SUMMER 2024 VOL. 1

Martin-Gatton
College of Agriculture,
Food and Environment

The RURAL RAMBLER

An Agriculture and Natural Resources Newsletter for Bracken County

"Agriculture is the most healthful, most useful and most noble employment of man."
George Washington

IN THIS ISSUE

A Note From Your Agent:

Hello July! Summer has arrived, bringing with it scorching heat, especially out in the hay fields. As temperatures rise during our hottest month, it's crucial to ensure that livestock and pets have access to fresh, clean water. The quality of water significantly impacts their intake, especially since consumption more than doubles in these summer months.

Keep an eye out for algae growth, which thrives in direct sunlight. Regularly clean and monitor water sources to maintain their quality. Remember, a Happy Cow means a Happy Life!

For our gardens out there, be sure to monitor your plants for disease as this weather becomes a perfect breeding ground. It's also the perfect time to weed your gardens before the weeds drop seed for the next growing season.

Best regards,

Holly Bowman
Bracken County Extension Agent for
Agriculture and Natural Resources

Spring Calving Cow Herd

• Consider removing bulls from the cow herd by the end of the month and keep them away from the cows. A short calving season can concentrate labor during the calving season; group calves by age so that it is easier to find a convenient time to vaccinate, castrate, dehorn, etc.; and provide a more uniform group of calves at market time. • Mid-July is a good time to deworm cattle, use a product that is effective against inhibited ostertagia. Re-implant calves which were implanted at birth if the type of implant and amount of time indicate. Calves which haven't been vaccinated for blackleg should be. Spraying or using a pour-on for flies while cattle are gathered can supplement other fly control methods. Remember to work cattle early in the morning when it is cool and handle them gently to minimize stress.
• Watch for pinkeye and treat if necessary. Minimize problems by clipping pastures, controlling face flies and providing shade. Monitor the bulls' activity and physical condition as the breeding season winds down.
• Fescue pastures tend to go dormant in July and August, so look for alternatives like warm season grasses during this period of time. Try to keep the young calves gaining weight. Go to pastures which have been cut for hay to have higher quality re-growth when it is available.

Consider cutting warm season grass pastures for hay if reserves have not been restored yet.

• Heat stress can lead to low conception rates, low libido in bulls, and embryonic loss (abortion) between days 6 and 45 of pregnancy. Keep a close eye on your herd. Plan to diagnose your herd for pregnancy early this fall to identify open cows for future planning. Supplementation with red clover helps alleviate some of the issues with heat stress due to fescue toxicosis.

Fall-Calving Cow Herd

• De-worm calves in mid-July with a product that is effective against inhibited ostertagia.
• Fall-calving cows should be dry and pregnant now. Their nutrient needs are minimal, and they can be maintained on poor pasture to avoid over fattening. Keep a good free-choice mineral mix available at all times. You can use a lower phosphorus mineral supplement now, if you want to save a little money. These cows are regaining body condition after a long winter-feeding period.
• Get ready for fall calving and plan to have good pasture available at calving and through the breeding season.

Stockers

• Sell heavier grazing cattle before rate of gain decreases or they get into a heavyweight category. This will also relieve grazing pressure as pasture growth diminishes. They can be replaced with lightweight calves after pastures recover.

• Lighter cattle which are kept on pasture need to be rotated to grass-legume or warm-season grass pastures to maintain a desirable level of performance. Re-implant these calves and deworm with a product that is effective against inhibited ostertagia.

General

• Check pastures for downed wild cherry trees after storms (wilted wild cherry leaves are toxic to cattle).
• Be sure that clean water is always available, especially in hot weather. Make routine checks of the water supply. Cattle need 13 to 20 gallons of clean water in hot weather. Cattle should have access to shade.
• Maintain a weed control program in permanent pastures and continue to "spot-spray" thistle, honey locust, etc.
• Have forage analyses conducted on spring-cut hay and have large, round bales covered. Begin planning the winter-feeding program now. Most of the hay was cut late due to a wet spring.
• Start soil testing pastures to determine fertilization needs for this fall.
• July is typically dry in Kentucky. Begin planning now for reduced rainfall and forage growth. If the weather dries up, you may need to begin feeding hay/supplement August-October to allow for fall stock piling of fescue.

Special Edition

BRACKEN BUZZ

CATTLEMEN'S PAINT PARTY FUNDRAISER

EQUINE EDUCATION SERIES- DENTISTRY

HTTPS://BRACKEN.CA.UKY.EDU/

SENIOR CENTER: TOMATOES AND PEPPERS IN BLOOM!"

CHICKEN PAINT PARTY

Find us on

Bracken County Cooperative Extension Service

KEEP COOL IN THE SHADE

DR. JEFF LEHMKULHER, PHD, PAS, EXTENSION PROFESSOR UNIVERSITY OF KENTUCKY

As the summer weather hits full stride, take some time to focus on factors that impact animal performance during these months. Stocker calf performance reflects changes in the environment, plane of nutrition, and overall health of calves. Be mindful of the how summer weather can impact these three overarching factors and consider what you might alter or maintain to minimize the impact of these elements.

Heat stress is the first environmental factor that will impact animal performance during the summer months. The effect of heat stress is exacerbated by the alkaloids produced by the wild endophyte in Kentucky 31 tall fescue. Animals compensate during heat stress with increased respiration rate, increased skin vaporization (sweating), increased peripheral blood flow, decreased appetite to reduce metabolic heat production, and more time seeking relief by standing in the shade, congregating in water or grouped up in areas where urine and feces create a wallow. Increased respiration rate leads to greater energy expended for contraction and relaxation of the diaphragm. This doesn't seem like it would be a big loss but sit there and double your breaths per minute for five minutes and see how you feel. Now consider doubling your respiration for several hours a day and the impact this would have on energy expended. Previous research has shown that cattle at thermoneutral conditions had respiration rates of about 23 breaths per minute while under heat stress this increased to 54 breaths per minute. This increased respiration rate is a key response to heat stress as well as increasing blood flow to periphery.

Compensation of heat stress can also occur through increased sweating or evaporative heat loss as periphery blood flow increases. Skin evaporative energy loss was observed to be 50% greater under heat stress than thermoneutral. However, when exposed to wild-type endophyte, skin vaporization was not increased due to a lack of skin temperature increase which may be attributed to vasoconstriction. Accumulated heat load by animals can be dissipated later into the night when ambient temperatures decline. However, during periods of high humidity and lack of nighttime temperatures falling, animals do not have significant reductions in core body temperature before the next day begins. Successive days of heat stress and minimal dissipation of accumulated heat load leads to severe health concerns for cattle. Add into the mix, the alkaloids from the wild endophyte in tall fescue leading to vasoconstriction reducing blood flow to the skin surface during these night hours limiting heat dissipation from sweating. All these factors combine to increase animal maintenance requirements by 7-25%. If maintenance energy requirements represent 65% of normal daily intake, a 15% increase in maintenance requirements as a result of heat stress would reduce gains significantly.

Providing shade is the first management strategy to help mitigate heat stress during the summer months. Shade helps to reduce heat loading from solar radiation. Additionally, ground surface temperatures under shade have been shown to be greatly reduced compared to unshaded areas. Shade can be natural such as wooded areas or man-made. Cattle will stand more during heat stress to allow more convection heat loss as air moves around the body. Shade should ideally provide sufficient room for cattle to stand in the shade without being crowded.

Often the question is how much shade should be provided. Consider the length from tip of nose to tail and width across the ribs of a mature cow. These measurements may be near 7' x 3' or 21 square feet and these measurements will vary. Spacing between animals is important so the actual shade provided will be greater than the size of the animal. Actual allocated area under shade of 30-40 square feet per cow may be necessary. The University of Nebraska recommends 20-25 square feet per animal for voluntary shade use in feed yards and 25-30 square feet for high-risk feeders on arrival. For man-made structures, ensure there is sufficient distance between the back of the animal while standing and the bottom of the shade structure to facilitate air movement through the structure. When possible, having shade structures that are portable will minimize wallows which can lead to high humidity under the shade from excessive urine and feces deposition.

Additional information on shade structures can be found at https://www2.ca.uky.edu/agcomm/pubs/aen/aen99/aen99.pdf . Consider developing shade areas during periods of higher temperatures and humidity to maintain the performance of grazing cattle if wooded areas are not readily available. Temporary electric fencing can be helpful in allocating different areas of wooded areas to minimize soil disturbance under trees and preventing development of wallows. Shade placed on ridges that have greater wind speeds will aid in moving air through the structures and cooling cattle. Ensure cattle have access to fresh, clean water as losses from sweating and increased respiration rates increase water requirements. Consider utilizing CAIP funds for shade or tree plantings for development of natural shade areas. Contact your county Extension office for additional information.

Shade Structure Eden Shale Farm Owenton, KY

Signs of Heat Stress

- Slobbering
- High respiratory rate (panting)
- Open mouth breathing
- Lack of coordination
- Trembling
- Increased water intake with reduced feed intake
- Increased respiration rate (90 breaths per minute)
- Milk production and gains are reduced as feed intake decreases.

Solutions to Heat Stress

- Providing shade can reduce heat loads on cattle up to 30%.
- Shade from trees is ideal, but may not be available in many situations. Providing artificial shade is an effective substitute.
- Turning livestock into pastures without shade during the evening and night is a simple strategy to reduce heat stress. Typically these cattle are in a temperature-controlled barn during the day or on pasture with shade.
- Providing cool drinking water at all times to maintain performance. This can be done by increasing circulation of water in tanks or preventing direct sunlight to water in tanks.

Cooperative Extension Service

PREPPING HIVES FOR WINTER

GUEST SPEAKER:

Dr. Tammy Horn Potter of KSU, former Kentucky State Apiarist

AUGUST 27TH 6:00PM

Bracken County Extension Office

Register with QR code or call (606)-735-2141

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MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

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Lexington, KY 40506

Disabilities accommodated with prior notification.

BRACKEN COUNTY BEEKEEPER CLUB EST. 2024

KickOff Meeting
July 9, 6:00 PM
@BrackenCountyLibrary

A group of beginner to veteran local beekeepers, welcoming all to come share, learn and talk bees.

Face flies are one of the most difficult pasture pests to control. They are on cattle only for short periods of time during the day and stay mostly on the head, which is difficult to treat with insecticides. Face flies use an abrasive sponging mouthpart to stimulate tear flow from the eyes. These flies lap up the protein rich secretions from the eye as well as nasal discharges, saliva, or blood oozing from wounds. Most of the time they are off of the animals, resting on plants, fence posts, or other objects.

In addition to being very annoying to cattle, face flies play a role in the transmission of Moraxella bovis, the principal causal agent of bovine pinkeye or infectious bovine keratoconjunctivitis. This disease is a highly contagious inflamation of the cornea and conjunctiva of cattle. Coupled with the infectious bovine rhinotracheitis (IBR) virus, M. bovis can cause a much more severe inflammatory condition.

The incidence of pinkeye in a herd can vary greatly from year to year and usually is greatest during fly season. However, pinkeye also can occur during the winter or where flies are not particularly abundant. English breeds with less pigment around the eyes (Hereford, Holstein Shorthorn) are more susceptible than are those with completely pigmented eyes (Angus). Infections are much worse in young animals than old animals.

Pinkeye is associated with shipping stress, increased sunlight, eye irritants such as tall, rough pasture grass, and other bacteria and viruses. The eye and nose discharges of infected animals can carry the pathogens, so direct animal-to-animal contact, contaminated equipment, and animal handlers can transmit the disease. Fly control is only part of the comprehensive program needed to reduce pinkeye incidence. Your veterinarian can help you to plan and implement a total program.

FACE FLY BIOLOGY

Face fly maggots develop in freshly deposited cattle manure. Female face flies are most readily attracted to grass-type manure and lay their eggs within 15 minutes after it is deposited. The four stage life cycle takes about 15 to 25 days. Face flies overwinter as adults in sheltered areas such as barns or attics and become active again in the spring.

SELF-APPLICATOR FACE FLY CONTROL OPTIONS

Devices that allow animals to treat themselves frequently and which target the head and face area are most effective against face flies. Even if a good pasture fly control program is in place, these insects are strong fliers so they may move in from other herds and allowing fly numbers on animals to remain high.

Backrubbers with wicks or fly flips will allow cattle to treat themselves while loafing and scratching. The insecticide should be diluted with a good grade of mineral oil (diesel oil evaporates more quickly and is harder on the cattle's skin) according to label instructions. Do not use motor oil. See ENT-4, Making and Using A Cattle Backrubber, for more information.

Dust bags are most effective when used where cattle have to pass under them daily to get to water or mineral feeders. Best coverage occurs when the animal must lift the bag with its head to pass through. Inspect the bag regularly and recharge it as needed. Keep it dry to reduce clumping of the insecticide and premature loss of effectiveness.

Feed additives or an insecticide bolus targets face fly maggots breeding in fresh animal manure. All animals must eat a minimal dose of a feed additive regularly. Supplementary control measures must be taken to deal with flies moving in from nearby herds.

Insecticide-impregnated cattle ear tags release small amounts of an insecticide which are distributed over the animal during grooming or rubbing. Some pyrethroid tags can provide significant face fly reduction for several weeks. See Entfact 505, Insecticide-Impregnated Ear Tags, for more information. Self-applicator sprayers can be set up at mineral feeders or gates between fields. A switch, tripped by the animal, releases a small amount of spray. Position the nozzle so that the face is treated.

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

MASTER CATTLEMEN 2024

BECOME A MASTER CATTLEMEN... The Master Cattlemen Program was created to give beef producers an in-depth educational course on beef cattle management. Producers completing the program will acquire knowledge that will help them make informed economic management decisions in the beef operations.

All Sessions will be held in the Northern Kentucky Area.

Participant must complete all six (6) three-hour sessions to become certified.

November 4
Dr. Katie Vanvalin
Assistant Extension Professor
Extension Beef Specialist
Nutrition

November 11
Kevin Laurent
Senior Agriculture Extenson Specialist
Marketing & Profitability

November 18
Darrh Bullock
Extension Professor
Animal & Food Sciences
Genetics

November 25
Les Anderson
Extension Professor
Animal & Food Sciences
Reproduction & Record Keeping

December 2
Dr. Morgan Hayes
Assistant Extension Professor
Josh Jackson
Ag Engineering Specialists
Facilities & Winter Feeding

December 9
Dr. Michelle Arnold
UK Ruminant Extension Veterinarian
Animal Health

BOONE
859-586-6101

CAMPBELL
859-572-2600

CARROLL
502-732-7030

GALLATIN
859-567-5481

GRANT
859-824-3355

KENTON
859-356-3155

PENDLETON
859-654-3395

OWEN
502-484-5703

Call your County Extension Office or Scan the QR Code to register.

Registration fee: $125 includes all meals, class materials and a farm sign.

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MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

HARMFUL ALGAL BLOOMS – ARE MY CATTLE IN DANGER?

BY: DR. MICHELLE ARNOLD, DVM

Water is the most critical factor in the diet of cattle and during hot and dry weather, it is especially important to monitor water quality. Harmful algal blooms (HABs) can reduce water quality and intake, and are potentially toxic to livestock. Although blooms can occur at any time of year, they happen most often in the warmer months between June and September. In freshwater, the majority of HABs are caused by cyanobacteria or blue-green algae. Blue-green algae are simple plants that exist naturally in water and wet environments. They prefer warm, stagnant, nutrient-rich water and are found most often in ponds, lakes, and slow moving rivers. Farm ponds contaminated with fertilizer run-off or direct manure and urine contamination are prime places for algae to thrive. During periods of hot and dry conditions, rapid proliferation of blue-green algae may result in a "bloom", which is a build-up of algae that creates a green, blue-green, white, or brown coloring on the surface of the water, sometimes occurring as mats or scum. It may look like a floating layer of paint. Windy conditions can concentrate algal blooms along water edges, increasing the risk for livestock to ingest algae when they drink.

Of the more than 2000 species of blue-green algae identified, at least 80 are known to produce toxins that can affect animals and humans. The most common species of blue-green algae in North America associated with poisoning are Anabaena, Aphanizomenon, Oscillatoria, and Microcystis. Microcystis is the most common bloom-forming genus, and is often toxic. Microcystis blooms are a greenish, thick, paint-like (sometimes granular) material that accumulates along shores. Scums that dry on the shores of lakes may contain high concentrations of microcystin toxin for several months, allowing toxins to dissolve in the water even when the cells are no longer alive or after a recently collapsed bloom. Species of the genus Anabaena form slimy summer blooms on the surface of lakes and reservoirs. Oscillatoria form long, slender, straight filaments that usually remain separate but form dense surface scums. Its presence may be revealed by a strong earthy odor and the filaments are easily detected visually in a water sample.

Environmental factors such as water temperature, sunlight, water pH, and nutrient concentration affect when toxins will be produced. Cyanobacterial toxins ("cyanotoxins") can affect the liver and nervous system and have been implicated in human and animal illness and death in over fifty countries worldwide, including at least 35 U.S. States. Human poisoning associated with cyanotoxins most commonly occur after exposure through drinking contaminated water or water recreational activities. Exposure can result in a number of symptoms in people including skin rashes; eye, nose, mouth, or throat irritation; allergic reactions; headache and malaise; and gastrointestinal upset including abdominal pain, nausea, vomiting, and diarrhea. In humans, it is believed the toxin must be ingested in order to be fatal. Animals that consume the affected water may die suddenly, or suffer from weakness, staggering, or photosensitization depending on the specific toxin and amount ingested.

Pond in Anderson County-Photo courtesy of Dr. Jeff Lehmkuhler, University of Kentucky

Blue-green algae toxins are released when algal cells are damaged and die in the water (for instance, after water is treated with an algaecide such as copper sulfate), or when ingested water reaches the animal's digestive tract and algal cells are disrupted, releasing the toxins. Some algae produce potent neurotoxins (toxins that affect the nervous system) that cause signs in animals such as muscle tremors, difficulty breathing, seizures, profuse slobbering, diarrhea, and rapid death within minutes to hours. Other algae can produce hepatotoxins (toxins that affect the liver) that can cause death quickly or a more delayed onset of death after signs of liver failure develop. Photosensitization, a skin condition causing white (light or non-pigmented) areas of skin to

peel, can occur in animals that survive the acute stages of liver damage. Pets and livestock are most at risk when drinking contaminated water or cleaning algae from fur/hair coat. Most animals exposed to blue-green algae toxins die acutely and are often found dead very near the water source. The only treatment is supportive care and medications to alleviate the symptoms.

If algal blooms are noticed, testing of water samples with algae is recommended because not all blooms produce toxins. Many algal blooms in Kentucky are composed of harmless green algae which may look like underwater moss, stringy mats or floating scum. It is impossible to tell visually if a water source contains blue-green algae or not, or to determine which specific species are present without laboratory identification. The UK Veterinary Diagnostic Laboratory accepts water samples and forwards them to referral laboratories for blue-green algae identification and the presence of toxins Anatoxin-A, and Microcystin. Please visit the website http://vdl.uky.edu/TestInformation.aspx and search under "Toxicology" for further information regarding sampling and pricing. The Indiana Department of Environmental Management has released a "Blue-Green Algae Sampling Resource List" of companies that provide blue-green algae sampling and analysis services. The list can be found at http://www.in.gov/idem/algae/files/bluegreen_sampling_services.pdf . For protection of human health from exposure to the algae and any of the toxins, many states use the World Health Organization (WHO) guideline level of 100,000 t algal cells/ml water or a microcystin toxin level of 6 parts per billion (ppb) for a Recreation Advisory and beaches will be closed if the microcystin toxin level reaches 20 ppb. In Kentucky, cyanobacteria were recently found to be growing in Green River Lake, Taylorsville Lake, Barren River Lake, Nolin Reservoir and Rough River Lake at levels that prompted a recreational advisory. Unfortunately, testing water for an actual toxin is problematic because toxins are not uniformly distributed in the water source, testing can be quite expensive (for example, California charges $175 per water sample to identify anatoxin-a), and there are many blue-green algae toxins for which no diagnostic tests exist. To be safe, always assume that a blue-green algal bloom has the potential to be toxic. For more information, visit the EPA website http://www2.epa.gov/nutrient-policy-data/cyanotoxins.

Steps to Prevent Blue-Green Algae Poisoning Livestock and pets:

1. Always assume that a blue-green algal bloom is toxic.

2. Provide constant access to clean, clear fresh water and fence off or otherwise prevent access to stagnant, scum-covered ponds. Fencing off natural water sources and providing alternative water sources is the best option.

3. Do not allow animals to contaminate the water with feces and urine. Prevent fertilizer or manure runoff from entering water sources. Phosphorous is particularly important in fueling cyanobacteria growth.

4. If a water source is treated with an algaecide such as copper sulfate, prevent animal access to the water for at least a week or longer to allow degradation of any released toxins in the water. It is best to wait until the pond is no longer stagnant before allowing animals to drink from it.

5. Creating and maintaining natural buffers such as trees and shrubs between farmland, housing developments and waterways can help filter out excess nitrogen and phosphorus before they reach the water.

Humans:

1. Do not swim or allow children or pets to swim in water with scum layers or blooms. Avoid jetskiing, windsurfing, tubing, or water-skiing over scum or blooms.

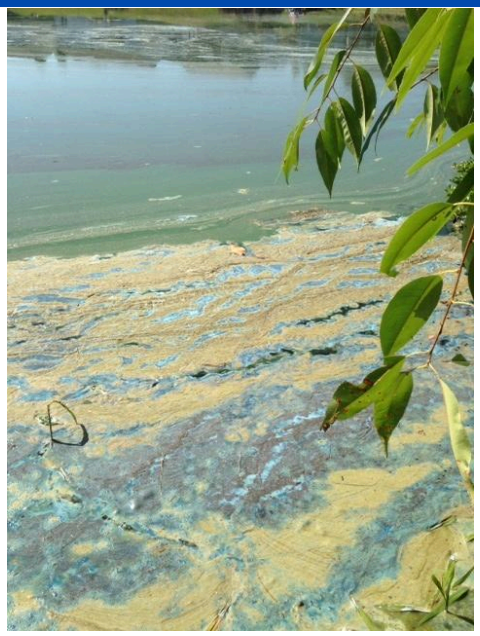
2. Do not use untreated water for drinking, cleaning food, or washing camping gear.

3. Do not boil water to remove blue-green algae; this will not remove algal toxins.

4. If you come into contact with a bloom, wash your skin and hair thoroughly. If your animal comes into contact with a bloom, wash it thoroughly with clean water to prevent blue-green algae ingestion when your animal licks itself.

5. Do not eat fish or shellfish caught or harvested in a bloom area.

6. Respect any water body closures by public health authorities.



Grant County Anabaena bloom. Photo Courtesy of Mark Martin at Kentucky Division of Water.

Livestock pond in Scott County: Planktothrix-Anabaena bloom. Photo courtesy of Mark Martin at KY Division of Water.

HELP YOUR GARDEN WEATHER A HEATWAVE

BY:RICK DURHAM

If you think you're hot, ask your plants (not literally). They can suffer under high summer heat, too.

Most vegetables and native plants can withstand a periodic heatwave, but once the soil dries out in the top few inches, all plants can feel the stress. Some vegetables like beans and tomatoes may delay producing fruit during hot weather but this is usually temporary. A layer of mulch around your plantings can help hold moisture for those important surface roots and moderate the soil's temperature. A light-colored mulch like straw, pine needles or grass clippings can help to reflect heat back and away from the plant's roots.

Water your plants in the early morning before the heat of day to prevent water loss to evaporation. If you use sprinklers, most of that water can be lost through wind drift and evaporation, so try to water on a calm morning. Hand watering gives you the best control and directs the water exactly where you need it. If you can, it is best to soak the soil directly beneath the plant and avoid getting the leaves wet. Soaker hoses are good for directing the water where it's needed most.

Watering in the morning also discourages slugs and fungal diseases. An evening dousing can leave the soil and foliage wet for longer periods of time and encourage snails, slugs and the spread of disease.

You may have to water container gardens two or even three times a day, depending on how large the container is and how much foliage is present. If they are small enough to be moved, shifting containers to a place where they can get partial shade will help manage the plants' stress, but some plants may not bloom as well when exposed to prolonged shady conditions. During normal weather, young trees need at least 10 gallons of water a week for the first three years directed toward their developing root systems. If you find yourself in a hot dry spell, provide your young trees and shrubs with more water. They are at their most susceptible during those early years. A tree bag which contains a reservoir of water that is released slowly to the plant can help keep the tree well-watered during the hottest spells. You'll only have to fill the bag occasionally rather than watering every few days. They can be purchased at most garden shops.

Shade cloth, which comes in varying thicknesses, can help protect plants that are withering under the sun's rays. Support it above or to one side of the plants, which will shelter them like a porch protects us from the strongest sunlight. Tree branches with leaves can also be placed over plants to provide shade.

Now is not the time to cut your lawns short. Mow them to at least a 3-inch height. That way, the grass blades will provide shade for their own roots and help hold in soil moisture. Avoid fertilizing lawns and gardens during heatwaves, because roots' capacity for taking up nutrients are reduced during hot weather. You'll just be wasting your money.

Most Kentucky lawns are comprised of bluegrass and tall fescue. Once established, both of these species and withstand quite a bit of drought.

Many cool-season crops are planted in August, but the late summer heat can be hard on young transplants. Again, shade cloth can come in handy. Or plant them under more mature plants, so they can benefit from the shade the larger plant throws.

For more information about how to weatherproof your lawn and garden, contact the Bracken County office of the University of Kentucky Cooperative Extension Service.

Don't Forget About Horticulture Webinar Wednesdays!
All Webinars are recorded and can be found at
https://kentuckyhortnews.com/horticulture-webinar-wednesdays/

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College of Agriculture, Food and Environment
University of Kentucky.

EQUINE EDUCATION SERIES

GROUNDWORK EXERCISES

July 23, 2024 at 6:00PM

Horseshoe Ridge Stables

2941 Bridgeville Rd. Germantown, KY 41044

To register Call 606-735-2141

or scan QR code

Next date: August 20

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College of Agriculture, Food and Environment

EASY SHEET PAN CHICKEN BAKE

SERVINGS:4

SERVING SIZE:1 CUP

RECIPE COST:$6.24

COST PER SERVING:$1.56

SOURCE: KATIE SHOULTZ, NEP MARKETING AND MEDIA SPECIALIST, UNIVERSITY OF KENTUCKY COOPERATIVE EXTENSION

INGREDIENTS:

- NONSTICK SPRAY
- 2 TEASPOONS CHILI POWDER
- 1 TEASPOON PAPRIKA
- 2 TEASPOONS GARLIC POWDER
- ½ TEASPOON SALT
- ½ TEASPOON PEPPER
- 3 TABLESPOONS OLIVE OIL
- 1 POUND BONELESS, SKINLESS CHICKEN BREASTS, SLICED INTO STRIPS
- 3 BELL PEPPERS, SLICED
- 1 MEDIUM RED ONION, SLICED

SERVICE

270 CALORIES; 13G TOTAL FAT; 2G SATURATED FAT; 0G TRANS FAT; 85MG CHOLESTEROL; 380MG SODIUM; 11G CARBOHYDRATE; 2G FIBER; 4G SUGAR; 0G ADDED SUGAR; 27G PROTEIN; 0% DAILY VALUE OF VITAMIN D; 2% DAILY VALUE OF CALCIUM; 6% DAILY VALUE OF IRON; 15% DAILY VALUE OF POTASSIUM.

DIRECTIONS:

1. PREHEAT OVEN TO 400 DEGREES F. SPRAY A RIMMED BAKING SHEET WITH NONSTICK COOKING SPRAY.
2. IN A MEDIUM BOWL, MIX CHILI POWDER, PAPRIKA, GARLIC POWDER, SALT AND PEPPER; SET ASIDE.
3. PLACE CHICKEN AND VEGETABLES IN LARGE BOWL. DRIZZLE WITH OLIVE OIL; TOSS TO EVENLY COAT.
4. LIGHTLY COAT CHICKEN SLICES, BELL PEPPERS AND ONION IN SPICE MIX. SPREAD ONTO BAKING SHEET.
5. ROAST IN OVEN, TOSSING HALFWAY, UNTIL VEGETABLES ARE TENDER AND CHICKEN HAS COOKED THROUGH, ABOUT 20-25 MINUTES.

SOURCE: KATIE SHOULTZ, NEP MARKETING AND MEDIA SPECIALIST, UNIVERSITY OF KENTUCKY COOPERATIVE EXTENSION

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Lexington, KY 40506

NEW TO FEEDING DISTILLERY PRODUCTS?

Ky-BQCA
KENTUCKY BEEF QUALITY & CARE ASSURANCE

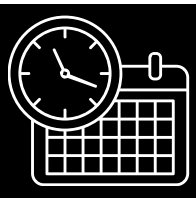
REMINDER

If you need your BQCA for CAIP there is an online option or please call the office.

Cooperative Extension Service

Bracken County Extension Office
1120 Brooksville Germantown Road
Brooksville, KY 41004

Important Dates



- **July 18, 2024 |** Cattlemen's Summer Meeting | Bracken Ext Office | 6:00PM
- **July 23, 2024 |** Equine Education | Horseshoe Ridge Stables | 6:00PM
- **August 5-10, 2024 |** Germantown Fair
- **Augusta 15-25 |** Kentucky State Fair
- **August 27, 2024 |** Prepping Hives for Winter | Bracken Ext Office | 6:00PM
- **October 3, 2024 |** Farm School for Women | Fleming Ext Office | 6:00PM
- **October 8, 2024 |** Bull Value Assessment Program part 1 | Mason Ext Office | 6:00PM
- **October 10, 2024 |** Ag Advancement Council Meeting | Bracken Ext Office | 6:30PM
- **October 10, 2024 |** Farm School for Women | Fleming Ext Office | 6:00PM
- **October 17, 2024 |** Farm School for Women | Fleming Ext Office | 6:00PM
- **October 24, 2024 |** Farm School for Women | Fleming Ext Office | 6:00PM
- **October 15, 2024 |** Bull Value Assessment Program part 2 | Mason Ext Office | 6:00PM
- **November 4, 11, 18, & 25 2024 |** Master Cattlemen | Northern Kentucky Location TBD
- **December 2 & 9, 2024 |** Master Cattlemen | Northern Kentucky Location TBD

If you need your BQCA completed for CAIP the online option is available or please call the office.