

The FARMACY

Hay Day–Field Day at Weinel Farm



The Campbell County Cooperative Extension Service hosted a Forage Field Day on July 7th at Weinel Farm. Special thanks to the Weinel Family for hosting this wonderful event. We had great attendance and everyone enjoyed touring the farm on the hay wagons, learning about the crabgrass grazing plot and johnsongrass control plot, mineral options. We also introduced the new chuteside test option for blood testing cattle for pregnancy. Dr. Jimmy Henning discussed the advantages of using crabgrass as a summer grazing option and control options to eliminate johnsongrass from grass stands.



Thank you to Campbell County Farm Bureau and Ty McGuire, Vitaferm, for sponsoring the meal, Campbell County Conservation District for setting up a booth and Campbell County FFA for assisting with parking and serving the meal.

Upcoming Dates:

- August 11, 2022 - 6:30 p.m.**
Forum about Farmers Markets
Newport Library
901 East 6th Street, Newport
- August 18–28, 2022**
Kentucky State Fair
See article on page 2
- August 31, 2022**
Alexandria Fair Parade
- August 31 - September 5**
Alexandria Fair & Horse Show

- Now Available -

Soil, Hay and Cattle Pregnancy Testing supplies available for pick up and drop off at

The Campbell County Extension Environmental Education Center

1261 Racetrack Road
Alexandria, KY 41001
M-F – 8:00a.m. - 4:30p.m.
859-694-1666

Michelle Simon

Michelle Simon
Campbell County Extension Agent
for Agriculture and
Natural Resources

Foliar Fungicide Considerations for Soybean

As soybean fields in Kentucky approach the R3 (beginning pod) developmental stage, it generally is a time to consider an application of a foliar fungicide to protect against foliar diseases. Rainfall is an important factor to consider when making a foliar fungicide application decision, as high rainfall accumulation is one of the main drivers that can increase the risk of foliar diseases. Risk of foliar disease is likely to be low in some areas of the state this year that have experienced extreme heat and dry weather. Besides rainfall, the risk of foliar diseases also is affected by other factors, such as the soybean variety planted and the cropping history in a field.

Frog-eye Leaf Spot & Target Spot

The primary foliar diseases of concern that have shown the ability to cause economic yield losses in Kentucky recently are frog-eye leaf spot (**Figure 1**) and target spot (**Figure 2**). Both of these diseases are influenced greatly by the soybean variety being grown. Some varieties are highly resistant to frog-eye leaf spot, while others may be susceptible; therefore, it is important to be aware of the disease ratings of the varieties planted in your fields. Target spot is a relatively new disease to Kentucky. In general, my observations of target spot causing severe disease in Kentucky have been limited, and in most cases that I've seen it, symptoms developed too late to be an issue. However, there have been a few fields in western Kentucky over the last few years that had severe



Figure 1. Symptoms of frog-eye leaf spot on soybean leaves (Photo: Carl Bradley, UK).



Figure 2. Symptoms of target spot affecting a soybean leaflet (Photo: Carl Bradley, UK).

target spot, likely due to planting a very susceptible variety.

Septoria Brown Spot & Cercospora Leaf Blight

Other foliar diseases that generally do not have an economic impact on soybean, but can in certain years be Septoria brown spot (**Figure 3**) and Cercospora leaf blight (**Figure 4**). In general, symptoms of Septoria

brown spot often are only on leaves in the lower canopy, which has little impact on yield. However, in years with frequent rainfall throughout the season, spores of the Septoria brown spot pathogen may splash up to the upper canopy and cause some upper leaves to prematurely defoliate. When this happens, some yield loss can be attributed to Septoria brown spot. Although

Cercospora leaf blight may occur in Kentucky, the appearance of this disease generally has been later in the season, which often has been too late to cause yield reductions.

Disease Score Card

A soybean disease "score card" is available in the resources section of the Take Action website, that is titled, Know Your Disease Risk in Soybeans: What's Your Score? This score card can be used on a field-by-field basis to help determine what the risk is for foliar disease development and can help make fungicide application decisions.

Fungicides

If the decision is made to apply a foliar fungicide, it is important to choose a product that has efficacy against the spectrum of diseases that might affect your field. It is also important to choose a product that contains multiple modes of action to help manage the potential of fungicide resistance. Isolates of the frog-eye leaf spot, Septoria brown spot, target spot, and Cercospora leaf blight pathogens that are resistant to strobilurin (QoI) fungicides are present in Kentucky, so fungicide resistance is an important consideration. To help



Figure 3. Brown lesions and yellowing on the leaf edges caused by the Septoria brown spot pathogen of soybean (Photo: Carl Bradley, UK).



Figure 4. "Purpling" of soybean leaf caused by the Cercospora leaf blight pathogen (Photo: Carl Bradley, UK).

make a decision on which fungicide products might work best for the diseases you intend to manage,

the Fungicide Efficacy for Control of Soybean Foliar Disease publication on the Crop Protection Network can

provide information that will help with that decision.

Plan a trip to the Kentucky State Fair...

The Kentucky State Fair runs August 18- 28, 2022 at the Kentucky Fair and Exposition Center in Louisville, Kentucky. Gates open at 7 a.m. each day. The Kentucky State Fair is a tradition for generations of families across the Commonwealth and beyond.

The State Fair offers lots of educational and entertaining exhibits, fun filled attractions, top of the line concerts, a World's Championship Horse Show, rides and my favorite- the fair food. There are also plenty of other activities all designed to create memories for friends and families. All of the concerts are free with paid gate admission.

The Kentucky State Fair hosts 4-H projects from across the state in "Cloverville." Cloverville is the village-like area where all non-



livestock 4-H Exhibits are displayed during the fair. Cloverville consists of 18 divisions where 4-H'ers can showcase their projects.

In order to exhibit a 4-H project, 4-H'ers must first qualify on the county level. Kentucky 4-H believes that all youth should have opportunities for positive youth development in four guiding concepts: mastery, belonging, independence and generosity. The Kentucky State Fair 4-H events demonstrate a 4-H'ers level of mastery in project work through completion of displayed items.

Cloverville is located in the South Wing of the Kentucky Fair and Exposition Center and will be a part of the fair's AgLAND Exhibit. AgLAND will include more than an acre of agriculture exhibits which will highlight Kentucky's farm and field heritage, including the future of farming and agribusiness through 4-H and FFA exhibits. AgLAND is brought to you by Kentucky's Farm Families and the Kentucky Department of Agriculture.

So why not plan a trip to this year's Kentucky State Fair? The Kentucky Fair and Exposition Center is one of the 10 largest facilities of its kind in the US. It features 1.3 million square feet of contiguous exhibit space and includes about 30 acres that are under roof and air conditioned. You can visit the website to see the daily schedule and maps. There is also an

Tires make a difference in alfalfa fields

Mike Rankin, Hay and Forage Grower

Alalfa has always been a crop that is more than happy to tell you when it's hurting. There's the distinctive "hopperburn" from potato leafhoppers, a funky looking "shepherd's hook" caused by anthracnose, and those characteristic leaf margin spots brought on by potassium

deficiency, just to name a few of the ways alfalfa informs us that it needs an intervention.

As farms, fields, and equipment have become larger, we now see another common sight — the slow green up or browning where tires once rolled less than 10 days earlier. This never used to be a problem. So, what gives?

Researchers at the University of Wisconsin-Madison offer some insight into what is happening in our alfalfa fields in the bulletin *How much ground pressure am I applying with my different tire and vehicle configurations?*

The ground pressure as a function of vehicle type and weight was determined for common hay harvesting equipment (see Figure 1). Semitrucks and trailers and box trucks equipped with highway tires offered significantly greater ground pressure than any of the agricultural equipment. This was because of the narrow footprint of road tires and their high tire inflation pressures.



Semitrucks and trailers are extremely efficient moving forage from the field to the storage facility. Using a tractor and forage box or a box truck equipped with highway tires have similar efficiencies, but the former will result in applying less ground pressure than the

latter. Of the agricultural vehicles, the highest ground pressure was caused by pull-type mergers, even though these are only half the weight of some forage choppers. Most mergers carry all of their weight on two tires.

The agricultural engineers emphasize that tire pressure is a large factor affecting the applied ground pressure, and that it's a linear relationship.

latter.

Many forage producers who have realized the excessive damage being caused by highway tires on either semis or box trucks are equipping their vehicles with flotation-type tires rated for field or highway use. These specialized tires require lower air pressure and are wider to help distribute weight over a larger area.

Previous research has demonstrated that alfalfa yield loss from wheel-traffic can be caused by both soil

compaction and the breaking off of new stem tillers. The latter issue is why more damage is done when there is an extended time between mowing and chopping or baling.



Wider, flotation-type tires on semitrucks and trailers help to mitigate some of the wheel track damage caused by highway tires.

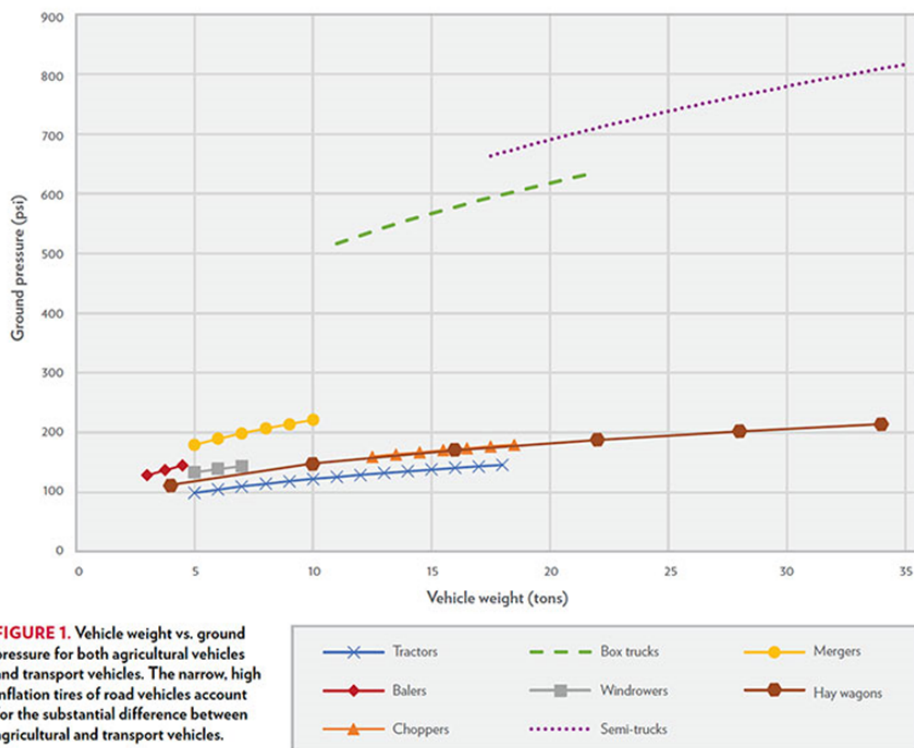


FIGURE 1. Vehicle weight vs. ground pressure for both agricultural vehicles and transport vehicles. The narrow, high inflation tires of road vehicles account for the substantial difference between agricultural and transport vehicles.

The agricultural engineers offer the following recommendations to mitigate wheel-track damage to alfalfa fields:

- Equip trucks and semitrailers with flotation-type tires rated for both highway and field use. Avoid using highway tires for field use.
- Utilize tractors, grain carts, and dump carts as much as possible and transfer the harvested crop to trucks at the edge of the field, especially if soils are wet.
- Identify and maintain “in-field roads” during harvest and limit field travel to those locations as much as possible.
- Follow the tire manufacturer’s recommendations and specifications for tire inflation.

Tips & Tidbits

Calculating Winter Hay Needs

- Horse owners need to plan for the hay needs for the upcoming winter-feeding period.
- Mature and low-maintenance horses consume 1.5 to 2 percent of their body weight per day.
- Growing horses, nursing mares, and horses with heavy work or exercise will eat 2.5 to 3 percent of their body weight.

Registering Foals

Breed registries have specific regulations, so research the breed you are interested in and make sure you are able to meet all of the regulations.

You will need to know:

- Age to register a foal for cost savings
- Required information about artificial insemination or assisted reproductive practices
- Who is responsible to register the foal (mare owner or recorded lessee)
- Accurate color and markings

In addition:

- Be prepared to send the required photographs of correct views and of suitable quality.
- Sign all certificates and send with correct fees included.

Check with the registry if you are unsure of any of its regulations.

Farrier

- Find a reliable farrier in your area and arrange for them to work on your horses as needed.
- Most horses require hoof care every 6 to 8 weeks, either in the form of trimming or shoeing.
- Remember that regular foot care *to prevent* a problem is easier than trying to *fix* a problem.

Testing Hay

- After determining the amount of hay you need and locating a source, test the hay to determine the nutrients available (minimum testing to include: *dry matter, digestible energy, crude protein, acid detergent fiber, and neutral detergent fiber*).
- Take an average of 20 random core samples from a lot of hay to determine the average quality. Most extension offices have hay probes that are available for loan.
- Package correctly and send to either a certified lab or the Kentucky Department of Agriculture forage testing division (1-800-248-4628).

Consult with your county extension agent for agriculture on how to properly interpret the results.

See UK College of Agriculture, Food and Environment publication *Interpreting Forage Quality Reports (ID-101)* for more information. <https://afs.ca.uky.edu/publication/interpreting-forage-quality-reports-id-101>



UK
 College of Agriculture,
 Food and Environment
 Cooperative Extension Service

Managing Kentucky's Most Common Lawn Pest

Source: Jonathan Larson, UK Entomology Assistant Professor of Extension



With summer in full swing, lawn and garden care are top priorities for many homeowners.

However, pests can be a real hinderance to the success and health of your lawn and garden. The most common lawn pest group in Kentucky are white grubs. While having some grubs in your lawn is normal, too many can make for dead turf by the end of summer, so it is important to know the signs of these pests and ways to prevent or control them to keep your lawn and garden in tip-top shape.

The most common sign of white grubs is browning turf or turf that easily rolls back like a rug. Typically, the worst white grub damage happens in late summer or early fall, so make note of the time of year you're seeing these signs to see if they align with white grub behaviors.

If you do notice these signs during the peak grub damage times, you can check your turf to confirm that white grubs are the culprit. It is normal to

find some grubs in your turf, however, eight or more grubs per square foot is a problem.

Identification of white grubs depends on the raster pattern, the arrangement of bristles and hairs on the underside of the tip of the abdomen. To see this pattern, you will likely have to use a magnifying glass. You can easily find charts for matching this pattern to a specific grub online.

Preventative treatments are one option for controlling grubs, but you must apply them before damage occurs. The optimal time for applying preventive treatments to your lawn or garden is May to mid-July.

Preventive grub insecticides include neonicotinoids like Imidacloprid (Merit), Clothianidin (Arena) and Thiamethoxam (Meridian) or anthranilic diamides like Acelepryn and GrubEx.

It is important to note that while Acelepryn is common for managing grubs, it is not a curative product; you should only use it in the preventative capacity.

You should apply rescue treatments only after damage has already occurred. Once grubs are large, you should not expect more than 75% control. There are a few



4-H KIDS DAY AT THE FAIR!

Monday, September 5

11:00 a.m. – 2:00 p.m.

Brad Eickhoff, The Magician

(Show at Noon–Entertainment Stage), then strolling magic in the courtyard!

- Face Painting!
- Games!
- Crafts!
- and more!



TELL YOUR FRIENDS!

Fixtures and Farm Leases- Southern Ag Today

Christopher Clark, University of Tennessee Institute of Agriculture

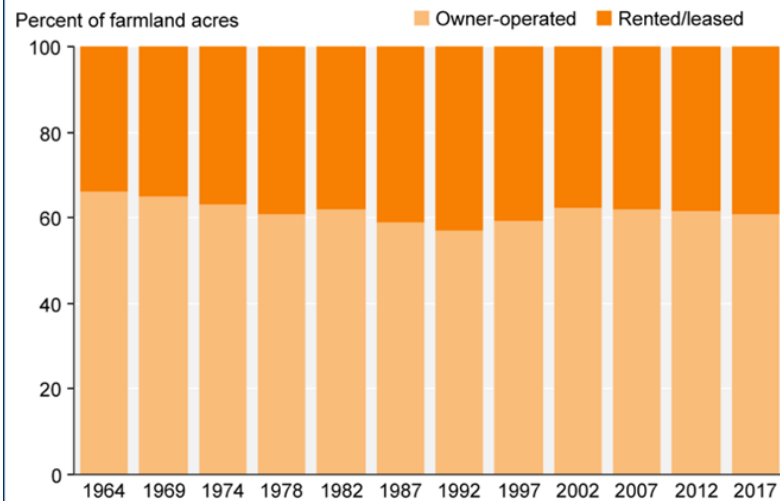
Farm tenants often make improvements to the farm they are leasing. Building or repairing sheds or barns are an example, as is a tenant purchasing and installing irrigation equipment. However, before doing so, tenants should consider the legal status of these investments. This issue is important as almost 40% of U.S. farmland is rented/leased (Figure 1).

Legally, property comes in two forms, real and personal. Real property is land and everything growing upon or attached to it. Personal property is essentially everything else. A fixture, however, is personal property that becomes real property by being incorporated into or attached to real property. Figure 2 provides an illustration of these concepts.

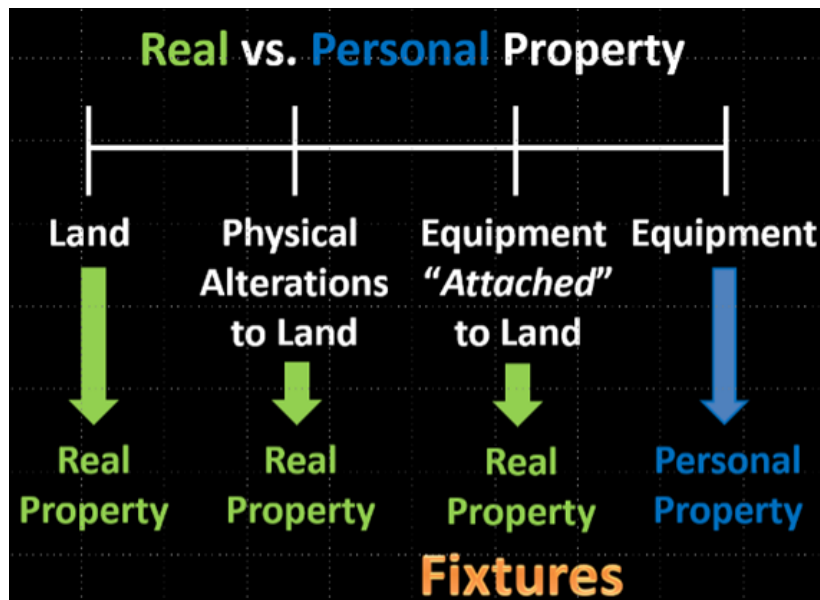
Whether an improvement qualifies as a fixture is important because fixtures are owned by the owner of the real property to which they become attached, regardless of who owned them before they were attached. Absent an agreement to the contrary, a landowner is entitled to keep fixtures at the end of a lease. Further, a tenant's insurance may not cover a fixture, and if the landowner has a mortgage, the landlord's lender may have a security interest in it, while the tenant's lender may not.

Courts typically consider three factors when determining whether personal property has become a fixture. The first is whether the object is physically or constructively attached to real property. Constructive attachment occurs when the object comprises a necessary, integral, or working part

Ownership of U.S. farmland: owner-operated or rented/leased, 1964-2017



Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service, Census of Agriculture, various years.



of another object that is physically attached to real property. The second factor is whether the object is adapted to the use of real property. Thus, the more useful an article is to normal operations conducted on the property, the more likely it is to be considered a fixture. However, the most important of the three factors is whether there is evidence that the tenant intended to attach the object permanently.

Courts are likely to presume such intent if removing the object would cause material injury to the real property or other fixtures. However, the best evidence of the parties' intent is a provision in a written lease specifically stating who owns the improvement and what is to happen to it at the end of the lease. Tenants who make improvements without such language risk losing ownership and control of those improvements.

New Tick-transmitted Cattle Disease Detected in Tennessee

By Ric Bessin and Jonathan Larson, Entomology Extension Specialists

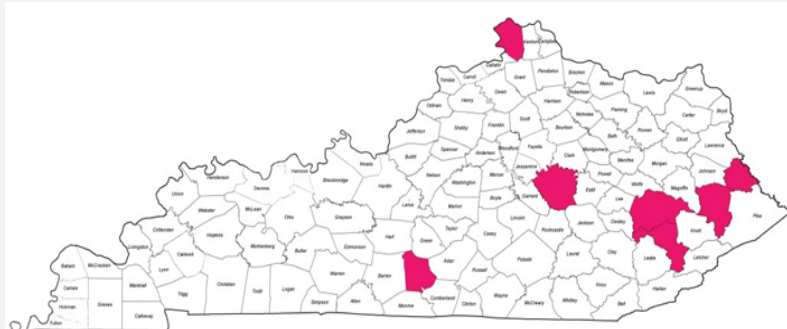


Figure 1. Kentucky Counties with confirmed Asian longhorned tick reports.

Last week, on June 10, a herd of cattle in central Tennessee was reported to have *Theileria orientalis* Ikedia, a protozoan disease vectored by the invasive Asian longhorned tick. This protozoan attacks red and white blood cells and causes bovine infectious anemia, lethargy, weakness, and possibly death in up to 5% of infected cattle. Cattle that recover can become carriers for the life of the animal. There is currently no vaccine or treatment for *T. orientalis*.

The Asian longhorned tick is a carrier (vector) of *Theileria orientalis*. To date only seven Kentucky counties (Boone, Breathitt, Floyd, Martin, Metcalfe, Madison, and Perry) have had confirmed Asian longhorned tick samples, but it is likely that other Kentucky counties may have introductions of this invasive tick as it continues to spread. Currently, the strategy is to monitor herds, regularly inspect for ticks, and manage ticks as necessary. Once Asian longhorned tick is confirmed in an area, management for this tick will be a continuing process focused on habitat management and on animal treatments.

Fortunately, this bovine disease is not a threat to human health. Humans cannot become sick from contact with infected animals or from consuming meat from affected animals, provided that the meat has been cooked to the appropriate temperature.

Cattle producers can help to minimize Asian longhorned tick exposure risk by keeping cattle out of wooded areas, mowing pastures regularly (particularly those near wooded areas), and cutting down on brush accumulation. Ticks don't like to be exposed to the sun, so tall grass and brush favors tick survival. Regular tick checks of cattle can also help to intercept Asian longhorned tick and possibly curtail spread of this pathogen. When inspecting cattle for ticks, check on the head and neck, flanks and back, armpits, groin, and under the tail.

More information on this report from Tennessee and specific recommendations for cattle producers can be found in the news release from the University of Tennessee Institute of Agriculture.

Kentucky is famous for its horses, bourbon, and Bluegrass, but there are a few other things going on that Kentucky is famous for, including its agriculture history and farming. As with any tradition, over time things change — some improve and become more efficient, resulting in increased demand. This is exactly what has happened with farmers with small-scale production of fish and flocks of chickens. Throughout agriculture history in the U.S., many families maintained small back-yard flocks for egg production and eventually Sunday dinner. Over time, these flocks became more efficient and easily expanded to now sell eggs locally and eat more chicken. With more chickens being produced locally, there was an increase in demand for locally available chickens direct to the consumers. When the local consumers wanted more local meat, there was the identification of a huge bottle-neck between the producers and the market: a USDA-approved processing facility. The USDA oversees all processing of meat and poultry and requires any slaughter and processing to be done in a certified facility. Kentucky had several slaughter and processing facilities in the Commonwealth; however, to have a small producer take 20-50 birds to a USDA-inspected facility with transport and travel cost, they were priced out of the competitive market. So about 20 years ago, a group of people from KDA, KSU, UK and Heifer International came together to solve the problem, and the Mobile Processing Unit (MPU) was born.

KY Mobile Processing Unit

Making Kentucky Proud

Angela Caporelli, Aquaculture Marketing Specialist, KDA

The development of the MPU allowed small poultry and fish producers to bring their production to a clean, certified facility to process their products and be able to sell retail. The fact that now producers could process and sell products locally allowed several farmers to expand their markets and, in turn, expand their production and flocks, until eventually the producer had the market and products to take a full load to a USDA-inspected facility under a price point that was competitive.

A number of farmers started small, expanded by using the MPU, and graduated to commercial processing. The number of producers transitioning to commercial processing has grown every year since 2002 and continues to increase. This trend has been recognized by several states across the U.S., and the model developed by the MPU management team has been copied and implemented in several states to assist small farmers. All thanks to the Kentucky MPU.

Kentucky is also well known for a little ingenuity and technology development that has helped farmers across the U.S. sell fish and poultry legally and safely.

For more information or to utilize the Mobile Processing Unit at Kentucky State, contact Steve Skelton at steven.skelton@kysu.edu (502) 597-7501.



REGISTER NOW:

<https://bit.ly/3IV4Zgk>

- Registration is limited to 20 participants.
- Registration is \$50 per household
- Participants will receive fecal floatation and fecal egg count starter kits. The kits will include all things needed except the microscope to do these tests.

ONLINE PRESENTATIONS:

- Sept. 19: Parasitology 101
- Oct. 3: Dewormers and Treatment Strategies
- Oct. 17: Rotational Grazing for Parasite Prevention

IN-PERSON WORKSHOP: OCTOBER 21, 2022

Harold R. Benson Research and Demonstration Farm | 1525 Mills Lane, Frankfort, KY 40601

1 - 4:15 p.m. EST

- Q & A
- Body Condition Scoring and FAMACHA Presentation
- Fecal Flotation and Fecal Egg Count Presentation
- Hands-on Workshops for FAMACHA and Fecal Egg Counts



This institution is an equal opportunity provider.

Reasonable accommodations for individuals with disabilities will be provided free of charge upon request. Language access services for limited English proficient individuals will be provided free of charge upon request. Please contact Jerusha Lay at jerusha.lay@kysu.edu. All requests should be made by October 10, 2022.

Managing Mosquitoes in Kentucky

By Zachary DeVries, Entomology Extension Specialist

Eliminate Breeding Sites

Mosquitoes need quiet, non-flowing water for their development and periodic summer storms provide just such conditions. Eliminating large sources of standing water may require community-wide effort. Nonetheless, homeowners can take steps to prevent mosquitoes from breeding on their property:

1. Dispose of old tires, buckets, aluminum cans, plastic sheeting, or other refuse that can hold water. Empty accumulated water from trashcans, boats, wheelbarrows, pet dishes, and flowerpot bottoms, and if possible turn them over when not in use.
2. Clean debris from rain gutters and unclog obstructed down spouts. Clogged or damaged rain gutters are one of the most overlooked mosquito breeding sites around homes (not to mention, associated water damage can lead to other pest problems such as termites or carpenter ants)
3. Change water in birdbaths and wading pools at least weekly, and keep swimming pools clean, chlorinated, or covered when not in use. Ornamental pools can be aerated or stocked with mosquito-eating fish. Aeration and water movement helps because mosquitoes prefer quiet, non-flowing water for egg laying and development.
4. Fill or drain ditches, swampy areas, and other soil depressions and remove, drain or fill tree holes and stumps with mortar to prevent water accumulation. Eliminate standing water and seepage

Mosquito season is in full swing throughout the Commonwealth. Mosquitoes are a perennial nuisance for which there is no easy answer. As summer continues, there will be lots of information (both good and bad) about what works and what doesn't. The following measures can afford some relief.

around animal watering troughs, cisterns, and septic tanks. Be sure cistern screens are intact and access covers fit tightly.

Larval Control

Use of a mosquito larvicide can be beneficial when it is impractical to eliminate a breeding site. Larvicides are insecticides used to control immature mosquitoes before they have a chance to develop into biting adults. Most larvicides sold to homeowners contain either the ingredient methoprene or the bacterium *Bacillus thuringiensis israelensis* (Bti). Neither active ingredient is harmful to fish, waterfowl, pets, or humans when used according to label directions.

Homeowners can purchase the methoprene-based larvicide, PreStrike™. Several products containing the mosquito-specific

bacterium, Bti, are also sold to homeowners, such as Mosquito Dunks® and Quick Kill® Mosquito Granules. These products can typically be found at local hardware stores or online. When using any insecticidal product, always read and follow directions on the label.

Adult Control

Adult mosquitoes prefer to rest in moist, shady areas, such as dense vegetation, during the daytime. Consequently, homeowners should remove tall weeds and overgrown vegetation from their yards. To further reduce intolerable levels of biting adult mosquitoes, residual insecticides can be applied to shrubs, hedges, and other shaded areas, such as under decks and along foundations. Residual mosquito sprays are often best applied by professional pest control firms, with the training and experience to safely and effectively apply these pesticides. When applied incorrectly, these products can be dangerous to the applicator and ineffective at controlling mosquitoes.

Exclusion

Mosquitoes can be kept out of homes by securely screening windows, doors, and porches. The occasional mosquito found indoors can be eliminated with a fly swatter. Aerosol-type insecticides labeled for mosquitoes, gnats, and other flying insects seldom provide much relief.

Topically-Applied Repellents

Repellents will help prevent bites when spending time outdoors. Traditionally, the most effective mosquito repellents contained the active ingredient diethyltoluamide (DEET) ranging from 5% to 40%. Higher

percentages of DEET in the ingredients provide longer protection. Low - percentage formulations (10% or less) are suitable for shorter periods outdoors (e.g., a few hours), and are recommended for use with young children.

Two additional mosquito repellent ingredients are also available, specifically Picaridin and lemon eucalyptus oil (30% Repel Lemon Eucalyptus). Unlike DEET-based repellents, Picaridin is essentially odorless and lemon eucalyptus oil has a lemon scent. For many people, these DEET-alternative have a more pleasing feel on the skin. Always read and follow directions on the container.

Other Control Possibilities

Many consumer products claim to attract, repel, capture, or kill mosquitoes. Most of these devices do not appreciably reduce mosquito abundance or incidence of bites, or else their claims are unproven.

1. Electrocuting devices or “bug zappers” using ultraviolet light as an attractant are generally ineffective in reducing outdoor populations of mosquitoes and their biting activity. Studies indicate that mosquitoes make up only a tiny percentage of the insects captured in such traps. The majority are moths, beetles and other harmless night flying insects.



2. Mosquito traps utilize carbon dioxide, warmth, light, and various chemicals (e.g. octenol) as attractants and claim to capture tremendous numbers of adult mosquitoes. Such devices can be quite expensive. Performance claims to the contrary, such traps seldom have been shown to reduce populations of biting mosquitoes on one’s property, or the frequency of bites. In some situations, they could even attract more mosquitoes into the area they were meant to protect.

3. Portable electronic devices using high frequency, ultrasonic sound routinely appear in advertisements, claiming to keep mosquitoes and other pests at bay. Some supposedly repel mosquitoes by mimicking the wing beat frequency of a hungry dragonfly. Scientific studies have repeatedly shown these devices to be of negligible benefit in deterring mosquitoes and reducing bites. Save your money, as these devices seldom, if ever, provide any appreciable measure of protection.

4. Citronella oil does have mosquito-repelling properties and the scented candles can provide some protection. For maximum effect, use multiple candles placed close (within a few feet) of where people are sitting. A single candle located at the center or edge of a picnic blanket probably will not provide much benefit

other than atmosphere. Mosquito-repellent plants, garlic, and other oft-advertised botanical products generally are ineffective.

5. Bats and certain types of birds (e.g. purple martins) are often cited as effective natural agents for managing outdoor mosquitoes. Conservation groups and nature magazines often suggest building bat and birdhouses on one’s property to promote nesting and to protect against mosquitoes. Although insectivorous bats and birds do eat mosquitoes, they make up only a very small portion of their natural diet. Much like the mechanical “bug zappers,” bats and birds capture all manner of other flying insects also. Efforts to colonize and conserve these animals should not be done with the primary intent of diminishing biting mosquitoes.

When it comes to managing mosquitoes, a good rule of thumb is: if the approach or device sounds too good to be true — it probably is.

Pricing Hay for Profit

Kelley, Ken, Adam Rabinowitz, Max Runge, and Wendiam Sawadgo. *Southern Ag Today*

Hay production is one of the largest and most economically significant agricultural enterprises in Alabama with 700,000 acres farmed producing 2,170,000 tons of product valued at \$217,000,000 (USDA-NASS). Hay is used as livestock feed for cattle, horses, and small ruminants. Hay can also be used as bedding, mulch, decoration, and numerous other uses. Price ranges for hay sales often depend on variety baled, the size and structure of bales, and the quality of the bale.

Prices of inputs used in agricultural production have increased in 2022 throughout the United States. Fertilizer, chemical, and fuel costs have increased significantly, leading to even more questions as to how producers should price hay to their hay consumers (and likewise what livestock producers should be willing to pay). The costs of nitrogen, phosphate, and potash used to produce a round bale of bermudagrass hay has increased 95% from May 2021 to May 2022.

Know Cost of Production

Hay producers must know their cost of production, including both fixed and variable costs. They must also determine the minimum profit margin they are willing to accept for their product. Both cost of production and acceptable profit margin will vary greatly among producers and careful consideration should be given to both.

Cost of production can be broken down into two segments: variable costs and fixed costs. Variable costs are the costs that change as our production changes, such as fertilizer. Variable costs only occur if

Inputs	May 2021	May 2022	Percent Increase
Nitrogen	\$18.75	\$36.50	95%
Phosphate	\$3.04	\$5.13	69%
Potash	\$6.50	\$13.67	110%
Total	\$28.29	\$55.30	95%

we produce. However, as producers increase production, the amount of nutrients removed from the soil will also increase and therefore the cost of maintaining production and fertility will increase significantly.

Based on the ACES Enterprise Budgets for round bale bermudagrass hay, variable cost of production has increased 64% from May 2021 to May 2022. While this is driven primarily from higher fertilizer prices, one can see that all other costs, except the price of the soil test, has increased. We estimate the 2022 variable cost of production to be \$71.88 per 1000-pound bale, up from \$43.87 in 2021.

Inputs	2021	2022	Percent Increase
Soil Test	\$0.08	\$0.08	0%
Nitrogen	\$18.75	\$36.50	95%
Phosphate	\$3.04	\$5.13	69%
Potash	\$6.50	\$13.67	110%
Herbicide	\$0.57	\$0.62	9%
Lime	\$1.17	\$1.31	12%
Labor	\$7.28	\$7.69	6%
Land Rent	\$1.91	\$2.00	5%
Tractor & Equipment	\$3.65	\$3.95	8%
Interest on Operating Capital	\$0.92	\$0.93	1%
Total Variable Cost	\$43.87	\$71.88	64%

Fixed costs on the other hand will occur whether producers are actively farming or not. An easy example of fixed costs would be land taxes and depreciation – both of these happen whether the producer spreads fertilizer, cuts hay, or doesn't do anything. Producers should take into account all of the equipment, land, tax, insurance and other fixed costs

that are often ignored when budgeting costs for hay production.

Consider Profit Margins

There are factors beyond the cost of production that also need to be considered when pricing hay. The profit margin that producers are willing to accept is a necessary consideration. Margins can be a percentage of costs or a dollar value per unit of production and is based on the amount of profit one expects or needs on a given enterprise unit. This will vary significantly by producer and situation. Ultimately each producer must assess his own cost of production and his own acceptable profit margin when pricing their hay – and each producer might be different than his neighbor.

While a price should first consider the cost of production and profit margin, one must also consider what consumers will be willing to pay.

Purchasers of hay are going to consider alternative feeds and the relative price of those alternatives. If the price of alternatives has not increased much, consumers may be willing to switch to other products. Calf prices will dictate what a buyer is willing to pay. Competing products may also simply be hay from an alternative seller in a neighboring county or farther geographic location. Long-term relationships with buyers may also be circumstances where a producer may choose to limit their expected profit margin to keep current customers happy. Finally, dry weather that may reduce current or expected future supply of hay will lead to higher prices.



Cabbage Jambalaya

Servings: 10

Serving Size: 1 cup



Ingredients:

- 1 pound lean ground beef
- 1 1/2 cups chopped celery
- 1 1/2 cups chopped onion
- 2 cloves garlic, minced
- 1 (13 ounces) package turkey smoked sausage, sliced
- 1 medium head cabbage, chopped (about 10 cups)
- 1 (14.5 ounces) can diced tomatoes
- 2 cups water
- 1 cup brown rice
- 1 teaspoon garlic powder
- 1 tablespoon Cajun seasoning

Directions:

1. Heat a large stockpot over medium high.
2. Add ground beef, and cook until it starts to brown, about 6 minutes.
3. Add the celery, and cook for 2 minutes.
4. Add onion and garlic, and cook 4 minutes while stirring.
5. Add smoked sausage, and cook an additional 2 to 3 minutes.
6. Stir in cabbage, and cook until it wilts, about 3 minutes.
7. Add tomatoes, water, rice, garlic powder, and Cajun seasoning.
8. Bring to a boil, and reduce heat to medium.
9. Cover and simmer for 40 minutes. Serve hot.

Nutrition facts per serving:

250 calories, 8g fat, 3g saturated fat, 60mg cholesterol, 400mg sodium, 26g carbohydrate, 4g fiber, 6g sugars, 0g added sugars, 18g protein

Source: [Phttps://fruitsandveggies.org/](https://fruitsandveggies.org/) • Publication - ID-128, Home Vegetable Gardening in Kentucky, Cooperative Extension Service, University of Kentucky, College of Agriculture. Plate it up! Kentucky Proud Project.

Broomsedge is talking: Are you listening?

By Mike Rankin



Among humans, most communication is accomplished by speaking or writing. However, there's a whole world of science that studies what is called nonverbal communication. This is communication we convey simply by making certain body movements — a raised eyebrow, a slouched posture, a hand gesture, or a purposeful facial expression.

Unlike humans, plants have no choice but to speak to us using nonverbal communication. They wilt, turn various colors, contort with abnormal growth, or grow by leaps and bounds. As a farmer, analyzing our crops to see what they are telling us is an inherent and necessary activity.

There are some plants that speak to us simply by being present. Broomsedge is one of them.

It's rare that you find broomsedge, a warm-season perennial grass, in a pasture or hayfield that has been well-managed for multiple years. It generally only grows where the population of desirable forage plants is low, or the preferred forage crop is unthrifty because of low soil fertility. In other words, broomsedge exploits the misfortune of other species.

This topic wouldn't be worth writing about if the broomsedge problem was uncommon, but it's not. Broomsedge is relatively easy to spot where it is adapted. In late summer and fall, its tall, tan stalks stick out like a guy wearing a sport coat and tie at a forage field day.

The situation might not be so bad if broomsedge offered some feeding value, but it doesn't. The plant is mostly stalk and fluffy seedhead. No selective herbicide will take it out

and leave only desirable cool-season grasses.

To eliminate broomsedge is to simply identify the problem that caused its presence in the first place. Below is a list of practices that, if followed, will have your pastures and hayfields broomsedge-free, or at least nearly so.

Get soil fertility into an optimum range. Often, the reason for a broomsedge infestation is a lack of soil fertility, especially in hayfields. It may be a low soil pH, or more often deficient

levels of available phosphorus and/or potassium. There have been **many examples** of near broomsedge elimination simply by getting soil fertility up to speed.

If adding commercial fertilizer or manure/litter isn't feasible from an economic standpoint, strategically feed hay on broomsedge-infested pastures. The combination of hay waste, manure, and urine deposition will improve soil fertility, but it will take a few to many years. Strategic **winter bale grazing** or rolling bales out on winter pastures will also help rectify soil fertility issues.

Adjust your grazing strategy. Implement some form of rotational grazing that will favor desirable species and evenly spread manure and urine. Giving cool-season grasses adequate rest intervals will help plants outcompete the broomsedge, especially in the

fall. Broomsedge seedlings are not very competitive. Again, anything that can be done to encourage the growth of desirable species will inhibit the presence of broomsedge.

Clip pastures. Clipping pastures will both weaken broomsedge plants and open the canopy for more desirable forage growth. It's generally recommended to clip pastures when the brown broomsedge seedheads first appear and then again in the early fall to help weaken the plants going into winter. Clipping won't eliminate broomsedge immediately, but over time there will be a reduction in the number of plants.

Apply nitrogen. Use nitrogen fertilizer to encourage the growth of the cool-season grasses such as tall fescue. This can be done after the first clipping in late summer to encourage fall grass growth.

Interseed more grasses. If the problem is a thin stand of grass, but soil fertility is still adequate, interseeding grasses to thicken the stand will be beneficial. Remember, this is a war of competition.

Start over. If stands are extremely thin, it may be best to simply spray the entire pasture or hayfield with a nonselective herbicide and reestablish

the field. Again, make sure soil fertility is at optimum levels before reseeding or the same broomsedge problem will persist.

Wherever broomsedge exists, it's telling you there's a problem. Fix the

problem(s) and the broomsedge will disappear. This has been shown to be true in many production and research fields over the years. Broomsedge talks with nonverbal communication; we just have to listen.



UNDERSTANDING RURAL AND FARM STRESS AND THE NEUROLOGIC IMPACT OF STRESS

WEDNESDAY, AUGUST 17
7 – 8 P.M.

REGISTER TODAY!

OBJECTIVES:

- Identify rural mental health challenges.
- Recognize stressors among farming populations.
- Distinguish the effects of stress.
- Discuss the impact of self-care in farming populations



BIO:

Dr. Paul Norrod is an Extension Specialist for Rural Health and Farm Safety in the UK College of Agriculture and an Instructor in the College of Nursing. In addition to his work at UK, Paul is a Board Member for the Kentucky Nurses Action Coalition and serves on the KNA's Education and Research Cabinet. His research and education coupled with his nursing experience provides him a unique understanding of rural populations, stress, and suicide. With over 20 years of experience, education, and training, Paul's primary focus is reducing stress and preventing suicide among Kentucky's rural and farming communities.

Contact Hours: 1.2
KBN# 1-0001-12-22-132

Attendees must stay for duration of this program to be awarded contact hours for continuing nursing education, provide license number upon registration and complete an evaluation for the program. Partial credit will not be awarded for any session. We reserve the right to cancel or alter the program if unanticipated circumstances necessitate changes. The Kentucky Nurses Association is an approved provider of continuing nursing education by the Kentucky Board of Nursing (KBN). The KBN approval of an individual nursing continuing education provider does not constitute endorsement.

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.

CAMPBELL COUNTY COOPERATIVE EXTENSION SERVICE

OPEN HOUSE



Discover Extension

Saturday

September 10, 2022

10:00 am - 2:00 pm

Activities for everyone...

- Tour the Beautiful Garden
- Activities for Children
- Complimentary Gifts
- Farm animals on display
- Educational Demonstrations
- Food and drinks available



COMMUNITY! CELEBRATION!

Campbell County Cooperative Extension Service



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

*Save
The Date!*

Campbell County Cooperative Extension Office
3500 Alexandria Pike | Highland Heights, KY 41076
859-572-2600