Agriculture & Natural Resources Newsletter
May 2023

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

Cooperative Extension Service
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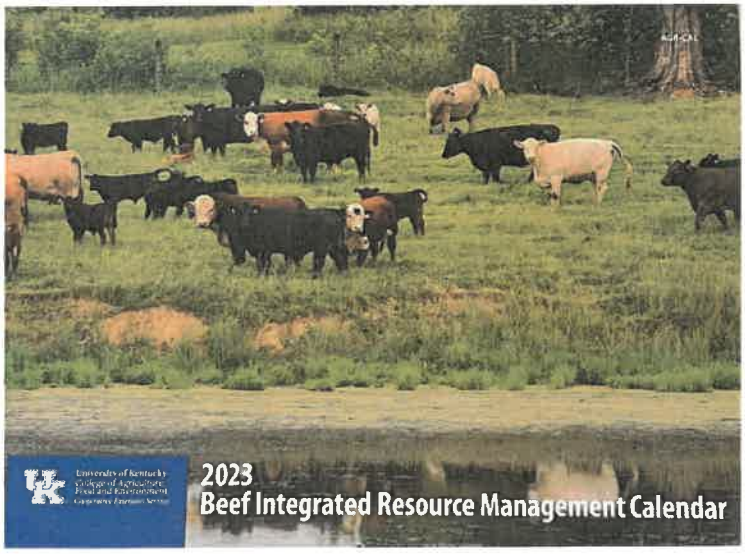
The planting season is here! It is hard to believe that it is already May and our busiest time is here. With everything that you are doing this summer, please let us know if something comes up that you might need some help with (weed ID, insect ID, plant disease diagnosis, etc.).

We are already in the planning process for programs this fall, so if there is anything you would be interested in learning more about, please reach out and let me know.

As I am finishing up this newsletter, I am saddened to inform those who receive this of the passing of my beloved colleague and friend Philip Konopka. Many of you may have crossed paths with Philip as he was the Agriculture and Natural Resources Agent in Lewis County. He was the heart of many of our programs and we are all feeling the toll of this loss. He was more then an extension agent to many, and will be greatly missed by everyone who ever knew him. I would greatly appreciate it if everyone kept his wife and family in their thoughts for the foreseeable future.

Samantha Saunders

Samantha Saunders
Robertson County Agriculture & Natural Resources/
4-H Youth Development Agent



Inside this edition:

The Robertson County Extension Office will be closed on Monday, May 29th in observance to Memorial Day.

Beef IRM Calendars

Available to pick up at the Extension Office

These have great information for beef producers in the county

Loaded Beef Stroganoff

Ingredients:

- 12 ounces egg noodles (choose whole-wheat if available)
- 1 pound lean ground beef
- 1 large onion, chopped
- 2 tablespoons garlic powder
- 8 ounces sliced white mushrooms
- 1/4 cup all-purpose flour
- 32 ounces (or 4 cups) low-sodium beef broth
- 1 can (14.5 ounces) no-salt-added peas, drained
- 1 can (14.5 ounces) no-salt-added sliced carrots, drained
- 1 1/2 cups plain nonfat Greek yogurt or light sour cream
- 1 1/2 teaspoons salt
- 1 teaspoon black pepper
- Parmesan cheese (optional)

Directions:

1. Wash hands with warm water and soap, scrubbing for at least 20 seconds.
2. Wash fresh produce under cool running water. Cut to prepare for the recipe.
3. Cook egg noodles according to package directions while preparing the other steps. Drain.
4. On the stove, preheat a large pot on medium heat. Add the ground beef, onion, and garlic powder.
5. Wash hands after handling raw meat.
6. Cook the ground beef mixture, stirring often until the onion is tender and the beef reaches an internal temperature of 165 degrees F as measured by a meat thermometer.
7. Add mushrooms. Cook until mushrooms are tender (about 5 to 8 minutes).
8. Stir in flour and cook for 2 minutes.
9. Stir in beef broth, peas, and carrots. Bring to a simmer and cook about 5 minutes, until the mixture thickens. Remove from heat.
10. Once the mixture stops simmering, stir in the Greek yogurt, salt, and black pepper. Add cooked egg noodles and combine. If mixture is too thick, add milk or beef stock until reaching the desired consistency.
11. Serve immediately. Sprinkle with parmesan cheese when serving, if desired.
12. Refrigerate leftovers within 2 hours.

Equipment Rental

Robertson Conservation

⇒ No-till Drill

$50/day, 1-10 acres

$50 + $5.50/acre, 11 acres and up

⇒ Old Lime Spreader

$50/day

⇒ No-till Drill (Hay Buster)

$65/day, 1-10 acres

$65 + $6.50/acre, 11 acres and up

⇒ *New Lime Spreader

$60/day

Contact

Grant Paynter

to

schedule:

(606)-842-0320

Soil Samples

First 10 Soil Samples are free!

(Per person)

$10 deposit on soil probe

Refund upon return

Hay Samples

$10 (Check) /sample

For more information call the

Extension Office at

(606)-724-5796

**We do free samples for the East KY Hay Contest in the fall. If you would like to be added to the list for sampling, please call the office.

Timely Tips—Cattle

Dr. Les Anderson, Beef Extension Professor, University of Kentucky

Spring Calving Cow Herd

- Watch cows and calves closely. Work hard to save every calf (you can cull/sell them later). Calves can be identified while they are young and easy to handle. Commercial male calves should be castrated and implanted. Registered calves should be weighed at birth.
- Cows that have calved need to be on an adequate nutritional level to rebreed. Increase their feed after calving. Don't let them lose body condition. Keep feeding them until pastures are adequate.
- Don't "rush to grass" although it can be really tempting. Be sure that grass has accumulated enough growth to support the cow's nutritional needs before depending solely upon it. Cows may walk the pastures looking for green grass instead of eating dry feed. This lush, watery grass is not adequate to support them. Keep them consuming dry feed until sufficient grass is available to sustain body condition. We've spent too much money keeping them in good condition to lose it now!
- Prevent grass tetany! Provide magnesium in the mineral mix until daytime temperatures are consistently above 60oF. Mineral supplement should be available at all times and contain a minimum of about 14 percent magnesium. Make sure that your mineral mix also contains adequate selenium, copper and zinc. You can ask your feed dealer about the UK Beef IRM High Magnesium Mineral.
- Make final selection of heifer replacements. Strongly consider vaccinating with a modified-live BVD vaccine.
- Purchase replacement bulls at least 30 days prior to the start of the breeding season. Have herd bulls evaluated for breeding soundness (10-20% of bulls are questionable or unsatisfactory breeders). Get all bulls in proper condition (BCS 6) for breeding.
- If you are going to use artificial insemination and/or estrous synchronization, make plans now and order needed supplies, semen, and schedule a technician.
- Prebreeding or "turn-out" working is usually scheduled for late April or May - between the end of calving season and before the start of the breeding season (while cows are open). Consult your veterinarian about vaccines and health products your herd needs. Make arrangements now for products needed and have handling facilities in good working order. Dehorn commercial calves before going to pasture.

Fall Calving Cow Herd

- Pregnancy check cows now and cull open ones at weaning especially if the open cows are older than 5 years of age.
- Re-implant feeders.
- Consult with your veterinarian about a preweaning working of the herd.
- You may let calves creep-graze wheat or rye, if it is available. Calves will benefit from extra feed until spring grass appears.
- Plan marketing strategy for feeder calves.

General

- We've made a muddy mess this winter, so be prepared to reseed bare spots. Our forage group has some excellent information on restoring heavily traffic areas.
- Make plans to improve hay feeding areas to avoid muddy conditions like we have faced this winter. Consider geotextile fabric with gravel or concrete feeding pads.
- Prepare for the grazing season. Check fences and make necessary repairs. Check your corral, too.
- Get everything ready to make high quality hay in May! Have equipment serviced and spare parts on hand. Order baler twine now. Be prepared to harvest an adequate supply of hay when you have the opportunity. Re-supply the extra hay that you fed out of the barn. This past winter caused most producers to exhaust their hay supply, so it's time to re-stock.
- Plan now for fly control ... decide what fly control program that you will use but don't put insecticide eartags on cattle until fly population appears.

Parasite Problems Returning in Cattle Due to Dewormer Resistance? UK Extension Teams up with KBN and Merck Animal Health to Assess Parasite Burdens in KY Beef Cow/Calf and Stocker Operations

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

Dewormers (anthelmintics), when given correctly, are not killing intestinal parasites of cattle as they used to. Although new drug "classes" entered the market from the 1950s to the 1980s, it has now been over 40 years since ivermectin was introduced in 1981. Basically 'we have what we have' which is 3 major chemical classes or families of dewormers known as the Benzimidazoles (SafeGuard® & Panacur®/ Valbazen®/Synanthic®), the Macrocyclic Lactones or MLs (Ivomec®/ Cydectin®/ Eprinex® & LongRange®/Dectomax®/generic ivermectins) and the Imidazothiazoles/ Tetrahydropyrimidines (Rumatel®/ Strongid®/ Prohibit® or Levasol®). These dewormers are gradually losing effectiveness against livestock parasites with no new products on the horizon to replace them.

"Anthelmintic resistance" is the phrase used for the ability of a parasite to survive treatment with a lethal dose of chemical dewormer because of a change in the genetic makeup (mutation) in the parasite. Only the parasites that survive after deworming will go on to reproduce and may pass a copy of their newly formed "resistance gene" to their offspring. But this is only half of the story. For fully resistant parasites to develop, both parents must pass a copy of this "bad" gene to the offspring. These resistant genes build up slowly but steadily in the parasite population, especially from repeated use of dewormers over many years, and they do not revert to susceptibility. Resistant worms are not more aggressive or deadly; they simply survive in higher numbers after deworming, resulting in production loss and disease in the most susceptible animals.

Consequences of high parasite burdens are mostly seen in younger animals, especially weaned calves and replacement heifers, since adult cattle develop an immunity to the effects of parasites. Although most infections in cattle are a combination of several different worm species, generally all gastrointestinal parasites cause anorexia and reduce the animal's ability to efficiently convert forage to milk and muscle. The number one sign of a parasite problem is lower than expected production, including less than genetic potential rate of gain, feed conversion, growth, and reproduction. This is potentially costing producers due to reduced weaning weights, delayed puberty, decreased fertility and pregnancy rates, reduced feed efficiency and immune suppression in young cattle, especially those ages 2 years and younger. As exposure to parasites increases with age, the bovine immune system reduces worm infections and suppresses worm egg production. This immunity to parasites is a moderately heritable trait. Unfortunately, the dependence on chemical dewormers has allowed selection of bulls and replacement females with high production numbers but has ignored any potential genetic contribution to fighting parasites. Additionally, chemical deworming has allowed continued husbandry and pasture management factors that keep worm burdens high. As an example, overstocking a pasture results in more feces, more worm eggs and larvae after egg hatching, shorter grass and more parasites in animals forced to graze near manure piles. Young, growing animals are at highest risk due to lack of previous exposure to parasites and a naïve immune system.

How is it possible to know if dewormer resistance is a problem in a herd? The best way to test is a Fecal Egg Count Reduction Test (FECRT) based on the knowledge that dead worms don't lay eggs. This test basically involves taking fecal samples from 20 random animals within a production group (cows, calves, or replacement heifers) at the time of deworming and sending them to a laboratory for a fecal egg count (FEC). Fecal samples are collected again from the same production group 14 days later and those samples are sent to the same laboratory for a second FEC. The second samples do not have to be collected from the same individual animals but do need to be from the same group collected previously. If the dewormer worked effectively, there should be at least a 90% reduction in the average or mean number of eggs from the first sample to the second sample. "Resistance" is present when the correct delivery of the correct dose of the dewormer to a healthy animal fails to produce at least a 90% reduction in the number of parasite eggs. It is important to understand that a decrease in "anthelmintic effectiveness" or "treatment failure" may be for reasons other than genetic or heritable resistance in the parasite population. Many factors can cause smaller than expected reductions in fecal egg count numbers including underdosing dewormers from errors in weight estimation, dosing equipment not calibrated correctly and/or not working properly, applying pour-ons to the hair of an animal rather than skin, use of expired products, and errors in sample collection and shipment, just to name a few.

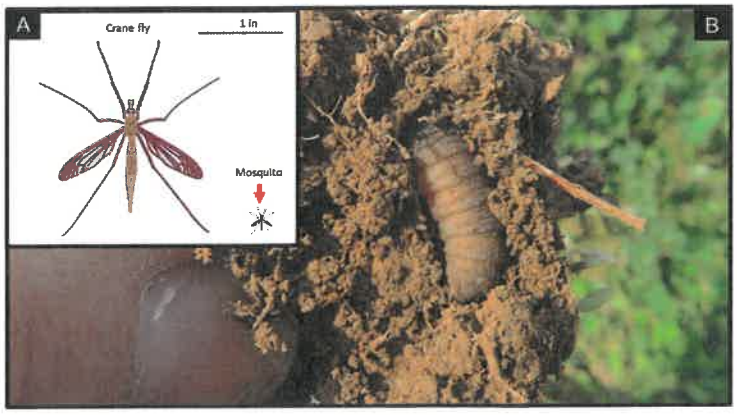
How can we slow the development of resistance to dewormers? First and foremost, we must understand the parasite prevalence (the proportion of cattle with a large parasite load in each time period) in KY cattle in order to properly direct research and extension interventions to lessen the effect of parasites on health and production. Secondly, we have to examine the current level of resistance to dewormers through FECRTs performed throughout the Commonwealth. Finally, it is important to identify the predominant types of gastrointestinal parasites in our cattle to correctly interpret the FEC. Most of the major parasites in cattle are classified as "strongyles" and their eggs are basically indistinguishable. Weaned calves up to 12-18 months of age are mostly affected by two strongyle species, Cooperia and Haemonchus, both of which produce huge numbers of eggs. Around 2 years of age, cattle develop resistance to Cooperia and Haemonchus but another strongyle, Ostertagia, a more pathogenic parasite predominates yet it does not produce many eggs. A PCR is now available to identify the parasite genus and species as there are concerns that climate change, intensive livestock management and dewormer resistance issues have fundamentally changed our picture of "expected" parasite burdens in production classes of cattle.

Reducing unnecessary treatment with dewormers, making sure the dewormers used are effective, and making sure deworming is performed correctly all contribute to fewer resistant genes in parasites. In addition, environmental management (see box) will help create safer pastures and lessen the need for chemical dewormers.

A Native Crane Fly Species may Be a Potential Pest in Alfalfa Fields of Kentucky

Armando Falcon-Brindis1, Raul T. Villanueva1, and Julian Dupuis2 (1University of Kentucky, Research and Education Center at Princeton, Kentucky, USA, and 2University of Kentucky, Entomology Department, Lexington, Kentucky, USA)

Overview of crane flies



Adult crane flies (Diptera: Tipulidae) are often misidentified as giant mosquitoes, they are actually different in size (0.8 to > 1 in. of body length) and belong to a different family. The larvae of crane flies are known as "leatherjackets" and in this case the larvae are found around 1-2 inches depth in the soil, displaying tan to dark brownish colors, with a retractile head capsule and spiracles.

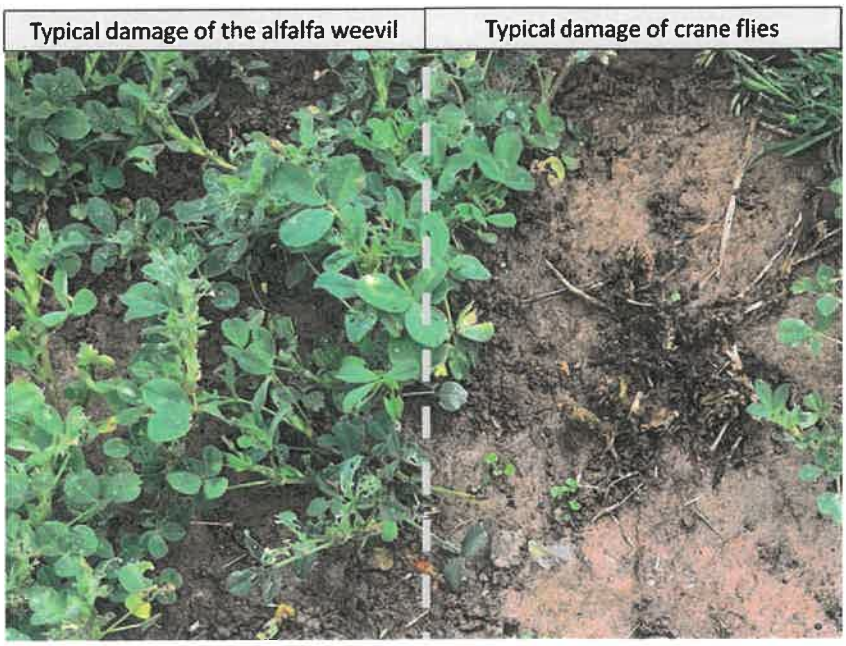
Most native crane fly species do not represent a threat to agriculture, but they may become pests when certain conditions are met. For instance, some invasive species are considered pests in golf courses and in some pastures. Here is the first report of a native species, Tipula paterifera that was found feeding on roots and foliage of alfalfa in Kentucky. The damage to alfalfa plants can be severe when high numbers of larvae are present in the soil. This species was previously found feeding on herbaceous plants in grasslands.

Biology and ecology of Tipula paterifera

The larva of T. paterifera is mostly found within 5-in. depth in the soil and some of them are collected close to the main root of alfalfa plants. Pupae are found close or on the ground surface. Between 1 to 10 crane fly larvae/ft2 were found in soil samples in 2022. The larva's lengths ranged from 0.5 to 0.9 inches. Under laboratory conditions adult females lay on average 397±121 (SEM) eggs, ranging from 41 to 1,361 eggs within 72 h. Eggs are laid on small clusters containing up to 18 eggs. Under dry conditions, larvae remained in hardened soil clumps. These individuals barely moved unless poked or if the soil clump was intentionally opened. In contrast, larvae in soaked conditions were able to breathe using their annal breathing tubes or spiracles.

Tipula paterifera larva (as many crane fly species) is physiologically adapted to survive both dry and moist conditions during larval stages. It caused economic damage to alfalfa only when high larvae populations appear (i.e., 2019 and 2021). However, there is no known economic threshold thus far. The outbreaks of T. paterifera in alfalfa fields could be attributed to certain climatic and ecological conditions not yet understood. The low populations of this species detected in 2022 could be explained in part by the extreme drought conditions across the north central U.S.

More information



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Trade vs. Common Names: Know Your Pesticides

Ric Bessin, Entomology Extension Specialist

All pesticides sold in the United States have a trade name, common name, and chemical name. While this can be confusing to many, there are important distinctions among these as they are used in different ways. To add to this complexity, some pesticides with the same common name may be sold under numerous trade names, including a large number of generic products.

Trade Name

Trade names are the names that the manufacturing company chooses to use for marketing the pesticide. If a particular active ingredient is being phased out, the manufacturer may choose to replace it in the pesticide product and change the name only slightly to take advantage of its name recognition in the marketplace. Some trade names may have several descriptors, such as 'KillzAll Granules for Lawns' or just 'KillzAll for Lawns.' But minor differences in the trade name might indicate that the two products have different active ingredients. For example, there is a line of 'Sevin' products with slightly different trade names, but when you look at the active ingredients on their labels, they have several different active ingredients or mixtures of active ingredients. Why does this matter if they are all in the same chemical class (mode of action) as they are with the Sevin products? Different active ingredients are not necessarily labelled on the same crops. Additionally, the rates may be different between the different products. Both of these can be issues when a person purchases what they thought was a replacement for what they had and do not realize there could be substantial differences in patterns of use.

Common Name

Each active ingredient has a common name. The common name is the name listed for the chemical in the active ingredients section of the label. The common name is the accepted name for the chemical and is used by all companies to describe the contents of their pesticide. Many different products sold by different companies may have the same active ingredient, hence the same common name of the pesticide. This is frequently the case when a pesticide goes off patent and generic versions become available.

Figure 1. Common names of the pesticide must be listed in the 'Active Ingredients' portion of the label that describes the contents of the product.

Chemical Name

The chemical name usually follows the common name in the active ingredients section of the label. Chemical names can be complex and are often only used by specialists in the industry.

Final Comments

It is a good practice, when you purchase a pesticide, to quickly check the front of the label for the common name to be certain it contains the active ingredient that you expect. Different active ingredients may have different use patterns, use restrictions, pre-harvest intervals, or environmental considerations.

10 Backyard Chicken Basics

Source: Jacquie Jacob, extension poultry project manager

Having a small chicken flock in the backyard is very popular these days. To have a successful flock producing eggs for your family, you'll want to learn the basics.

1. Make sure you check your local city and county ordinances to ensure you're able to have a backyard flock. Some ordinances require a minimum amount of land and some subdivisions and homeowners' associations have their own rules.
2. Chickens require daily care. You must feed them, provide clean water and collect eggs every single day. Managing a small flock is an excellent opportunity to teach children a certain amount of responsibility, but ultimately, you'll oversee the health and well-being of your flock.
3. Birds get sick and it may be difficult to find a veterinarian to provide care for them.
4. Cleanliness and sanitation are critical elements in caring for a small flock. Everyone must wash their hands before and after handling the birds. Also, no matter how tempting, avoid bringing your chickens into the house and don't use your kitchen sink to wash equipment.
5. Poop happens. Chickens eat a lot and hens use about 60% of the feed they consume and excrete the other 40% as manure. You must have a plan for that manure. One option is adding it as an odor-free fertilizer for your home garden.
6. Keep it down. Chickens make noise. Only roosters crow, however, hens are not always quiet and can make a lot of noise letting everyone know they just laid an egg.
7. The egg season will come to an end. Chickens stop producing eggs at some point in their lives and may live a long time beyond their egg-laying years. Have a plan for what you will do with hens that stop producing. If you keep them as pets, you'll have to keep feeding them and providing other resources for their care.
8. Housing is a big part of keeping a flock. Your birds will need a house that provides shelter from the weather, next boxes for egg laying and perches for roosting at night. Make sure housing is easy to clean and provides protection from predators. You'll have to manage their bedding well to prevent rodents from making your chickens' house their home.
9. Scratch that. Chickens scratch when they forage. If you let hens run free, you may need to place a fence around your garden if you don't want the birds to destroy it.
10. Know how to get chicks. You will most likely want to raise your hens from chicks. You can buy them online and have them shipped to your home, but some suppliers have minimum quantities for orders. You may have neighbors or friends who also raise chickens willing to join you in an order. Remember you'll need to provide new chicks with a heat source, such as a lamp, for at least six weeks.

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ELECTRONIC SERVICE REQUESTED

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