

Agriculture Natural Resources Newsletter MARCH, 2024

 Cooperative
Extension Service

Martin-Gatton
College of Agriculture,
Food and Environment

Mercer County
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Linda McClanahan

Linda McClanahan, Mercer County Agent
for Agriculture & Natural Resources

21st Annual Mercer County Farm/City Dinner



*Everyone is invited to come out and enjoy a steak dinner!
Tickets are \$12 and can be purchased from any primary sponsor.*

Thursday, March 21st 6:00pm
Mercer County Extension Office
Beef Cuts Demonstration
Dr. Gregg Rentfrow
UK Extension Meats Specialist

Primary Sponsors

Mercer County Farm Bureau
Mercer County Conservation District

Mercer County Chamber of Commerce
Mercer County Extension Service

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Disabilities
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Poison Hemlock – A Growing Concern

Dr. JD Green, UK Extension Weed Science Specialist

Poison hemlock (*Conium maculatum*) has become widespread throughout most of Kentucky. Although this plant is often seen along roadways, fence rows, and other non-cropland sites, it has expanded out into grazed pasture lands and hay fields. It has also become an increasing concern in residential locations when it is observed in areas that are not frequently mowed, such as vacant and abandoned lots. The concern not only stems from its invasive nature, but the fact that it is one of the most toxic plants in the world. Throughout history, the toxicity of poison hemlock is well known for accidental deaths of humans and other animals.

Description

Poison hemlock is classified as a biennial that reproduces only by seed. It is capable, however, of completing its lifecycle as a winter annual in Kentucky if it germinates during the fall months. New plants emerge in the fall or late winter forming a cluster of leaves that are arranged as a rosette on the ground (Figure 1). The individual leaves are shiny green and triangular in appearance. Although poison hemlock is most noticeable in late May and June during the flowering stage of growth, the vegetative growth stage is readily observed during the cooler months of the year (Figure 2) with its parsley-like leaves which are highly dissected or fern-like.



Figure 1. Poison hemlock rosette (Photo: JD Green, UK).



Figure 2. Poison hemlock plants growing along a fence line in late December (Photo: JD Green, UK).

As the plant begins to send up flower stalks in the spring, the leaves are alternately arranged on the main stem. Each individual leaf is pinnately compound with several pairs of leaflets that appear along opposite sides of the main petiole. As the plant matures, poison hemlock creates a taproot and grows upwards to about 6 to 8 feet tall. At maturity the plant is erect, often with multi-branched stems (Figure 3). Poison hemlock has hollow stems which are smooth with purple spots randomly seen along the stem and on leaf petioles. There are no hairs on the plant that helps distinguish it from other plants similar in appearance. The flowers, when mature, are white and form a series of compound umbels (an umbrella-shaped cluster of small flowers) at the end of each terminal stalk. Poison hemlock can be associated with areas having adequate moisture throughout the year, as well as, drier environments.

Figure 3. Mature poison hemlock plant. (Photo: JD Green, UK)

Toxicity

The risk of exposure to poison hemlock toxicity is primarily through ingestion. Just small amounts of ingestion can result in possible death to all mammals. The principal toxin in poison hemlock is coniine and a few other toxic alkaloids, which are present in all parts of the plant, including the seeds and roots. A well-known case of human toxicity was the death of Socrates, a Greek philosopher, who was sentenced to death in 399 BC by ingestion of a poison hemlock potion.

There have been some concerns expressed that toxicity such as dermal



reactions may occur by simply being in proximity of poison hemlock plants. However, it is unlikely that most people will experience skin rashes who come in direct contact with poison hemlock as opposed to exposure to other plants such as wild parsnip or other potentially toxic plants within the carrot plant family Apiaceae.

If consumed, all classes of livestock are known to be affected by poison hemlock. Cattle, horses, and goats are considered to be the most susceptible domestic animals although other animals can be affected as well. Symptoms of poisoning can occur rapidly anywhere within 30 minutes to 2 hours depending on the animal, quantity consumed, and other factors. Initial symptoms can include nervousness, trembling, muscular weakness and loss of coordination, dilation of pupils, coma, and eventually death from respiratory paralysis. Lethal doses for cattle are considered to be in the range of 0.2 to 0.5% of the animal's body weight. Poison hemlock is also known to cause fetal deformation when pregnant animals consume the plant.

Fortunately, most animals tend to avoid grazing poison hemlock if other forage is readily available. However, animals may be more prone to consume green plants during the late winter and early spring when other forage species are more limited. Toxicity may be somewhat reduced in dried plants, but the potential for toxicity still exists, particularly when a sufficient quantity is consumed in dried hay. Therefore, extreme caution should be considered before feeding animals hay known to contain large quantities of poison hemlock. Also, animals may be attracted to consume poison hemlock when plants are treated with an herbicide.

Control

The principal strategy for poison hemlock control is to prevent seed production, which can be a challenge since a fully mature plant is capable of producing 35,000 to 40,000 new seeds. Once plants have produced flowers it is generally too late to utilize herbicide control methods. Whereas, mechanical control efforts (if feasible) such as mowing or cutting down individual plants should be initiated just before peak flower production to avoid or reduce the amount of new seed being produced.

As an overall strategy, make note of areas known to contain populations of poison hemlock and begin to look for emergence of new plants in the fall and during the winter months. Throughout the fall (October/November) or early spring (late February/March) is the best time of year for herbicide treatment. Herbicide products containing 2,4-D can be effective when applied to smaller, actively growing plants that are still in the younger rosette stage of growth. As plant rosettes become more mature, premixtures of products containing 2,4-D + dicamba, 2,4-D + triclopyr, or aminopyralid are needed for best results. Spot treatments with products containing 2,4-D, triclopyr, or glyphosate can also be used depending on the location. Always consult product labels for approved sites of application and for precautions that should be considered when applying herbicides.



Fiesta Potatoes

8 small to medium russet potatoes, peeled and diced	1 medium onion, chopped	parsley, chopped
1 green bell pepper, chopped	1 cup Mexican blend cheese, shredded	1 tablespoon dried basil, crushed
1 red bell pepper, chopped	½ cup margarine, melted	¾ teaspoon salt
	½ cup low-fat milk	¼ teaspoon black pepper
	2 tablespoons fresh	

Preheat oven to 350 degrees F. **Place** the potatoes, bell peppers and onion in a medium pan and cover with water. **Place** over high heat and bring to a **boil**. **Reduce** heat and **simmer** 12-15 minutes, or until vegetables are tender. **Drain** the vegetables and **place** in a mixing bowl. **Stir** in the cheese, margarine, milk and seasonings until combined. **Spread** the mixture in a

9-by-13-inch baking pan that has been sprayed with a non-stick coating. **Bake** for about 20 minutes or until bubbly.

Yield: 12, ½ cup servings

Nutritional Analysis: 200 calories, 9 g fat, 2 g saturated fat, 5 mg cholesterol, 370 mg sodium, 24 g carbohydrates, 3 g fiber, 3 g sugar, 9 g protein.



Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.

<http://plateitup.ca.uky.edu>

Minerals: Too Much of a Good Thing

Dr. Katie VanValin, Assistant Extension Professor, University of Kentucky

Minerals are an essential nutrient for beef cattle. This means like protein and energy, minerals must be supplied in the diet, however minerals make up a very small portion of the total diet. Many feedstuffs are deficient in one or more essential minerals which is why mineral supplementation is a critical component of meeting the nutritional needs of the herd. So, this begs the question, “if a little is good, isn’t more better?”. The truth is we can have too much of a good thing when it comes to minerals, and this can lead to serious and sometimes fatal consequences.

Sulfur

The sulfur requirement for beef cattle is 0.15%, with maximum tolerable concentrations of 0.3% in high concentrate diets (15% roughage or less), and 0.5% in high roughage diets (40% or greater roughage). By-product feeds including corn gluten feed and distillers grains can be high in sulfur content. According to the Nutrient Requirements of Beef Cattle (NASEM, 2016), sulfur content of corn gluten feed, dried distillers grains, and distillers solubles averaged 0.58%, 0.66%, and 0.82% S, respectively. Sulfur content of forages also need to be accounted for and can range between 0.15-0.20% S. Lastly, sulfur content of water can vary greatly from one source to the next but can also add to the total S intake of the animal. Thus, it is possible to overfeed sulfur if careful consideration is not taken when formulating the diets, especially when utilizing by-product feeds. When sulfur is fed above the maximum tolerable concentrations, it is possible for cattle to develop sulfur toxicity which causes Polioencephalomalacia (PEM), a neurological disorder resulting in blindness, ataxia, seizures, and death.

By-product feeds can be a great asset to the feeding program, but care should be taken to avoid complications from over-feeding. Just because a feed ingredient is “free” or “cheap” does not mean we should be feeding as much as the cow wants to consume. Unfortunately, it is not all that uncommon to see rations with sulfur concentrations above maximum tolerable levels, and this is often caused by over feeding of by-product feeds.

Calcium and Phosphorus

Calcium and phosphorus requirements vary depending on stage of production, but in general the requirements of calcium compared to phosphorus are a 2 to 1 ratio. However, many concentrate feed stuffs such as corn or distillers grains actually have an inversed calcium to phosphorus ratio, meaning they are higher in phosphorus than calcium. Evaluating the calcium to phosphorus ratio of the diet is an important step, when developing a feeding program because when calcium in the diet is low and phosphorus is high, cattle are at risk of developing urinary calculi or stones. A simple solution is to feed a co-product balancing mineral product which will have higher levels of phosphorus and lower levels of calcium compared to a more typical or 2:1 cow-calf mineral.

Selenium

Initially, selenium was known for its toxic effects and negative impacts on human and animal health. It was not until 1957 that selenium was recognized as an essential nutrient, and research was conducted to understand the dietary selenium concentrations needed to prevent deficiency and toxicity in livestock. It was not until 1978 that the FDA approved feeding supplemental selenium to beef cattle. Mineral tags will often include verbiage stating that this product was formulated to provide 3 mg of selenium per head per day, which is the maximum level allowed by the FDA. This means that for a free-choice mineral product with a target intake of 3 oz. per head per day the selenium concentration shall not exceed 35.2 ppm, and for a target intake of 4 oz. per head per day selenium concentrations shall not exceed 26.4 ppm.

Regulations on the selenium content of mineral supplements, help to prevent selenium toxicity, and instead we often talk more about selenium deficiency. In Kentucky and other parts of the southeast it is not uncommon for forages to be deficient in selenium, making a good mineral program that includes selenium an important management practice. However, other parts of the world have areas where selenium concentrations in plants can be quite high, resulting in selenium toxicity. For this reason, selenium is another example of a mineral where a little is good, but more is not always better.

Minerals have many complex interactions with one another, which can make understanding and developing mineral requirements difficult. At the same time, it is possible to overfeed certain minerals in the diet which can result in serious complications. For this reason, it is recommended to work with a nutritionist to develop a feeding program to meet the needs of your herd while minimizing the potential for negative or unintended complications. For most herds a good quality, complete free-choice mineral is a great starting point for ensuring the mineral needs of the herd are being met, but if concentrates or by-product feeds, a co-product balancing mineral might be recommended. For questions regarding mineral supplementation, reach out to your local county extension office.

Spring Forward- Be Prepared
Brandon Peloquin– National Weather Service Wilmington, OH

As March begins and winter starts to wind down, now is the time to start thinking about being prepared for what the unpredictable spring weather can throw at us. March is a transitional month where we need to be prepared for anything and everything. In recent years, we've seen snow and cold snaps, but we've also experienced flooding and tornadoes as well. March tends to represent the battle between winter ending and spring beginning. Eventually, as we move into April and May, signs of winter disappear and spring develops in full force.

Spring can bring beautiful weather, with warm temperatures and sunny skies - great to get the flowers blooming. But it can also bring violent, dangerous weather. Do you or your family know what to do if severe weather strikes where you are? Preparation can be key for everyone's safety!

Always be weather aware! Make sure you know the weather risks of the day ahead of time. When severe thunderstorm, tornado, and flash flood warnings are issued, having multiple methods to receive these warnings and weather information is very important for you to be able to take the appropriate action. This could include a NOAA weather radio, a reverse call system, television/radio, or nearby sirens if you are outdoors. In addition, you should know what to do when these warnings are issued. Have a plan - and put that plan into action. Make sure you have a safety kit ready to go, as well as a point of contact who can make sure everyone is accounted for and safe.

A **Severe Thunderstorm Warning** means severe weather (damaging winds at least 60 mph and/or large hail of 1 inch or greater) has been reported by spotters or indicated by the National Weather Service's radar. Take shelter in a substantial building, away from windows. If the severe thunderstorm warning states winds in excess of 80 mph, treat it like a tornado warning.

A **Tornado Warning** means a tornado has been spotted or indicated by radar. There is imminent danger to life and property. Take action now! Move to the basement or an underground cellar if possible. If an underground shelter is not available, move to an interior room (multiple walls between you and the outside of the house) on the lowest floor of a sturdy building. You should be sheltered well away from windows or any outside doors. The smaller the interior room the better (closet, bathroom, hallway).

A **Flash Flood Warning** means a flash flood (rapid rise of water) is imminent or occurring and could infringe on property or threaten life. If you are in a flood prone area, move immediately to higher ground. Do NOT try to travel across flooded roadways. Know ahead of time which roads are likely to flood, and what other routes out are available (if any). If water is starting to rise, go ahead and evacuate before it's too late.

Make it a point to *practice* your severe weather plan. The month of March is a great time to pick a day to simulate that severe weather is happening and to practice your plan with family members and friends so that everyone knows what to do and where to go in an actual severe weather situation.

After a long winter, we all look forward to the warmer and sunnier days of spring. However, the risk for hazardous weather also increases, so being prepared now can help limit the impact.



PRIVATE PESTICIDE
APPLICATOR TRAINING

Monday, March 11, 10:00am

Monday, March 18, 1:00pm

Monday, March 25, 6:00pm

If you are planning to purchase any restricted-use pesticides, or your certification has expired, you need to attend this training. Certification is free and lasts for three years.

The program will take around 2 hours.

For private application, not commercial use.

To sign up, or for questions, please call me at

859-734-4378.

Cow-Calf Profitability Conference

Cow-Calf Profitability Conferences are one day, intensive seminars focusing on key topics for beef producers. Conferences are funded by the Kentucky Agricultural Development Fund through the Kentucky Beef Network and delivered by UK Agricultural Economics' Kenny Burdine, Greg Halich and Jonathan Shepherd.

Thursday,
March 14, 2024

9:00 am – 4:00 pm

Madison County
Extension Office
230 Duncannon Lane
Richmond, KY 40475

Call
859-623-4072
to RSVP

Doors open at
8:00 AM

Sponsored Lunch
provided by



Topics

- Key Profit Drivers
- Managing Hay Production Costs
- Breeding Stock Depreciation
- Reducing Fertilizer Use
- Keys to Cow Herd Management
- Tax Management Strategies
- Bale Grazing & Stocking Rates





Join us monthly for our new
**Mercer County Extension Office
Homesteading Series!**

Call 859-734-4378 to RSVP

All About Herbs

March 19 at 10:00am

We will cover the basics of growing herbs and which ones do best in our area. Whether you are growing them for culinary use or planting them for pollinators they make a great addition to any garden!



Preserving, Storing, and Cooking With Herbs

March 27 at 10:00

Now that you have successfully harvested your herb garden, it's time to learn what you can do with them! Cooking with herbs is an excellent way to season food without adding fat or sodium. Many herbs can be dried or frozen for later use! In this class, you will find out the best method of preserving common herbs, how to store herbs for the longest shelf life, and using herbs to add flavor to your favorite dishes.

Mercer County Extension Office
1007 Lexington Road
Harrodsburg, KY 40330



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University of Kentucky
 College of Agriculture,
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 Cooperative Extension Service
 Mercer County

Thurs., March 28th 6:00 PM @ Extension Office

Join us for our next 2024 educational meeting!

CATTLE MANAGEMENT MEETING

Farm Layout & Design

Dr. Steve Higgins, UK Environmental
 Compliance Specialist



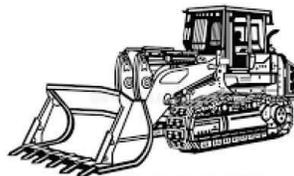
Secure Beef Supply & Biosecurity

Eric Gibson, KDA Division of Emergency
 Management Director

*This class qualifies for KADF CAIP
 Educational credit for the cost
 share program.*

FREE Steak Dinner Provided By:

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 to be entered in special drawing!**



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**If you plan to attend, please
 call the extension office 859-
 734-4378 by Monday, March
 25th to RSVP.**

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 LEXINGTON, KY 40546



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YOUR COMMUNITY
ELEVATES KY LEADERS**

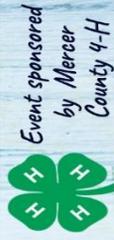
GIVE \$10 WITH EACH AG TAG AND
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HALF OF THE FUNDS FOR 4-H AND FFA COME
BACK TO YOUR LOCAL CLUBS AND
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SUPPORT STATEWIDE PROGRAMS
IMPACTING 274,000 STUDENTS ENROLLED
IN 4-H, FFA AND KY PROUD MEMBERS.



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YOU ARE CHOOSING TO
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AGRICULTURE. DONATIONS ARE
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4-H AND KENTUCKY PROUD WITH HALF
GOING DIRECTLY BACK TO YOUR COUNTY.
THANK YOU FOR YOUR SUPPORT.



Event sponsored
by Mercer
County 4-H

BREAKFAST

With Easter Bunny

Saturday, March 16

8:00 - 11:30 a.m.

Mercer County Fairgrounds

"The Stable"

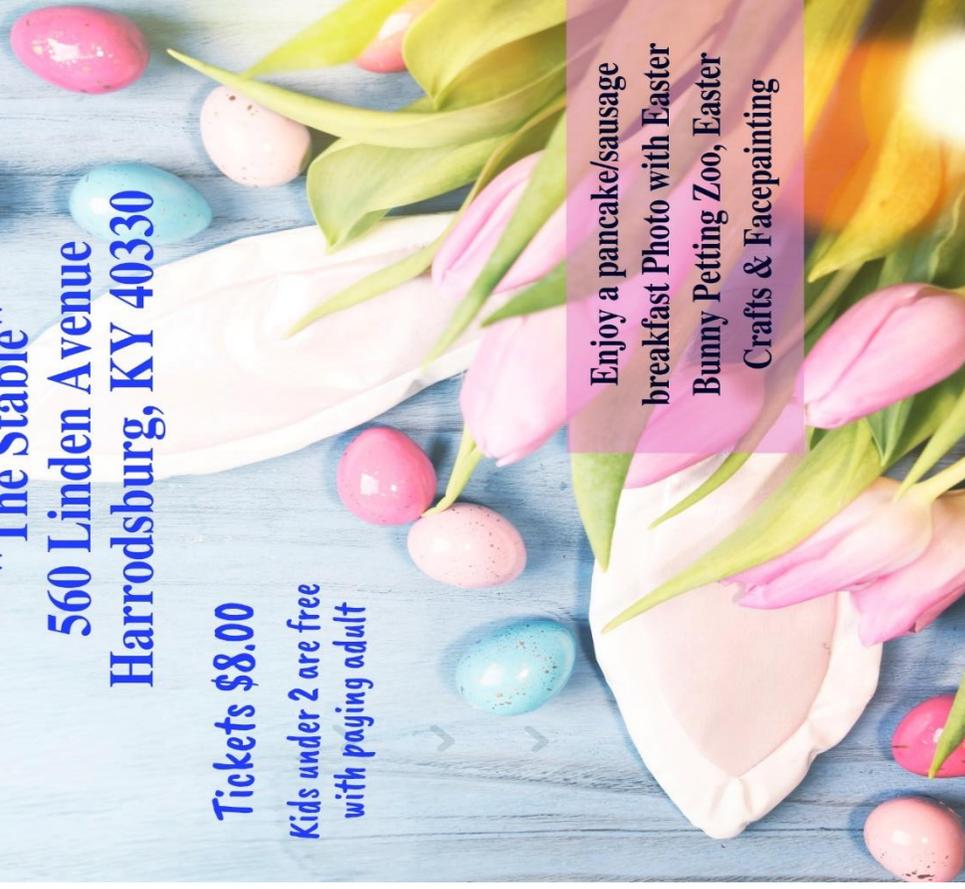
560 Linden Avenue

Harrodsburg, KY 40330

Tickets \$8.00

Kids under 2 are free
with paying adult

Enjoy a pancake/sausage
breakfast Photo with Easter
Bunny Petting Zoo, Easter
Crafts & Facepainting



Mercer County Extension Office
1007 Lexington Road
Harrodsburg, KY 40330

RETURN SERVICE REQUESTED

March 2	Mercer County Youth Investment Spaghetti Dinner Fundraiser, The Stable
March 4	Mercer County Agriculture Advisory Council Meeting, 5:30pm
March 5	Pastures Please Program, Scott County Extension Office
March 7	Mercer County Extension Council Meeting, 6:00pm
March 9	Mercer County Fair Fundraiser, The Stable
March 10	Fort Harrod Backcountry Horsemen Annual Meeting
March 11	Private Pesticide Applicator Training, 10 AM
March 14	UK Cow/Calf Profitability Conference, Madison County Extension Office
March 17-23	Kentucky Agriculture Literacy Week
March 18	Private Pesticide Applicator Training, 1 PM
March 21	Mercer County Farm/City Celebration
March 25	Private Pesticide Applicator Training, 6 PM
March 26	Mercer County Extension District Board Meeting, 5:00pm
March 28	Cattle Management Educational Meeting
April 1	Beef Quality & Care Assurance Training, 6:00 PM
April 4	Fort Harrod Backcountry Horsemen Meeting, 7:00 PM
April 9	Backyard Poultry Basics, 6:00 PM
April 11	Horse Farm Management Practices Field Day, Far Cry Farm
April 22	Earth Day
April 25	Beef Quality & Care Assurance Training, 10 AM or 6 PM