The September 2021 Edition of:

Nikki's Newsletter

Marshall County's Agriculture and Natural Resources Update

University of Kentucky
College of Agriculture, Food and Environment

Cooperative Extension
University of Kentucky
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After an August that will go down in history as one of the top 25 warmest Augusts of all-time (with data going back to 1895) and the warmest since 2016, fall can't get here fast enough, but don't get too excited because fall won't officially begin until September 22nd.

The 2021 **Farm to Fork Dinner** is still being held but has moved outside due to COVID restrictions. The new location is at the "old beach" at Kentucky Damn Village. You will still park in the convention center parking lot and then look for signs leading to the beach. Hopefully restrictions won't change again before the dinner. If they do, ticket holders will be contacted directly.

Right now every other email I receive is about **armyworms**. Armyworm moth counts were off the charts in early August. Now the worms are acting fast. They will attack anything in sight including: hay fields, pastures, lawns, gardens, athletic fields, soybeans, etc. Please note that it is not over. Due to observed egg laying success, specialist's suspect we will see their presence all the way up until frost. Be on the scout and if armyworms are present contact me for appropriate thresholds and insecticide recommendations if necessary. Also, there have been some questions about armyworms being consumed and effecting toxicity in cattle. There is currently no research to indicate any risk in dry hay.

As of right now, COVID does not restrict my ability to go on **combine rides** this harvest season! I look forward to these every year and appreciate the invite to join you and learn more about your operations. Just give me a call and I will do my best to be there. I hope everyone has a safe harvest!

Forage Timely Tips: September

- If not already done, soil sample and apply fertilizer as needed.
- Plant perennial grasses and legumes. Consider using a novel endophyte tall fescue.
- Harvest hay as needed. Do NOT harvest alfalfa after mid-September.
- Scout pastures, identify perennial weeds and woody brush. Consult an agricultural professional to determine the control strategy.
- Closely monitor livestock and do NOT overgraze. Pasture plants accumulate energy reserves in the fall that help them overwinter and regrow in the spring.
- Feed hay to allow pastures to stockpile for winter grazing.
- Rest native warm-season grass fields until after frost for better winter survival.

IN THIS ISSUE:

Hay Quality for Cattle Rationing Workshop

FREE HAY TEST!

Hay! You Need to be Sampling!

The Marshall County Extension Office is offering a free workshop. The first 25 beef producers who register for the workshop, return a hay sample by the deadline of October 1st and attend the workshop will receive their sample results at no cost (a $18 value!) Hay sampling probes can be borrowed from the Extension Office for no fee.

At the workshop, Dr. Vanvalin, University of Kentucky Specialist for Beef Cattle Nutrition will demonstrate how to fine tune your rations based on your hay sample results.

Workshop Info:

Tuesday, October 26th 2021
5:30 pm- ?
Bring your sample results, operation information and questions!

Location:
Marshall County Extension Office
1933 Mayfield Highway,
Benton KY, 42071

RSVP by Calling 270-527-3285 or in person when dropping off your sample

Carbon Market Basics

Jordan Shockley and Will Snell, UK agricultural economists

Carbon markets are a relatively new way for large corporations to offset their carbon footprint by paying agricultural producers for new or existing environmentally sound production practices that sequester or "trap" carbon in the ground. Typically, these large companies purchase carbon credits from a third-party aggregator who has paid the farmer for their production practices. Environmentally beneficial production practices that can qualify for carbon credits include no-till/reduced tillage, cover crops, crop rotation and buffer strips. In Kentucky, no-till and cover crops may make the most sense for most producers.

Two kinds of carbon markets exist. One is a compliance market that limits greenhouse gas emissions for large companies. The second is a voluntary market where aggregators connect producers with companies needing to purchase carbon credits. Some companies will only purchase credits from producers who are implementing new practices while others will pay producers who have existing beneficial practices. Since Kentucky is the birthplace of no-till agriculture, the majority of our farmers are going to fall into the latter category.

With the market still in the developmental stages, much is still to be determined including firm pricing points. Carbon credit amounts will vary by farm based on how much carbon the ground can hold. Producers typically get between $15-$20 per ton of carbon sequestered. The aggregator determines the amount of carbon a farm can contain based on soil sampling and models. Many models exist to determine how much carbon a property can sequester with a production practice including one developed by the U.S. Department of Agriculture.

Jordan Shockley, a University of Kentucky agricultural economist, conducted a study on how much money Kentucky farmers could expect to make from the carbon market. He found that a 100-acre corn and soybean farmer in Hardin County could expect between $6-$21 per acre for no-till and cover crop practices. Before enrolling in a carbon market program, make sure you ask questions, understand the contract's terms, read the entire contract, including the fine print, and seek legal advice.

Tips for Stockpiling Tall Fescue for Winter Grazing

Chris Teutsch, Extension Forages

Feeding hay during the winter months is the single highest expense for cow-calf producers in transition zone states like Kentucky. In many cases it can make up more than 60% of the total cow-calf budget. While dry hay is the cornerstone of most winter feeding programs, grazing stockpiled cool-season grasses in late fall and winter can reduce feed costs by more than 50% per day per cow. The following tips will help to optimize your stockpiling program.

Choose a strong tall fescue sod in a field that is well drained. To get the maximum yield response to nitrogen applications you will need a healthy stand of tall fescue. Choosing a field that is well-drained will help to ensure that the stockpile can be grazed with minimal pugging damage during the wet winter months.

Clip or graze pastures that will be stockpiled to 3-4 inches prior to applying nitrogen. Clipping pastures removes old growth and increases the forage quality of the stockpiled grass.

Apply 60-80 lb. of nitrogen per acre in mid to late August. Applying nitrogen too early can stimulate summer annual weed growth, while applying nitrogen too late decreases dry matter yield.

Allow growth to accumulate until mid-December before grazing. If limited grazing is available, feed hay during this accumulation period rather than the winter months.

Graze stockpiled pastures that contain legumes first. Legumes deteriorate at faster rate than grass and should be grazed first to minimize losses. Strip graze tall fescue to maximize grazing days. Allocating only enough stockpiled grass for 2-3 days will increase grazing days per acre by more than 30%.

Frost seed legumes on grazed areas. Closely grazed stockpile provides an excellent opportunity to establish legumes in grass dominated pastures. Broadcasting the seed as the pasture is being grazed can enhance soil-seed contact and increase over-seeding success. For more information on stockpiling for winter graze, please visit your local Cooperative Extension, Natural Resources Conservation Service, or Soil and Water Conservation District office.

Poultry Litter + Cover Crops = An Alternative When Fall Fertilizer Prices Are High?

Dr. John Grove and Dr. Edwin Ritchey, Extension Soils Specialists

A good fall soil fertility program is getting pretty pricey this year. As we write this, the latest DTN retail price survey (https://www.dtnpf.com/agriculture/web/ag/crops/article/2021/08/04/retail-potash-price-100-per-ton-2) has potash (0-0-60) at $549/ton, DAP (18-46-0) at $695/ton and urea (46-0-0) at $554/ton. These prices are about the highest we've seen in 10 years or so. People are starting to ask the question: Are there alternatives? The answer: Maybe. In Kentucky, poultry litter is plentiful and can serve as a major source of nutrients for our crop acres. And cover crops can help protect fall applied nutrients from winter-spring losses.

To evaluate poultry litter value, you need to have the field(s) soil tested to generate fertilizer nutrient rate recommendations. Litter is best viewed as a multi-nutrient source that can maintain overall soil fertility – less valuable when used as the sole source of a single nutrient – but also less valuable when field soil fertility is already high. You also need a litter analysis for nutrient and moisture concentrations. Then you can apply some economics. Drs. Jordan Shockley and Edwin Ritchey, as part of projects funded by the Kentucky Soybean Association (https://soybeanresearchinfo.com/research-highlight/all-poultry-litter-is-not-created-equal/), looked at the nutrient analysis results for over 700 samples (Table 1). Using the latest fertilizer prices (and correcting DAP for its N value using the urea price), litter's average fertilizer-equivalent value as an N-P2O5-K2O source was $82/ton. And this does not include litter's value as a liming agent (the basic Ca and Mg compounds in the average ton of litter cause a CCE of 11.5%), as a source of micronutrients like Zn and Cu, and a nutrient rich organic carbon amendment that stimulates soil microbial activity and promotes soil health.

These calculations can be completed by hand or with the assistance of several online or downloadable calculators. The UK Division of Regulatory Services has several calculators that can be used to determine poultry litter rates (http://www.rs.uky.edu/soil/cal.php). Economic consequences of applying poultry litter can be evaluated with an Excel based calculator for row crops (Economic Value of Poultry Litter Tool: Grain Crops) and forages (https://agecon.ca.uky.edu/files/extpltoolpasture25.xlsx).

To get the most value from the litter, start with litter analysis (including moisture content) and then do a good job uniformly spreading the litter (Figure 1). Calibrate the spreader, monitoring both the spread rate, the spread width, and the uniformity of litter distribution across that width. Different densities (due to moisture differences) result in different spread widths/distributions.

Figure 1. Spreader calibration for a poultry litter field application.

Fall applied poultry litter can lose N to ammonia volatilization, denitrification, and nitrate leaching. All litter nutrients (in addition to those in the nutrient-rich topsoil) are subject to erosion and runoff losses. Erosion and runoff rob nutrients from the field. Erosion carries nutrient rich lighter particles, litter and crop residue particles being among the lightest, to field areas that probably don't need them or off the field entirely.

Winter cover crops provide erosion control and enhance water infiltration. As they grow, winter cover crops take up soil nutrients (including nutrients released from decomposing poultry litter), immobilize them in their tissues and further conserving them against losses. Cover crops may consist of both legumes (clovers, vetches, winter pea) and non-legumes (winter cereals/brassicas), but non-legumes should dominate to better conserve the N re-leased from decomposing litter, crop residues and mineralized from soil organic matter. Seeding a cover crop adds value to all fall applied nutrients, and especially to poultry litter (erosion losses of litter are more likely), but at the cost of the cover crop seed and the act of seeding.

Fertilizer has become increasingly expensive. Poultry litter may be an economically viable alternative to fertilizer, though its value is strongly related to litter nutrient concentrations and soil nutrient levels. Litter may be fall applied, especially in the presence of actively growing winter cover crops. If you have questions or comments, please contact the Marshall County Extension Office.

Horse Hoof Care 101

Bob Coleman, UK Equine Extension Specialist

Hoof care is important to keeping your horses comfortable and healthy. Proper hoof care can help ensure that you enjoy your horse for a long time.

Farriers and veterinarians are the experts when it comes to horse hoof care. It is important for you to have a good working relationship with both. They can help you maintain a regular maintenance schedule and quickly address any hoof-related problems.

As a responsible horse owner, you should clean your horse's feet daily. This practice gets them comfortable with having their feet handled and helps ensure they will stand for the farrier. This will make the experience safer for both the horse and the farrier. Have your horse's hooves trim or shod as needed to protect your horse from developing hoof infections and lameness.

Horses' hooves grow at different rates, depending on the horse and its intended purpose. For example, hooves of performance horses may grow quicker than those used for pleasure riding. Generally, hooves grow quicker during the summertime compared to the winter. In the summer, trim or shod horses every six to eight weeks. In the winter, you might be able to stretch maintenance to every six to 12 weeks, but again, it depends on the horse.

Horses should have balanced hooves. They put less strain on the horse's bones, tendons and ligaments and allow for easier and more fluid movements. When hooves are balanced, they have the following characteristics:

- A straight line from the pastern through the front of the hoof wall.
- Toes that are not too long, square trimmed or rounded and rolled.
- The shoe reaches to the back of the hoof wall and supports the entire leg.

If you wait too long between trimmings, a horse's hooves can crack. This can lead to serious health problems including lameness.

Their hooves can also become dry and crack during dry weather, wintertime or frequent changes between dry and wet conditions. If your horse's hooves become dry, brittle or start developing cracks, apply a hoof moisturizer to the hoof wall and sole.

Wintertime calls for specific hoof care. Horses should be left barefoot if they are not normally shod. Bare feet can help them grip surfaces and prevent slipping. However, you may need keep shoes on your horse during the winter if it is prone to bruising.

Keep areas where horses frequent clean and dry. Wet, dirty conditions can cause thrush, which is a smelly, black fluid that leaks from the hooves. It can invade the horse's tissues and cause lameness.

Proper nutrition goes a long way to reducing hoof cracks and ensuring optimum horse health. Generally, horses need high quality hay, the appropriate amount of vitamin and mineral supplements and fresh, clean water. You can also purchase a supplement containing biotin, zinc or methionine to improve hoof health.

More information on horse health is available at the Marshall County office of the University of Kentucky Cooperative Extension Service.

Armyworm Update- Aug 30th

Chris Teutsch and Ray Smith, Extension Forage Specialists

Armyworms have been steadily moving across Kentucky and will likely be with us until frost. The lifecycle of armyworms is approximately 20-30 days (from eggs, to worms, to pupae, to moths, to eggs again), but it is important to remember that the population is NOT synchronized. So new armyworms could be emerging daily until frost. We wanted to share a few observations and thoughts with you.

We are observing plenty of egg laying from the current crop of armyworms. This is a good indication that they will be a persistent problem until frost. Alfalfa and clover seem to be a preferred food source, but there are also reports of devastated hayfields and pastures. We expect established hay and pasture stands to grow back normally, but may be weakened.

Controlling re-infestations in alfalfa is critical as we move into fall. As you know, allowing alfalfa to replenish carbohydrate reserves in the taproot prior to fall dormancy is important for persistence and growth in the spring. So, scouting and insecticide application when the economic threshold has been reached is critical to the the long-term health of alfalfa stands.

If you are establishing new forage stands this fall, it is critical that they are closely monitored, and insecticides are applied as soon as the economic thresholds have been reached. New seedings will be extremely susceptible to fall armyworm damage since they do not have an established root system and will not likely recover. If you are stockpiling cool-season grasses for winter grazing, it will be important to closely monitor growth for armyworms and apply insecticide once the economic thresholds have been reached.

Small Diversified Farm Series

Homesteading for Profit Field Day

College of Agriculture, Food and Environment
Cooperative Extension Service

TRIMBLE FARMS
3513 FARMERSVILLE RD
PRINCETON, KY

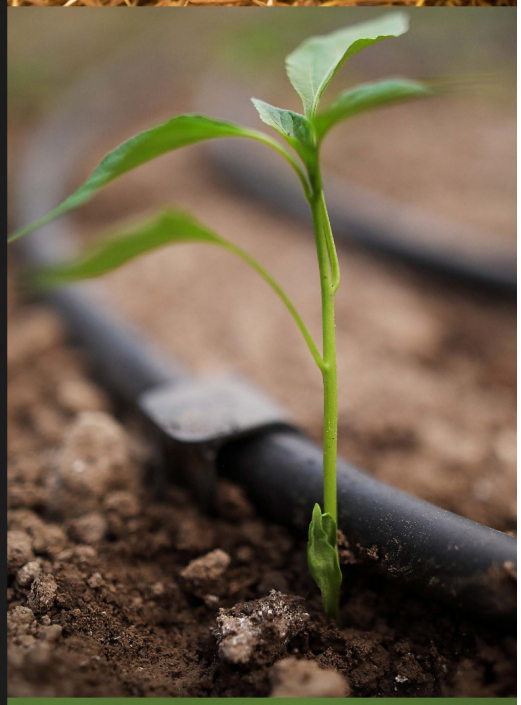
SEPTEMBER 23, 2021
6 PM

Join us as we tour a locally owned and operated small diversified farm operation. You will get the chance to network with other farmers and learn from the Trimble Family how their operation works. The Trimble's are currently or have grown a variety of vegetables, fruits and flower crops along with livestock production that include chickens and hogs.

Directions From Princeton I-69/ Hwy 91 interchange:
Take State Route 91/ Marion Rd.
Drive 1.6 miles
Turn right onto Farmersville Rd./ St. Rte. 139
Drive3.5 miles
Trimble Farms is on the left

CALL YOUR COUNTY EXTENSION OFFICE TO REGISTER:

CALDWELL: 270-365-2787
CALLOWAY: 270-753-1452
CRITTENDEN: 270-965-5236
LIVINGSTON: 270-928-2168
MARSHALL: 270-527-3285
MCCRACKEN: 270-554-9520
TRIGG: 270-522-3269



"Wet Feet" of Ornamentals

By Kimberly Leonberger, Plant Pathology Extension Associate and Nicole Gauthier, Plant Pathology Extension Specialist

"Wet feet" is the common term for a condition that affects plant species intolerant of wet growing conditions. This problem occurs when soils become saturated in water, which ultimately causes roots to suffocate. Once root damage occurs, plants decline and may eventually die. While "wet feet" is an abiotic disorder, declining root health and wet soil conditions can provide the ideal environment for infection by many root and collar rot pathogens.

Excess soil moisture may result from high clay content, poor drainage, lack of topsoil, drainage from other locations collecting at site, low areas in the landscape (Figure 1), or overwatering. Obvious indicators of "wet feet" are the presences of wet, soggy soils or puddles on the soil surface after heavy rains. Algae or moss may also be present on soil surfaces at wet sites.

Figure 1: Low-lying areas may hold surface water after excessive irrigation or heavy rain. (Photo: Julie Beale, UK)

For more information on "wet feet" and related disease problems, including symptoms, causes, prevention, and treatment, review the publication "Wet Feet" of Ornamentals (PPFS-OR-W-04).

Additional Information:
-"Wet Feet" of Ornamentals *PPFS-OR-W-04*
-Plant Pathology Extension Publications *http://plantpathology.ca.uky.edu/extension/publications*

Figure 2: Root damage from wet conditions can cause "drought" symptoms due to reduced uptake of water and nutrients, resulting in symptoms such as wilting, yellowing, and/or browning. (Photo: Nicole Gauthier, UK)

Plant symptoms that can result from "wet feet" include wilting, yellowing, and/or browning (Figure 2); twig or branch dieback; and browning and death of deeper roots, while surface roots remain healthy. Knowledge of a growing site, drainage, and irrigation practices in helpful in diagnosing "wet feet."

Cover Crops for Gardens

Traditional farmers routinely plant a cover crop at the end of a growing season. This is not something usually done by vegetable growers but is highly recommended.

A cover crop is intentionally seeding a crop if your garden is going to be sitting idle for a period of time, instead of letting the land sit fallow. It will put nutrients back into the soil to improve fertility and erosion control. The type of cover crop you choose to plant depends on your equipment and level of interest.

There are two types of cover crops, legumes and non-legumes. Legumes will add nitrogen to the soil and non-legumes, a type of grass, establishes better than legumes. In a vegetable garden a mixture of the two is common, but you can choose one or the other. Cover crops are typically planted in the fall after all crops have been harvested.

Examples of cover crops include:
Cereal rye – non-legume – planted September to November
Wheat – non-legume – planted September to November
Hairy vetch – legume – adds nitrogen – planted August to September
Crimson clover – legume – adds nitrogen – planted August to September

Grasses are easier to remove in the spring, before planting, because they have a shallow root system. Crimson clover is recommended as a legume with its shallow root system and is a good pollinator.

Contact the Marshall County office of the University of Kentucky Cooperative Extension Service for more information about cover crops for your vegetable garden.

Sorghum Gingerbread Pear Muffins

1 cup whole-wheat flour
½ teaspoon baking powder
½ teaspoon baking soda
½ teaspoon ground cinnamon
½ teaspoon ground ginger
¼ teaspoon salt
1 egg
½ cup buttermilk
½ cup sorghum syrup
½ cup unsweetened applesauce
1 pear, peeled, cored, and diced

Preheat oven to 375 degrees F. **Grease** 12 muffin cups or line with paper liners. In a mixing bowl, **combine** the flour, baking powder, baking soda, cinnamon, ginger, and salt. In a separate bowl, **mix** together the egg, buttermilk, sorghum syrup and applesauce until smooth. **Add** the egg mixture to the flour mixture and **combine** until the batter is just moistened. Gently **fold** in the diced pears. **Fill** the muffin cups with the mixture. They will be full. **Bake** in the preheated oven until a toothpick inserted in the center of a muffin comes out clean, about 20 minutes.

Yield: 12 muffins. Serving size, one muffin.

Nutritional Analysis: 90 calories, 1g fat, 0g saturated fat, 0g trans fat, 15mg cholesterol, 140mg sodium, 20g carbohydrate, 2g fiber, 13g total sugars, 10g added sugars, 2g protein

Kentucky Sweet Sorghum

SEASON: September to mid-November

NUTRITION FACTS: One tablespoon of sorghum syrup has 60 calories, no fat, 15 grams of added sugar. It also has minerals such as potassium and iron.

SELECTION: The juice of sweet sorghum (Sorghum bicolor) is extracted from the plant's stalks. Stalks are crushed, and the extracted juice is cooked down to a thick, sticky syrup.

STORAGE: Store at room temperature in an airtight container.

PREPARATION: Sorghum syrup can be used in the same way honey is used. It adds sweetness to items such as oatmeal, biscuits, tea, or baked beans. It can also be used in baked goods.

SWEET SORGHUM
Kentucky Proud Project
County Extension Agents for Family and Consumer Sciences
University of Kentucky, Dietetics and Human Nutrition students
May 2020

Source: https://www.uky.edu/ccd/sites/www.uky.edu.ccd/files/swsorghum.pdf

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

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For more information go to:
http://marshall.ca.uky.edu/AgNaturalResources
or follow us on Facebook @marshallcountyanr

Nikki Rhein
Marshall County Agriculture and Natural Resources Agent