Campbell County Extension Service

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

The FARMACY

"Agriculture is our wisest pursuit because it will in the end contribute most to real wealth, good morals and happiness"

- Thomas Jefferson -

Agriculture & Natural Resources Newsletter

Winter 2023

UK Beef Management Webinar Series

Registration is necessary, please send an email to dbullock@uky.edu with Beef Webinar in the subject line and your name and county in the message. You will receive the direct link with a password the morning of each meeting. This invitation will directly link you to the site and you will be asked for the password which can be found just below the link. Each session will be recorded and posted for later viewing. All meeting times are 8:00pm ET/7:00pm CT.

January 9, 2024

Management decisions that impact reproductive efficiency in beef herds - *George Perry, Professor, Texas A&M University*

February 13, 2024

What's the Cost of a Cheap Mineral - *Katie VanValin, Assistant Extension Professor, University of Kentucky*

The Campbell County Cattle Association hosted their annual meeting at the Environmental Center and enjoyed a wonderful roast beef dinner. Kentucky Cattleman's Association President, Andy Bishop (pictured above), spoke to the group about how the Beef Check-Off dollars are used to promote beef to consumers but also to fund research that has discovered new retail cuts of beef. Mr. Bishop encouraged farmers to call their legislators in Frankfort to provide opinions and feedback to support beef farmers when ag related issues arise. Jarred Martin and Danny Geiman were elected to the Board of Directors. The CCCA will be sending delegates to the KCA Convention in January to participate in the regional meetings- CCCA is eligible to send three voting delegates. The number of eligible delegates is based on the county membership numbers- the more members, the more eligible delegates and more voters from Campbell County!

Wishing you Happy Holidays!

The Campbell County Extension Office will be closed December 25th thru January 1st.

Upcoming events:

Jan. 11-12
Kentucky Cattleman's Association Convention– Lexington, KY
(see flyer on page ?)

Jan. 15 OFFICE CLOSED
Martin Luther King Jr. Day

Jan. 16 - 6pm
Ag Issues Discussion - EEC

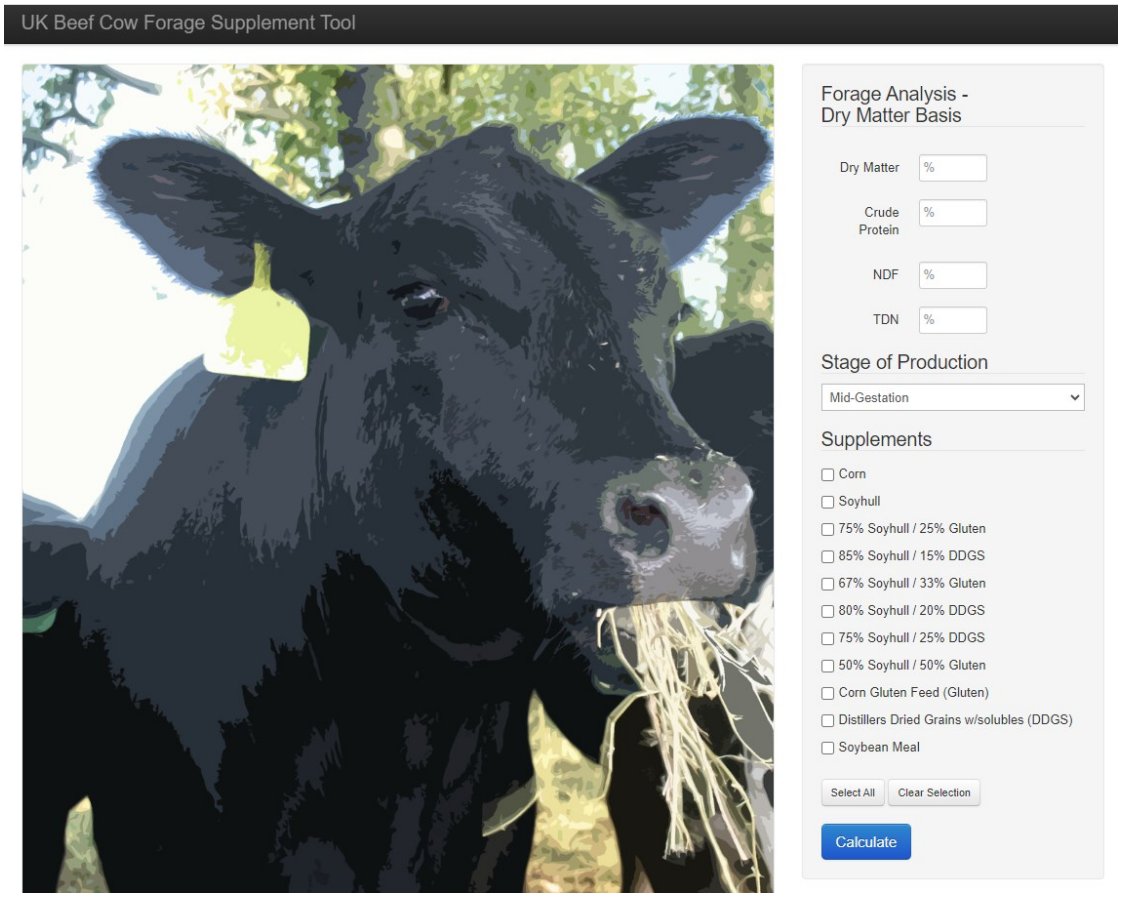
Jan. 20 -
Northern Kentucky Horse Network Annual Meeting– Boone County Extension

Jan. 29 - 6pm
County Extension Council Meeting- Volunteer Recognition

Michelle Simon
Campbell County Extension Agent
for Agriculture and Natural Resources

Winter Feeding Check-Up and Using the UK Beef Cow Forage Supplement Tool

Kevin Laurent, Extension Specialist, University of Kentucky

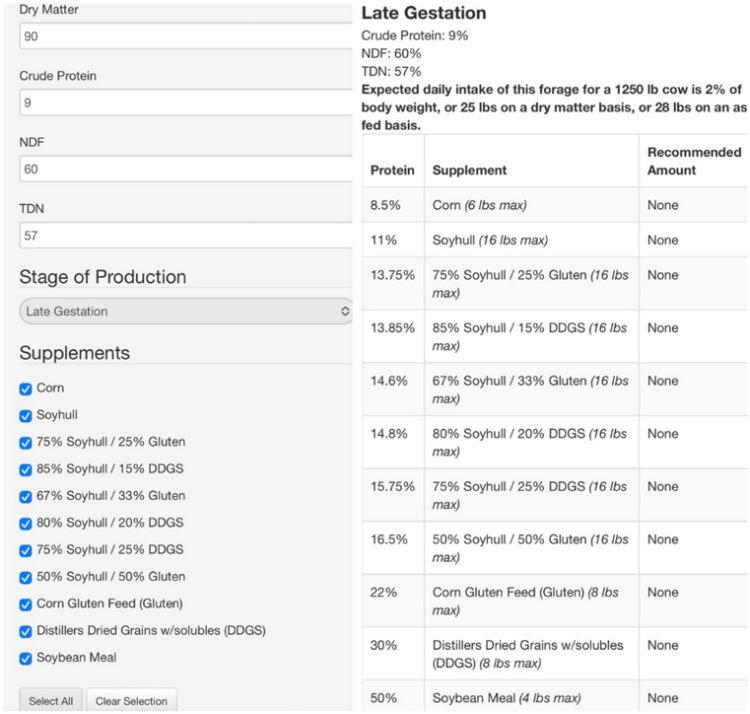


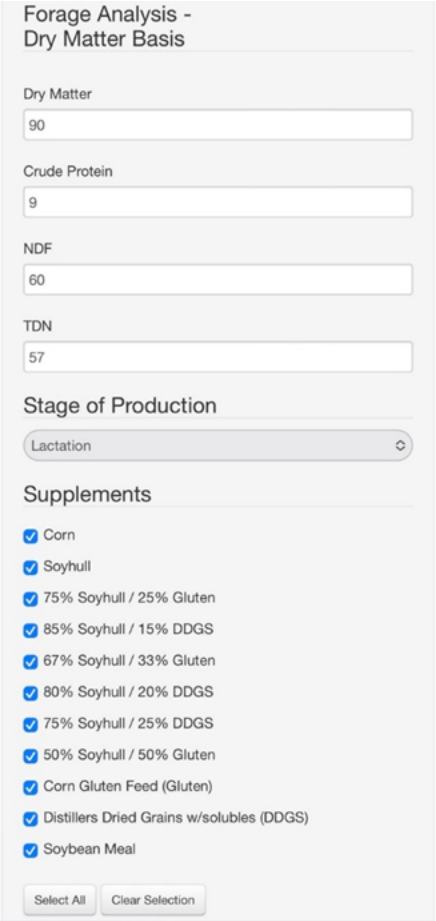
Test your hay, weigh a few rolls, and use the UK Beef Cow Forage Supplement Tool
https://forage-supplement-tool.ca.uky.edu/

It is not too late to test your hay. With winter feed costs accounting for most of the cow-calf budget, knowing the nutritive value of your hay and how to adequately supplement is imperative. Hay analysis results can be entered in the UK Beef Cow Forage Supplement Tool which is a web-based app that can be loaded on a smart phone. The app uses dry matter, crude protein, neutral detergent fiber (NDF), and total digestible nutrients (TDN) to estimate intake and supplementation

Winter feeding is in full swing and for operations in the drier regions of the state, hay feeding has been going on for quite some time. So, depending on your particular situation, now might be a good time to reevaluate and fine tune your winter feeding program.

Inventory your feed resources. By now you should have an idea of how readily cows are consuming the hay you have offered. With roughly 120 days of feeding left to go, take inventory of hay on hand, and determine if supplies will be adequate. It would be better to purchase hay now than in late winter when you are down to your last rolls. In areas of the state that got adequate moisture, and if not already utilized, there may be some winter grazing available. Remember that in most cases, stockpiled fescue holds its nutritive value well throughout the winter and will usually meet the needs of a lactating cow. Spring calving herds may choose to defer grazing on stockpiled pasture until February or March and utilize these acres for a calving pasture or for new pairs. Fall calving herds will want to graze these pastures now since cows are lactating and being bred.





Calculation Results

Lactation

Crude Protein: 9%
NDF: 60%
TDN: 57%

Expected daily intake of this forage for a 1250 lb cow is 2% of body weight, or 25 lbs on a dry matter basis, or 28 lbs on an as fed basis.

Protein	Supplement	Recommended Amount
8.5%	Corn *(6 lbs max)*	N/A
11%	Soyhull *(16 lbs max)*	7.6 lbs
13.75%	75% Soyhull / 25% Gluten *(16 lbs max)*	6.1 lbs
13.85%	85% Soyhull / 15% DDGS *(16 lbs max)*	6 lbs
14.6%	67% Soyhull / 33% Gluten *(16 lbs max)*	5.7 lbs
14.8%	80% Soyhull / 20% DDGS *(16 lbs max)*	5.6 lbs
15.75%	75% Soyhull / 25% DDGS *(16 lbs max)*	5.3 lbs
16.5%	50% Soyhull / 50% Gluten *(16 lbs max)*	5.1 lbs
22%	Corn Gluten Feed (Gluten) *(8 lbs max)*	3.8 lbs
30%	Distillers Dried Grains w/solubles (DDGS) *(8 lbs max)*	3.1 lbs
50%	Soybean Meal *(4 lbs max)*	3.6 lbs

needs for cows in three stages of production (mid-gestation, late gestation, lactation). Calculations are based on a 1250 lb. cow in a body condition score of 5. An example of the input and output screens are shown below. Notice that the hay in this example would not need any supplementation for a cow in late gestation but would require supplementation after calving. In the latter case, approximately 3 lbs. of DDGS should adequately meet the lactating cow's needs if she consumes 28 lbs. of hay. Remember there is a difference between hay consumption and hay disappearance. Knowing what your hay weighs and accounting for feeding waste is essential to estimating intake. Weigh a few rolls over truck scales to get an idea of bale weight. In most cases we tend to overestimate what round bales weigh. Once you have an idea of hay consumption, you can adjust the NDF number on the app to match what the cattle are consuming. A lower NDF value will estimate a higher hay intake and a lower intake. Knowing the actual hay intake will enable you adjust supplement rates for a more accurate diet.

Monitor body condition. The old saying "the eye of the Master fattens the stock" is a very appropriate proverb for describing the typical winter feeding scenario. Developing an "eye of the Master" is essential to knowing if the feeding program is adequate. Even the best planned feeding program can be affected by adverse weather or other environmental issues. When we see cattle daily, we may become "barn blind" and not be able to see gradual changes in body condition. One idea to monitor condition is to take smart phone pictures every 2-3 weeks of certain cows or groups. This may make it easier to detect changes in condition and adjust feeding accordingly. Remember the goal is a body condition score of 5-6 at calving (no backbone, no middle ribs, no sharp hooks) and maintain this condition from calving to breeding.

We are currently in a unique situation with higher than average cattle prices coupled with higher input costs. The successful producers will be the ones that can adequately feed the cowherd to maintain reproductive performance while also keeping a handle on feed and input costs. Here's to a winter of little mud and favorable weather.

Keep your chickens healthy this winter

Source: Jacqueline Jacob, agriculture extension project manager

Keeping your chickens happy and healthy in the winter is important, but maintaining a cozy and vigorous flock during the colder months demands diligent care.

Chickens, which typically have an internal temperature around 106 degrees Fahrenheit, may experience cold stress when the environment's chill overwhelms their heat-generating capabilities. Indications that your chickens might be feeling the cold include behaviors like feather fluffing, huddling and tucking one foot up to their body for warmth. When such stress is prolonged, it can impair their well-being and could be fatal.

When considering your flock, it's vital to recognize that not all breeds are equally winter-resistant. Heavier breeds, such as the Plymouth Rock or Orpington, tend to endure cold better than their lighter counterparts or those with substantial combs and wattles, which are susceptible to frostbite. Monitoring the flock dynamics, especially if diverse breeds are present, is crucial since bullying over resources can leave some chickens malnourished and more vulnerable to the cold.

Preparing your coop for the winter is fundamental. It should be a sanctuary, protecting against elements and predators alike. Roosts are essential, providing an elevated perch that shields them from the cold ground and also allow the feet to dry better. These should be crafted from materials like wood, avoiding metal or plastic, which can aggravate the cold. Perches should be spacious to prevent overcrowding, but cozy enough to allow shared body heat.

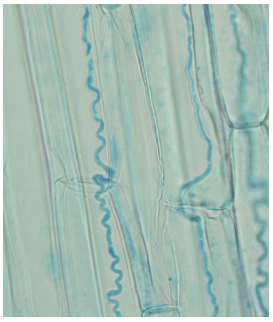
Managing airflow is essential; you must ensure adequate ventilation to prevent the buildup of harmful ammonia and moisture accumulation. Chickens can withstand relatively cold temperatures as long as they are dry. You may need to insulate the coop to keep the warmth in. On below freezing nights, it may be necessary to provide supplemental heat.

Historically, infrared heat lamps have been used to provide supplemental heat,but they can be a major fire risk. Alternative heat sources that have lower fire risk are now available. Use only equipment designed for livestock, and always have installations carried out by a professional.

Regarding nutrition, chickens' dietary intake tends to increase during winter since they require more energy to keep warm. Treats like scratch grains are beneficial for their warmth-inducing digestion and as an activity stimulant, but should be offered sparingly and never mixed with a complete, nutritionally balanced feed as it would dilute nutrients. Ensuring continuous access to unfrozen water is equally important because chickens will not eat if they cannot drink.

Egg production might dip due to reduced daylight; therefore, some opt for supplementary lighting to stimulate laying. It is important that the number of light hours per day never decreases during egg production. A minimum of 14 light hours per day (no more than 18) is recommended to maintain egg production throughout the year.

Tending to chickens in winter revolves around striking a delicate balance: ensuring they're warm but not overheated, well-fed but not overindulged and active yet secure from the harsh external environment. With meticulous planning and proactive management, your poultry can thrive even when the temperatures drop.



THE SECOND ANNUAL

Equines & ENDOPHYTES WORKSHOP

January 31, 2024

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

EQUINES AND ENDOPHYTES WORKSHOP SCHEDULE

11:30 am Registration and Networking

12:00 pm Lunch from Red State BBQ

12:45 Welcome

1:00 **History of Tall Fescue Endophytes** - Dr. Joe Bouton, emeritus professor, University of Georgia at Athens

1:30 **Pregnancy Losses: Does Tall Fescue Need Exploring?** - Dr. Emma Adam, Veterinary Outreach, University of Kentucky

2:00 **Knowledge Gap Analysis of Ergot Alkaloids in Equines** - Dr. Jimmy Klotz, Animal Scientist, USDA ARS-FAPRU

2:45 Break

3:00 **Short-term Mitigation and Long-Term Solutions** - Krista Lea, MS, Research Analyst, University of Kentucky

3:45 **Selection, Establishment and Use of Novel Endophyte Tall Fescue Varieties** - Dr. Ray Smith, Forage Extension Specialist, University of Kentucky

4:30 Survey

4:40 **Farm Manager Panel** - Moderated by Dr. Jimmy Henning, University of Kentucky. Panelists: **Randy Gilbert**, Shawnee Farm and **Rob Tribbett**, Watercress Farm

5:15 Questions and Adjourn

(Guaranteed to finish well before the UK/Florida Basketball game @ 8pm)

EVENT SPONSORS:

Alliance for Grassland Renewal

McCauley's
an Alltech company

Additional Sponsorship Opportunities are available.

Contact Krista for more information
Krista.Lea1@uky.edu

FAYETTE COUNTY EXTENSION OFFICE
1140 HARRY SYKES WAY
LEXINGTON, KY 40504

$ 40 | Advanced Registration Required: https://eew24.eventbrite.com
Includes lunch and materials

Deciding Who to Cull and When

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

Which cows in your herd are consistently making you money? Every year, the cow-calf producer needs to critically evaluate each female and decide if she is paying her upkeep or if she needs to be removed or "culled" from the herd. This is exceptionally important during times of drought or a year with marginal hay production as culling deeper in the herd may be necessary to manage the forage supply. There are also times it makes sense to keep or buy more replacement heifers and let older cows go, such as when the herd is getting older, cull cows are selling at favorable prices and the potential replacement heifers have the genetic potential to produce better quality calves. Open cows (those that are not pregnant) at the end of breeding season obviously are high on the cull list as they are difficult to justify financially. Beyond pregnancy status, what other variables are important to evaluate? Structural soundness, body condition score, age, annual performance, and disposition are significant factors to consider when developing a "culling order" specifically for your farm. In addition, it is important not to keep replacements from sires or dams with undesirable traits that are heritable. The culling order is essentially a ranking of the most important reasons a cow would NOT be a productive member of the herd on your farming operation. The following is a list of factors to carefully consider when deciding who to cull this year.

Disposition. A cow's attitude is an important consideration in any cattle operation. Bad behavior has both a genetic component and is also learned by her calf at an early age. Mean, nervous, "high strung" cattle are dangerous to people, damage facilities, tear up fences and make gathering and working cattle difficult at best. Remember, a good cow can be protective of her calf without being dangerous and destructive. Bulls that show aggression towards humans should be culled immediately.

Reasons to Cull:

1. Mean Disposition
2. Open Females
3. Structurally Unsound/Chronic Health Condition
4. Advanced Age
5. Poor Performance-Records
6. Phenotype-color, stature
7. Replacement Heifers that get pregnant late in the breeding season

Pregnancy Status. A cow should produce a calf once a year and the sale of that calf needs to pay the dam's "living expenses". Diagnosing a cow as "open" (not pregnant) is as simple as having a veterinarian palpate for pregnancy at least 40 days after breeding or after the bull is removed. There are also several simple, inexpensive blood tests available on the market that may be used post-breeding to determine pregnancy status. If multiple cows are found open at pregnancy check, work with your veterinarian to try to determine the cause. Summer heat and fescue toxicosis can be important contributors to low conception rates as well as infectious causes of abortion and early embryonic death.

Figure 1: Corkscrew claw (also called screw claw) is a heritable defect found most often in the outside claws of the rear legs. There is twisting of the toe in a way that places the side wall of the hoof in direct contact with ground. The condition begins with toes pointing inward instead of forward and leads to lameness due to improper weight distribution. Corrective trimming is necessary every 3-4 months. *Photo from: https://nwdistrict.ifas.ufl.edu/phag/2016/05/27/watch-for-a-lameness-issue-in-cattle-called-corkscrew-claw/*

Structural Soundness. Cattle exhibiting structural problems that adversely affect performance and are not correctable need to be identified and removed. Good feet and legs are essential for maintaining body condition, breeding, calving, self-defense, and raising a calf. A conformational defect such as corkscrew claw **(Figure 1)** is regarded as a heritable trait and a strong reason to cull.

Figure 2: Cow with prolapsed vagina. This problem, seen in some pregnant cows, will reoccur year after year and is a strong reason to cull.

Other structural problems such as cows that have repeated episodes of vaginal prolapse during pregnancy **(Figure 2)**, or cattle extremely sensitive to the effects of fescue toxicosis, should be removed from the herd as soon as the calf is weaned.

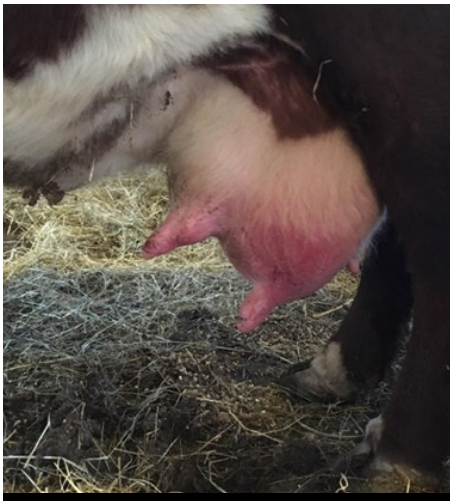


Figure 3. Cow with mastitis in the left rear quarter.

Udder Quality. Milk production in beef cows is one of the most important factors affecting calf pre-weaning growth and body weight at weaning. A structurally sound udder should be firmly attached and high enough that newborn calves can easily find and latch onto clean, average-sized teats. Cows with blind or light quarters, funnel or balloon shaped teats, teats that drag in the mud or with any previous history of mastitis are strong candidates for culling. Mastitis **(Figure 3)** will result in decreased milk production, reduced calf weaning weights, and lifelong damage to the quarter. Udder quality in beef cattle is moderately heritable so females with good, or bad, udders tend to pass that trait to their daughters. Culling these cows with poor teat and udder conformation and selecting replacements with better udder traits will make a noticeable difference in calf performance.

Chronic Disease. Cows showing signs of chronic disease conditions that will not improve should be culled and only sold for slaughter. Two examples of chronic disease conditions include diarrhea and progressive weight loss from Johne's Disease and bovine ocular squamous cell carcinoma or "cancer eye" **(Figure 4)**. Waiting too long to cull may result in carcass condemnation at slaughter.

Age. Cows are considered most productive between 4-9 years of age. The size and shape of the teeth can be used to assess age but always evaluate tooth wear considering the diet. Cows that eat gritty or sandy feeds and forages have increased tooth wear beyond their years. Regardless, cows with badly worn or missing teeth may have a difficult time maintaining body condition. However, aged cows that stay in good condition and raise a calf every year do not have to be removed just because of advanced age.

Poor Performance. Record keeping is an invaluable tool for evaluating performance. Readable visual tags on both the cow and calf allow one to match calf sale weights to their respective dams and identify cows that did not produce a calf. Dams with inferior genetics and poor milk production produce lightweight calves that do not grow well. An overweight cow with a small calf that doesn't gain weight as it should generally means the cow is keeping calories to herself rather than producing milk. Calves that get sick prior to weaning may indicate dams that produced poor-quality colostrum or have poor mothering ability. Any health issues, treatments given, and

Figure 4: Cow with early cancer eye. *Photo from: https://blogs.extension.msstate.edu/theriskproject/ocular-lesions-in-cattle-series-part-ii-cancer-eye/*

veterinary visit or expenses should be recorded in a standardized format for every herd member. Record any abortions or stillbirths, any difficulties with labor and delivery, and all calf death losses. It is important that all calves born, whether dead or alive, are recorded and taken into consideration when the herd is being analyzed and record that information on the specific cow's lifetime history.

Phenotype. Cows that do not "fit" the herd because of external features such as unusual breed, size, muscling, and color are candidates for culling. These challenges may be overcome to some degree by choice of sire to balance out the unwanted traits. Remember that buyers of commercial calves look for uniformity in color, weight, and frame in a set of calves and will pay a premium price for it.

The last ones to go. If conditions

(Continued on next page)

Deciding Who to Cull and When

(continued from page 5)

are such that only the best females can remain in the herd, consider selling those with the fewest productive years left such as bred cows over 9 years old. Also, bred heifers or thin cows that conceived late in the breeding season will likely have a difficult time rebreeding next year and may be good candidates to leave while pregnant.

Since 20% of gross receipts in a typical cow-calf operation come from the sale of cull animals, pay attention to price seasonality and body condition score before sending these animals to market. Prices are historically highest in spring and lowest in late fall when spring born calves are weaned and many culls are sent to market. Adding weight and body condition to culls is an opportunity to increase profitability but can be expensive. Work with a nutritionist to come up with realistic cost projections before feeding cull cattle for a long period of time. When it comes to making decisions on who to cull, remember to consider functionality in your environment. Is she an "easy keeper"? Does she keep flesh and condition and raise a good calf, even when feed and forage is limited? Or does she give too much milk or is her frame size so large that you can't keep weight on her, even when pasture is plentiful? Is her pelvis so small and tight that calving is a problem for her and will become a problem in her offspring? Functionality leads to longevity and improved efficiency. By retaining more young cows in the herd, you can decrease the number of replacement heifers needed each year and cull cows that are only marginally profitable. Young cows also increase in value as they mature because the body weight of the cow and her calf's weaning weight will continue to increase until approximately 5 years of age. Longevity will also be improved through crossbreeding because hybrid vigor adds essentially 1.3 years of productivity or one more calf per cow! If considering buying heifers, UK has a decision support tool available at https://agecon.ca.uky.edu/budgets (under the Livestock/Forages heading) to help understand how to evaluate the investment potential for bred heifers in your specific circumstances.

In summary, a herd of easy-keeping, efficient cows is possible through rigorous culling, careful selection of replacements, and retention of young cows. Match your genetics to your management and environment for maximum efficiency, longevity, and ultimately, maximum enjoyment of cattle production.

Cull Cow Language

- Breakers (75-80% lean)- Highest conditioned cull cows (BCS ≥ 7), excellent dressing percentages
- Boners or "boning utility" (80-85% lean)- Moderately conditioned (BCS 5-7), well-nourished commercial beef cows (usually highest price cull)
- Leans (85-90%)- Lower BCS (1-4), lower dressing percentages, susceptible to bruising during transport and expect more trim loss. Moving cows from lean to boner status can usually be done efficiently

Dr. Arnold discusses reasons to cull cows in the article above- one of the main reasons for culling (or selling a cow) is if a cow's pregnant or not. Braylen Taylor is shown here drawing a blood sample from the tail of his heifer to check if she is pregnant. Campbell County Extension offers the chuteside tests (which provides results within 20 minutes) and the lab tests where this blood is put in a vial and mailed to the lab to be tested. Both options are reliable and available to farmers for free. Open cows are very costly- they eat the same amount as a pregnant cow but will not make you any money! Pregnancy checking can save you upwards of $500 per cow by not keeping and feeding open cows over the winter!

Selling Black Walnuts in Kentucky - 2023

Renee' Williams,
Forestry and Natural Resources - Extension, University of Kentucky

Cooperative Extension Service
Forestry and Natural Resources

FORFS 23-02

Black walnuts can be sold to commercial hullers in Kentucky (see Table 1). Bring the whole seed to the huller locations and they will run them through a machine to remove the hulls. They will weigh the walnuts after the hulls have been removed and pay you a specific amount per 100 lbs. Normally, they accept walnuts throughout the fall. However, it is recommended that you contact your local huller prior to gathering nuts.

Table 1. Commercial Huller Operations in Kentucky – 2023

Huller Operator	*City (County)*	*Phone #*	*Address*
Graber, David	Carlisle (Nicholas)	859-473-5625	4600 Burris Rd., Carlisle, KY 40311
Yoder, Samuel	Cynthiana (Harrison)	859-588-1211	1013 Salem Pike, Cynthiana, KY 41031
Leid, Henry	Elkton (Todd)	270-265-3970	1201 Miller Valley Rd., Elkton, KY 42220
Coblentz, Tim	Flemingsburg (Fleming)	606-748-2219	1591 Maddox Pike, Flemingsburg, KY 41041
Troyer, Ammon	Glasgow (Barren)	270-590-1943	7675 Oil Well Rd., Glasgow, KY 42141
Yoder, Paul	Hardyville (Hart)	270-303-0650	2440 Whickerville Rd., Hardyville, KY 42746
Grayson County Implement-Paul Young	Leitchfield (Grayson)	270-259-0075	3363 Owensboro Rd., Leitchfield, KY 42754
Yoder, Andrew	Lewisburg (Logan)	270-755-5591	797 Coon Range Lake Rd., Lewisburg, KY 42256
Burkholder, Paul	Liberty (Casey)	606-787-7996	9431 KY 502 South, Liberty, KY 42539
Sumrell, Eric	Manchester (Clay)	606-847-2980	7856 Beech Creek Rd., Manchester, KY 40962
Byler, Roy	Marion (Crittenden)	270-969-8266	2865 Mt Zion Rd., Marion, KY 42064
Farmwald, Delbert	Monticello (Wayne)	606-348-6281	State Hwy 1009, Monticello, KY 42633
Hertzler, Henry	Bethel (Bath)	606-336-8810	1972 Mt Pleasant Rd., Owingsville, KY 40360
Ottenheim Country Store	Crab Orchard (Lincoln)	606-355-7464	5920 Kentucky 643, Crab Orchard, KY 40489
Raber, Roman	Pleasureville (Henry)	502-878-4211	10712 Castle Hwy., Pleasureville, KY 40057
Fisher, Daniel	Mount Sterling (Montgomery)	859-404-1864	901 Gibson Ln., Mt. Sterling, KY40353
Brenneman, Alvin	Campbellsville (Taylor)	270-937-4377	3050 Barney School Rd., Campbellsville, KY 42718
Derstines, Aquila & Jeremy	West Liberty (Morgan)	606-552-4254	207 Crockett Loop, West Liberty, KY 41472

If you need directions, please go to Hammons Products Company's website (http://www.black-walnuts.com/) and click on the *Locate a Buying Station* where you will find the hulling locations.

Secrets of Successful Farm Managers

Kayla Brashears | KFBM Area Extension Specialist | kayla.brashears@uky.edu

After spending over a decade analyzing a plethora of farm operations, I've learned a few things about what makes an operation successful. There isn't a hidden formula anyone can follow to become successful, but there are best practices that operations can implement to position themselves favorably.

Maintain Their Equipment

One of the most frequent questions I receive as a Farm Management Specialist is "should I buy new equipment, or keep old equipment?" The true answer is – it depends. The difference is old equipment and high repair bills, or new equipment but high depreciation/debt load. Profitable farm managers can take either approach, and there are different philosophies on which is better. The common thread between these is that successful farmers manage and maintain their equipment. They keep the combines blown off to prevent fires, they inspect grain trucks frequently and pull them off the road if there's problems to prevent accidents. They know when their equipment needs oil changes, they read the parts books and the owner's manual. They take their equipment in for inspection and keep leased equipment in good condition. Successful farm managers recognize that equipment is the most rapidly depreciating asset they have, and they take reasonable measures to preserve the value of their investment.

Know Their Numbers

This point feels obvious, but many producers do not take the time to learn and understand their financial position. Knowing your numbers begins during the year, with input cost per acre and feed cost per cow. Profitable farmers review billing statements to understand the cost of maintenance, fuel, utilities, insurance, etc. Profitable farmers know how much rising interest rates cost them and are proactive in managing it. Finally, successful farmers are familiar with their year-end numbers. They understand working capital and the impact a new equipment purchase may have on it. They work with trusted professionals to develop their financial numbers if they can't do it

themselves, and also dedicate the time each year to reflect on those numbers in order to improve the next year.

Build a Rewarding Place to Work
Many small farming operations are successful through only the work of the owner. However, many medium to large-size operations will have employees. Quality, hard-working employees are crucial to the success of the farm. Many producers will argue those types of employees are close to impossible to find. However, successful operators flip that mindset and know that to maintain dedicated, skilled employees, they must cultivate an attractive and rewarding work environment. How this is achieved varies, but most likely means provisions such as competitive pay, paid time off and, of course, effective, solicitous leadership.

Know What They Don't Know
A successful farm manager doesn't get bogged down by something as trivial as pride. They spend resources to draw on the knowledge of those that know more than them. Depending on the producers (and what they DO know) and the varying operation, this looks different everywhere. They may be involved with an organized peer group, or other agricultural civic organizations. They find a good financial sounding board, a solid banker, a competent agronomist, and handy mechanics. If they have a failed crop or herd, they seek out answers from other people with that specific knowledge. It is possible to go too far on this spectrum and harm decision-making ability by taking in too many opinions. Considering that, it's important to develop a discerning voice when seeking the knowledge of others. This isn't something that is easily taught and must be developed over time.

Use Excess Cash Wisely
Profitable producers are strategic in how they manage excess cash flow from good years. Most often, that cash is best used to bolster cash reserves, although it may feel tempting to pay down long-term debt. They also seek to balance those reserves and know when and how to invest back into their operation. When interest rates began to rise, they pursued options to give them a larger return on their money and didn't let complacency keep their money in the same place. They carefully evaluate when to purchase more breeding livestock or add a second combine. They take the time to understand prepay deals to determine if they make sense for the operation. To summarize, successful farm managers see extra cash in the bank account for what it is – a tool to help them build and create a stronger balance sheet and operation.

Build on Previous Generations
Despite hard work and grift, it can't be left unsaid that many successful farming operations today are built from tenacity, timing, and a bit of luck from prior generations. The barriers to entry into farming are formidable, and many farmers today would not be farming without the influence of those before them. Successful farmers do not negate that influence by assuming credit. Instead, they reflect and appreciate the dedication of previous generations and seek to protect those prior investments from deteriorating. They recognize that their parents and grandparents may have gained valuable insight from their farming experience, although the world has changed in the past several years. Successful farmers glean and build on that knowledge, adding their own work and experiences to build an operation that continues forward indefinitely.

Raising Hope

Join us on **Thursday, January 25, 2024** beginning at 6:00 pm at the Campbell County Environmental Education Center, 1261 Race Track Road, Alexandria, KY 41001, Dale Dobson, Safety Administrator with KDA, and Dr. Cheryl Witt, University of Kentucky, will be joining us to bring awareness about Raising Hope, Putting the Focus on Farmer Health. This free event helps to promote the physical/mental health and safety of Kentucky's farmers and farm families through translational research, prevention/intervention, and community education and outreach to enhance the quality of life for our farmers and farm families. **To register call (859) 635-9587, visit our website www.campbellkyconservation.org, or email patti.dischar@campbellkyconservation.org**. For additional Raising Hope information www.raisinghopeky.com. Call or text the 988 Suicide & Crisis Lifeline 24/7 for free and confidential emotional support.

Prevention of Equine Protozoal Myeloencephalitis (EPM) in Horses

By William Saville, DVM, Dipl ACVIM, PhD, Stephen Reed, DVM, Dipl ACVIM and J.P. Dubey, MVSc, PhD

Equine protozoal myeloenencephalitis (EPM) is one of the most important neurologic diseases in the horse and remains a problem for horses and their owners. Over the past several years work has been directed at better understanding this disease problem in horses along with how to treat the problem. In addition several investigators have worked on ways to help owners prevent this disease in their horses. Despite this concern and interest prevention has been more difficult than anyone imagined. As we learn more about the disease, we find that wildlife management, risk-factor manipulation and use of prophylactic medications remain the center of attention for ways to prevent the disease. Efforts towards development of a vaccine has proven ineffective to this point in time.

Although the disease has received much publicity, scientific knowledge has been sorely lacking regarding pathophysiology of the disease and the mechanisms by which the parasite has been maintained in nature. In the last several years, we have continued to make progress in better understanding of the life cycle of the causative organisms *(S neurona and N. hughesi)*. Better understanding the life cycle can help owners and veterinarians in the prevention of EPM. Original research in the mid-1990s led to the discovery of the opossum as the definitive host for *Sarcocystis neurona*, the primary parasite that causes EPM in horses. Most *Sarcocystis* spp. have a predator-prey life cycle, which allows the parasite to cycle in nature and to perpetuate itself. Interestingly the opossum is the host of at least three *Sarcocystis* spp. For the *S neurona* organism we know of several intermediate hosts including skunks, raccoons, armadillo and even domestic cats as well as sea otters and the harbor seals.

Cat

Completion of the life cycle for *S. neurona* was first accomplished in a laboratory setting by using the domestic cat as the intermediate host species. Subsequent work by the same research group examined exposure rates of barn and feral cats to *S. neurona* in the state of Ohio. Horse farms were targeted where there were horse cases of EPM, there were resident cats and the farms were in sylvatic areas, hence wildlife present. Exposure rates of cats to *S. neurona* were high (40 percent) on these premises. Another subset of cats that were presented to a mobile spay-and-neuter clinic were sampled, and those cats had a much lower (10 percent) exposure rate. These studies suggest that the domestic house cat does play a role in transmission of *S. neurona* in nature and therefore likely has an impact on EPM in the horse. The extent to which the cat is involved needs to be determined before we understand how big a role it may play in the life cycle of *S. neurona*.

Skunk

Subsequent to the cat and armadillo discoveries, a third species was determined to be a laboratory intermediate host for *S. neurona*. There was a report that *S. neurona* antibodies were found in the striped skunk. Completion of the life cycle with the striped skunk along with the reports of *S. neurona* antibodies in wild skunks is also suggestive that the striped skunk may very well be a natural as well as a laboratory intermediate host.

Raccoon

Another more recent natural intermediate host to complete the life cycle of *S. neurona* is the raccoon. This high seroprevalence rate in raccoons is similar to the exposure rate in horses. This finding of high exposure rates in combination with the feeding of wild -caught raccoon muscle to produce sporocysts makes for a compelling argument that the raccoon is an ideal intermediate host in the life cycle of *S. neurona*.

Opossum

The opossum is a scavenger by nature and will eat anything (omnivorous). Several studies have demonstrated the presence of

domestic cat, raccoon and striped skunk in the stomach contents of the opossum. Most conclude that the presence of the larger mammals was likely the result of eating carrion. In addition, based on these early reports, it appears that these are not the preferred diet of the opossum, which may be the reason why early reports have determined that 20 percent or less of the opossums excrete *S. neurona* sporocysts. The fact that these mammals would not be considered prey likely resulted in a different direction being studied with regard to the true intermediate hosts involved in this life cycle.

Based on the eating habits of the opossum, prevention of EPM becomes problematic due to the excess of road-kill on the highways across the United States. The opossum will scavenge carrion to survive if other more preferred types of food are not available. Cleanup of road-kill of four of the above named species in particular would help to solve some of the EPM problems, as each of these species are able to complete the life cycle of *S. neurona*. However, given the fact that four species that complete the life cycle have been discovered in the last 2years, it seems likely that more species are involved in completing the life cycle and will add to the excretion of sporocysts to contaminate the environment. Preventing access of opossums to the farm or ranch environment is also difficult, particularly if food and water are in short supply. Even if hay and grain are kept stored in opossum-proof facilities, there is still no protection of grass pastures from contamination with S. neurona sporocysts. Encouragement of horse owners to pick up dead species and keep them from being eaten by opossums is one method of prevention; however, the effort to do this seems problematic.

Recent publications describing few risk factors for EPM have delineated a few measures that could be manipulated to reduce incidence of the disease. Research from Ohio suggests that risk factors for the disease include age of the horse, occupation of the horse, season of the year, presence of woods on the premises, presence of opossums, lack of feed security, health events before diagnosis and previous cases of EPM being diagnosed on the farm. The horse factors are very difficult to manipulate; however, efforts to improve the immune status of the horse may be warranted. Unfortunately, the highest-risk occupations are racing and showing of horses. This involves transport of horses to racetracks and show events, and transport has been determined to be a risk factor for the disease as well. Other than stopping the transport of horses, which is very unlikely, improvement of immune status while in transit may be a solution. The presence of woods and opossums on the property corroborate the finding that the opossum is the definitive host and is contaminating the environment; therefore, preventing opossum access to property, or at least to the horse feed, is important in prevention. Unfortunately, removal of woods from the premises, while removing the opossum habitat, would not likely solve the problem, as the opossum has learned to adapt very well. Both theOhio and the NAHMS studies (involving horses from 28 states across the U.S.) found an increased risk for EPM in the fall season of the year. The reason for this finding was that a lot of the major horse competitions were in the fall, which also involved transport. However, perhaps it is related to the change in the opossum diet in the fall, as research has determined that the carrion involves a much bigger percentage of the opossum diet at that time.

Recently, there has been some evidence that suggests there are triazene derivative medications that will prevent *S. neurona* in mice. The medication used was diclazuril, an herbicide that has been used in several species in other countries as a coccidiostat in both poultry and swine. Diclazuril has been used to treat horses that are diagnosed with EPM. Perhaps this medication as well as other similar compounds may be developed as preventative therapy in the top dress of horse rations.

Although we continue to make strides in understanding the life cycle of S. neurona, we have only a few good suggestions regarding prevention of this disease. Notwithstanding this, it is apparent that prevention of EPM should be centered on the wildlife involved in the transmission of the parasite. It is not the live wildlife that is the problem when considering the intermediate host as a cause of the disease. As far as we know, the majority of the intermediate hosts involved only play a role when they are killed or die due to disease. Therefore, picking up dead skunks, raccoons, armadillos or cats on your property and disposing the carcasses to prevent opossums from eating them may prevent many sporocysts from contaminating the environment and hence reduce the incidence of the disease. Manipulation of risk factors that are involved in the disease may also help. Whether future efforts are directed at the development of a vaccine remains to be seen.

Spotted Lanternfly found in Kentucky

By Jonathan L. Larson, Entomology Extension Specialist

Adult spotted lanternflies are distinct looking insects; their fore wings are half spotted and half reticulated, while the back wings are a mixture of black, white, and red. On the left, the wings are open and showing all of the color; on the right is how the insect is most likely to be encountered– with the wings closed over its back (Photos: Pennsylvania Department of Agriculture, Bugwood.org).

Early October, KY State Entomologist confirmed the first siting of Spotted Lanternfly (SLF) in Gallatin County. To date, no other KY counties has had any confirmed identifications, though all neighboring KY states has found this invasive pest. Be on the lookout and if you suspect this pest, collect a sample and or take of photo of the pest and reach out to your local Extension office.

What is the Spotted Lanternfly?

SLF is very distinctive in appearance.; the adult is about an inch long, with strikingly patterned forewings that mixes spots with stripes. The back wings are contrasting red, black, and white. The immature stages are black with white spots and develop red patches as they age. They are a type of planthopper; they are capable of jumping and can be quite fast.

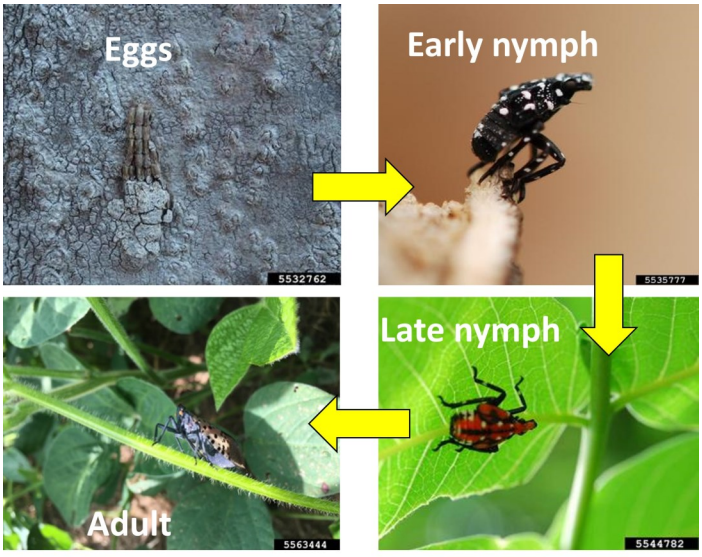
How did it get to Kentucky?

The spotted lanternfly is a non-native insect that is from East Asia. The first confirmed infestations were found in Pennsylvania in 2014. Following that discovery, the pest has steadily made progress in infesting other states, such as New Jersey, Ohio, Delaware, New York, Connecticut, Maryland, and West Virginia. In 2021, an infestation was confirmed in Switzerland County, Indiana (directly across the Ohio River from Gallatin County, Kentucky). Further movement in Indiana has been confirmed in 2022 and 2023. In 2022, there was also confirmation of SLF in Cincinnati, OH, with the problem growing in 2023.

In late summer of this year, sites of SLF were confirmed in Illinois and Tennessee, as well. Just when it seemed that the insect might be in every state that touches Kentucky (but not actually in Kentucky), the local infestation was also discovered. Thus far, the number of insects discovered in Kentucky doesn't rival the infestations you might see images of online or in news reports from states in New England. It is possible that the Gallatin County population arrived via natural movement from Indiana. SLF can jump and fly, and their natural spread can take them 3 to 4 miles from an infested site in a given year. It is also possible that they were accidentally brought into the state on infested goods or on a car, truck, or other means of transport.

What does it do?

This pest is known to feed on more than 70 plant species, including specialty crops like grapes, apples, peaches, and hops, as well as trees such as maple and black walnut amongst other hardwoods, and fruit crops. Their preferred host for a portion of their life cycle is the tree of heaven (another non-native/ invasive species). SLF is classified as a true bug, part of the order Hemiptera. They feed using piercing sucking mouthparts. As they feed, they excrete honeydew, a sugary fecal material that accumulates on nearby plants and surfaces and can attract black sooty mold fungi. Honeydew can also be slippery for people and unfortunately can attract stinging insects looking to feed on it. Another unique problem is that beekeepers near SLF infestations report that their bees will forage so



Spotted lanternflies start as eggs, which look like they are covered with brown-grey spackle, and then they develop through spotted nymphal stages before maturing into the adult form (Photos by Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org).

Spotted lanternflies feed on tender growth as nymphs before moving on to feed on the trunk and branches of trees as these bugs get larger and stronger (Photo by Emelie Swackhamer, Penn State University, Bugwood.org).

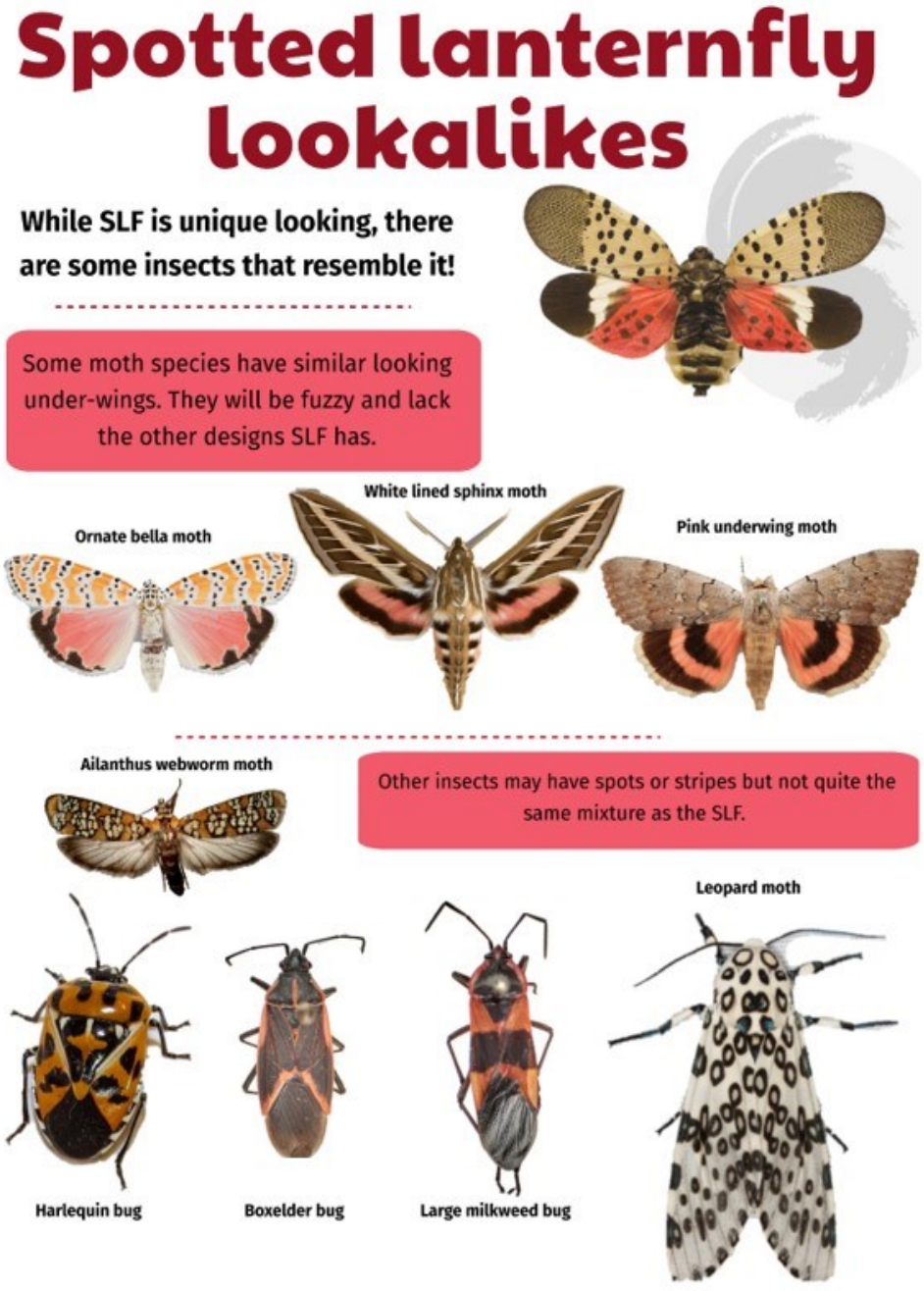
heavily on the honeydew that they end up with honey made from SLF fecal material rather than nectar.

Finally, females lay their eggs on natural and unnatural surfaces alike. Eggs are being laid right now as autumn settles in, and they will overwinter in that stage. While they use trees, the cryptic and hard-to-see egg cases have also been found on automobiles, trains, lawn furniture, firewood, stones, and many other substrates. It's possible that Kentuckians who travel to Gallatin County or to Cincinnati, OH could pick up hitchhiking female lanternflies that will come back to un-infested parts of Kentucky and lay eggs there.

What can people do to help?

A mass of spotted lanternfly eggs has been laid on this vehicle. The eggs will hatch the following spring if not removed (Photo courtesy of WPMT Fox 43).

Kentuckians should be on the lookout for this pest. Report suspicious looking bugs and egg cases to the Office of the State Entomologist at reportapest@uky.edu . When making a report, please include an image or a sample of the suspect, otherwise it will be difficult to confirm the problem. It is also important to include geographic information. It is true that this is a difficult pest to eliminate, but with the help of citizens monitoring for populations, there is hope that their spread can be slowed to allow communities more time to prepare.



While the SLF is a unique looking insect, there are some other species that can be mistaken for it at a quick glance. These are just a few that have been submitted to the University of Kentucky over the last year (Photo: University of Kentucky Department of Entomology).

Chili Tomato Macaroni

USDA MyPlate
U.S. DEPARTMENT OF AGRICULTURE

Servings: 4 Cook Time: 20 minutes Preparation Time: 10 minutes

Ingredients:

- *3/4 pound ground beef, 85% lean*
- *1 1/2 cups water*
- *1 cup macaroni, uncooked*
- *1 can diced tomatoes, low-sodium (14.5 ounces, undrained)*
- *2 teaspoons chili powder, mild*
- *2 servings Eating Smart Seasoning Mix (1/2 cup)*
- *salt (optional, to taste)*
- *2 ounces cheddar cheese, shredded*

Source: *Eating Smart, Being Active—Colorado State University and University of California at Davis*

Directions:

1. *Wash hands with soap and water.*
2. *Brown ground beef in a large skillet, drain the fat.*
3. *Add water, macaroni, tomatoes, chili powder, and seasoning mix. Stir.*
4. *Bring to a boil, reduce heat to low and simmer covered on low heat for 20 minutes or until macaroni is tender.*
5. *Taste, and add a small amount of salt if desired.*
6. *Top with shredded cheddar cheese. Put the lid back on for 1 minute until the cheese is melted.*

Nutrition facts per serving:
374 Calories; 15g total fat; 7g saturated fat; 0g trans fat; 71mg cholesterol; 246mg sodium; 33g total carbohydrate; 3g fiber; 7g sugar; 0g added sugar; 27g protein; 1mcg vitamin d; 251mg calcium; 4mg iron; 649mg potassium.

KCA CONVENTION 2024 & AG INDUSTRY TRADE SHOW

JANUARY 10-12 · LEXINGTON

Early Bird Registration (October 1 - December 15) $60 • **Registration** (After December 15) = $85

Event	Cost		Number Attending		Totals
Full Registration (Includes Trade Show and Business Meetings)	$60	x		=	
Trade Show Only	$25	x		=	
Junior Registration (21 years or younger)	$25	x		=	

FRIDAY, JANUARY 12

Evening Banquet	$68	x		=	
Banquet Preferred Seating (Table of 10)	$700	x		=	
Women's Session 1: Glass Etching	$50	x		=	
				Total Amount Due	

Names as they should appear on badges. **Please only one family or individual per registration form.**

NAME	NAME
NAME	NAME
ADDRESS	CITY, STATE ZIP CODE
COUNTY (Required)	PHONE
EMAIL	
CREDIT CARD TYPE	CREDIT CARD NO.
EXPIRATION DATE	SIGNATURE

REGISTER BEFORE DECEMBER 15 and be entered to win one of two **$50 CABELA'S GIFT CARDS**

Mail to: KCA Convention Registration • 176 Pasadena Drive Lexington, Kentucky 40503 • **Or Fax:** (859) 260-2060

For Hyatt reservations call **1-800-233-1234** and give **Code G-CTLX** or ask for **Kentucky Cattlemen's Block** or register online at **https://www.hyatt.com/en-US/group-booking/LEXRL/G-CTLX**

Campbell County Cattleman's Association Update:

The CCCA will be sending delegates to the KCA Convention in January to participate in the regional meetings- CCCA is eligible to send three voting delegates. The number of eligible delegates is based on the county membership numbers- the more members, the more eligible delegates and more voters from Campbell County!

KCA CONVENTION 2024 & AG INDUSTRY TRADE SHOW

WEDNESDAY, JANUARY 10	
10:00-5:00	Trade Show Move-In
3:00	KCA Foundation Meeting
4:00	KCA Executive Committee Meeting
6:00	KCA Leadership Dinner (Invitation Only)

THURSDAY, JANUARY 11	
7:00-6:00	Registration Hours
7:00-10:00	Trade Show Move-In
9:00-11:30	Beef Efficiency Conference- Getting Ahead of What is to Come
10:00	Trade Show Opens
11:30	Welcome Lunch
1:30-3:30	Opening General Business Session
	Welcome 2024 Kentucky Cattlemen's Association Convention- Andy Bishop 2023 KCA President
	Agriculture Education Center Update
	KBN Annual Report
	Beef Solutions Annual Report
	KBC Annual Report
6:00	Trade Show Closes

FRIDAY, JANUARY 12, 2024	
6:30-5:00	Registration Hours
7:00-9:00	County President Breakfast (Invitation Only)
8:00	Trade Show Opens
10:00-11:00	Regional Meetings
11:00	KCA Concessions Lunch in the Trade Show
12:30-2:00	Closing Business Session
	2023 Financial Review
	2023 Communications Review and Outlook
	A Year in Review and 2024 Outlook
2:00	Trade Show Closes
2:00	KJCA Officer Meeting (Current KJCA Board Members Only)
2:15	KJCA Annual Membership Meeting & KJCA Board of Director Elections
2:30-4:30	Forages at KCA
2:30-4:30	Ladies Program
3:00	KJCA Reception
5:00-6:00	KCA Leadership Alumni & Past President's Reception (Invitation Only)
6:00	Evening Banquet
	KCA & KBC Awards
	2024 KCA Hall of Fame Inductions
	Foundation Auction

Campbell County

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

Ag Issues Dinner & Discussion

This is a great opportunity for local farmers and agriculture leaders to have input into identifying farm issues and agriculture opportunities that exist in Campbell County.

January 16, 2024

6:00 p.m.

Location: Campbell County Environmental Education Center

1261 Race Track Road | Alexandria, KY 41001

Discussion will include the types of educational programs, demonstrations, field days and any other items that may be of interest to you and Campbell County. *We hope to see you there!*

Phone your meal reservation and registration by January 12

(859) 572-2600

Cooperative Extension Service

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

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Lexington, KY 40506

Disabilities accommodated with prior notification.