Nutritional Analysis:
200 calories, 6 g fat, 1 g saturated fat, 5 mg cholesterol, 600 mg sodium, 36 g carbohydrate, 4 g fiber, 14 g sugar, 10 g added sugar, 4 g protein.

Kentucky Winter Squash

SEASON: August through October.
NUTRITION FACTS: Winter squash, which includes acorn squash, butternut squash, pumpkin, and other varieties, is low in fat and sodium and an excellent source of vitamin A and fiber.
SELECTION: Winter squash should be heavy for its size with a hard, tough rind that is free of blemishes or soft spots.
STORAGE: Store in a cool, dry place and use within one month.
PREPARATION:
To steam: Wash, peel, and remove seeds. Cut squash into 2-inch cubes or quarter, leaving rind on (it will remove easily after cooking). Bring 1 inch of water to a boil in a saucepan and place squash on a rack or basket in the pan. Do not immerse it in water. Cover the pan tightly and steam the squash 30 to 40 minutes or until tender.
To microwave: Wash squash and cut it lengthwise. Remove seeds. Place it in a baking dish and cover with plastic wrap. Microwave until tender, using these guidelines:
- **Acorn squash:** ½ squash, 5 to 8 minutes; whole squash, 8 ½ to 11 ½ minutes.
- **Butternut squash:** 2 pieces, 3 to 4 ½ minutes.
- **Pumpkin:** 1 pound piece, 7 to 8 minutes.

To bake: Wash squash, and cut it lengthwise. Smaller squash can be cut in half; larger squash should be cut into portions. Remove seeds, and place squash in a baking dish. Bake at 400 degrees F for 1 hour or until tender. Seeds can be toasted at 350 degrees F for 20 minutes.

WINTER SQUASH
Kentucky Proud Project
County Extension Agents for Family and Consumer Sciences
University of Kentucky, Dietetics and Human Nutrition students
November 2019

Source: www.fruitsandveggiesmatter.gov

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers market, or roadside stand. http://plateitup.ca.uky.edu

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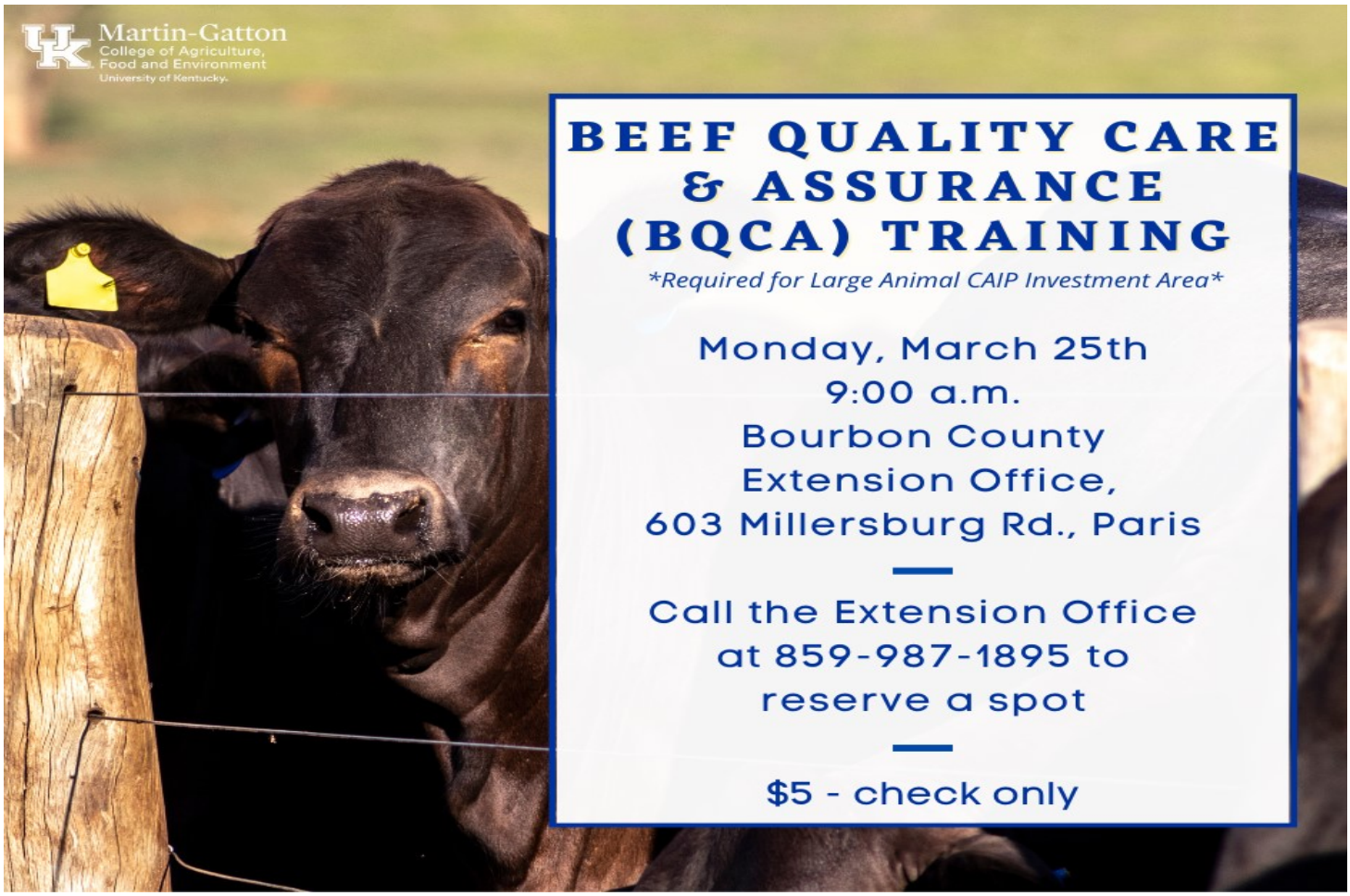

March Tips & Tidbits

University of Kentucky
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Weed Control

Identify weeds and select the appropriate herbicide to control those weeds for a weed-free pasture.

For optimum control, adequate moisture along with temperatures at 60°F will be needed for several consecutive days.

Control of common weeds such as:chickweed, field pennycress, bull thistle, yellow rocket, common burdock, poison hemlock, buttercup, common yarrow, curly dock, wild garlic, and plantain as well as other common weeds.

See UK College of Agriculture, Food and Environment publication *Weed Management in Grass Pastures, Hayfields and other Farmstead Sites* (AGR-172) for more information.

Getting Ready to Ride

Consider how long your horse has been on winter vacation. Start slowly at low speeds until the animal is back in condition.

Avoid increasing the speed of the work, the time spent working, or the distance you travel at the same time.

Examine your horse's feet. Are they in adequate shape, or do they need additional care to get them prepared for the extra stress of riding?

Will you need to have your horse shod?

As the horse acclimates to a new daily routine, monitor the BSC score to evaluate if you need to make changes in your feeding or conditioning programs.

Remember to start your horse's fitness program early to allow enough time to prepare for the season's activities.

Make sure your horse's health papers are up to date.

Check all tack and equipment. Before fully returning to activity, make sure all tack and equipment has been cleaned and conditioned, and make any repairs that are needed. It's best to find problems and make repairs before you start riding.

Pregnancy Checks

Have the first pregnancy check done within 14 to 18 days after mare's last breeding by a veterinarian via trans-rectal ultrasound.

If the mare is not pregnant, she will be coming back into heat, and a check at this time will allow for adequate time to set up another breeding for the mare.

Have another check done around 40 days. This check is important because fetal membranes attach to the endometrium and endometrial cups form around day 35.

Monitor the mare during pregnancy for any unusual discharge or her udder developing too soon before parturition.

Bourbon County Conservation District
Annual Tree Seedling Giveaway

Since 1990 the Bourbon County Conservation District has given free tree seedlings to local landowners with the goal of stemming the decline in hardwood trees in Bourbon County. This year we will continue this first come first served giveaway on Wednesday, March 27th, 9:00-4:30, at the Bourbon County Park on Legion Drive. Without leaving your vehicle, you can receive your trees with the assistance of the Bourbon County High School FFA students. The location will be the same as last year and signs at the park entrance will be posted to direct traffic. Anyone wanting trees will line up in their cars and a student will provide them with a sign in sheet and a list of trees to mark their preferences. A brief description of the trees will be provided, and tree planting instructions are on each tree bag. The students will gather your trees and place them in your vehicle. The trees are bare root seedlings and are packaged 3 seedlings to a bag. You may have up to 12 bags (36 trees), but no more than 3 bags of any one species. A bucket or bag to contain the bagged seedlings might be a good idea as the bags sometimes leak. Forester Phil Horsley with the Kentucky Division of Forestry plans to come to answer any questions.

This year will be the 34th year that the district has purchased tree seedlings from the Kentucky Division of Forestry Nursery located in Morgan County.

This year we have ordered the following 12 species of trees:
Please note that this list is subject to change due to availability at the nursery.

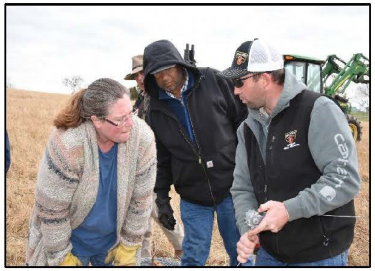
Bald Cypress
Bur Oak
Northern Red Oak
Pawpaw
Pecan
Persimmon
Redbud
Sycamore
White Oak
White Pine
Wild Plum
Yellow-Poplar

The trees will be ready for pick up on Wednesday, March 27, 2024, between the hours of 9:00 am and 4:30 pm at the Bourbon County Park on Legion Drive.

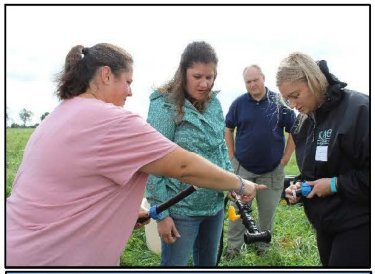
Plant more trees!

Save the Date-Upcoming Forage Events

2024 Spring Fencing Schools
Hands on school focusing on the installation of fixed knot woven wire fence and electrified smooth high tensile fence.
April 23 in Morehead, KY
April 25 in Mayfield, KY



2024 Beginning Grazing School
Not sure where to start? This school is designed to provide you with the tools needed to establish a profitable and sustainable grazing system.
April 30-May 1 in Princeton, KY



Electric Fence Troubleshooting School
This school is designed to provide students with tips on installation of new and troubleshooting of existing electric fencing.
June 12 in Morgantown, KY

Heart of America Grazing Conference
The focus of this conference will be regenerative grazing. The conference will include a preconference workshop on pasture ecology and post conference pasture walk. Speakers include Ray Archuleta, Alan Franzluebbers, Matt Poore, and more!
October 15-Preconference workshop on pasture ecology (optional)
October 15 & 16-HOA Grazing Conference
October 17-Regenerative Pasture Walk at Big Springs Farm in Adolphus, KY (optional)

Intermediate Grazing School
This school is a continuation of the beginning grazing school. It is designed for people already grazing and will explore topics more in depth.
September 25-26 in Versailles, KY

Save your spot... Register Today!!!

Scan QR Code, visit https://forages.ca.uky.edu/events, or contact Caroline Roper at 270-704-2254 or Caroline.Roper@uky.edu for more information on upcoming events.

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