

# NIKKI'S NEWSLETTER

## Marshall County's Agriculture & Natural Resources Update



Cooperative Extension  
University of Kentucky  
Marshall County  
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Benton, KY 42025  
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We moved! We are finally in the new building! It's a crazy time, as meeting season kicks off, we continue to unpack, give tours, navigate people through the new building, figure out how to operate the new technology, equipment, properly maintain the new facility, etc. BUT, I am not complaining because all of the above are amazing problems to have! You all have blessed us with a wonderful facility. In turn we plan to utilize it to the best of our ability and we are doing just that. In the first month since we opened, we have already offered/hosted these successful programs and club meetings:

KY Master Logger 3- Day Program  
Master Gardener Meeting  
Bull Value Assessment Program  
Lunch Break Gardening  
Equine Educational Event  
Clarks River Beekeepers  
4-H Livestock Club  
4-H Palooza  
4-H Teen Middle Club  
4-H Elementary Club  
4-H Cloverbuds  
4-H Helping Hands

4-H Sewing Club  
Extension Homemaker Advisory Council  
Hardin Homemaker Club  
Sharpe Homemaker Club  
Olive Homemaker Club  
Maker Monday  
Busy Bees Club  
Basket Weaving Class x2  
Sewing with Robynn  
Quilting with Robynn  
Extension County Extension Council  
Caring for you Christian Counseling Concert

Like I said, it's been crazy. On top of everything, we are currently operating short staffed, as we have a vacancy in the front reception area. Everyone, myself included, has pitched in to cover the responsibilities of that position. At this time, there is no set timeline for refilling this position. As we tackle this hurdle, I am thankful that we operate in such an understanding community.

Also, I feel obliged to apologize for the phone issues that we have endured during the move and the current phone issues at the new building. We have done EVERYTHING possible to accelerate this process. The old phone system is temporarily forwarded to our cell phones but we lack reliable cell coverage in the new building. As you can image, this isn't ideal. THANK YOU for your patience! Again, you all have been very understanding.






We plan to have an open house once we are "settled." Be on the lookout for more information. Meanwhile, feel free to stop by to see the facility. We cannot wait to show it off and offer even more activities for this great community!

Have a happy, safe and productive season. Whether it is your harvest, calving, lambing, hunting, spooky, football and/or whichever other season you prefer.



*Nikki Ohio*, Marshall County ANR Agent

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**2024  
Marshall County  
Beef & Forage  
Series**

University of Kentucky  
College of Agriculture,  
Food and Environment

YOUNG FARMER ASSOCIATION  
KENTUCKY

*Adult Farmer Educator, Jeff Futrell, has teamed up with Agriculture Extension Agent, Nikki Rhein, to offer another beef and forage series this fall! Programs will be on Tuesday Nights starting at 6:30pm and will be located at the NEW Marshall County Extension Office located at 2081 Mayfield Hwy. in Benton (one block west of the old Extension Office.) Join us!*

## Schedule:

10/29 Marketing  
Jeff Futrell, Adult Farmer Educator

11/5 Ear Implants & Ionospheres  
KT Vanvalin, UK Specialist

11/12 Drought Proofing your Pasture System  
Chris Teutsch, UK Specialist

11/19 Cost & Returns  
Jeff Futrell, Adult Farmer Educator

11/26 Winter Feeding  
Kevin Laurant, UK Specialist

12/3 KY Beef Network  
Ben Lloyd, KY Beef Network

12/10 NRCS, USDA & Conservation District Updates  
Ryan McCafferty, NRCS, Vicky Boatright, CD & Marty Haley, USDA

Cooperative Extension Service  
Agriculture and Natural Resources  
Family and Consumer Science  
4-H Youth Development  
Community and Economic Development

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LEXINGTON, KY 40546





# Youth Ag Safety Day- Livestock Safety

*Nikki Rhein, Marshall Co. ANR Agent*

There are approximately 13, 600 head of cattle in Marshall County (USDA National Agriculture Statistics Service.) It is common knowledge that cattle and other large livestock often escape their enclosures but few members of the general population know how to safely interact with these escaped livestock. Many adults and children lack experience with large animals, having never been around livestock. A large number of those who have experience with livestock, only have experience with large animals in low stress agri-tourism settings where they view tame livestock in a controlled environment.

On October 17th, the Marshall County Conservation District hosted a "Youth Safety Day." The Marshall County Extension Office was invited to give a presentation. Agriculture Agent, Nikki Rhein, volunteered to teach livestock safety. Nikki hoped to teach children about agriculture and how to safely interact with large animals. Nikki and Roxanne Lee, Extension Program Assistant, taught the 5th graders about the different types of livestock, each types safety related weaknesses, strengths, and how they can safely interact with them.

Approximately 410 youth and 35 adults attended the event. Nikki and Roxanne replicated the lesson 20 times. After every they surveyed the participants. 100% of participants indicated they gained knowledge relating to agriculture and livestock! After this great success, they plan to replicate this topic for future safety days.



# Soybean Seed Quality Issues Due to Fungal Infections

*Carl A. Bradley, Plant Pathology Extension Specialist*

Little rainfall during August and most of September in parts of the state has led to poor soybean pod integrity and earlier-than-expected maturity. With the rains that remnants of Hurricane Helene had dropped, along with the warm temperatures, a scenario developed that has led to soybean seeds being infected and contaminated with fungi. Phomopsis seed decay (usually caused by *Diaporthe longicolla*, formerly known as *Phomopsis longicolla*) and purple seed stain (caused by *Cercospora kikuchii* and *Cercospora flagellaris*) generally are the two main culprits of poor-quality seed.

Seeds affected by Phomopsis seed decay may appear shriveled, misshapen, and/or chalky white in color (Figure 1). As the name suggests, seeds affected by purple seed stain will be discolored with purple blotches, or the entire seed may be purple in color (Figure 2). Purple seed stain may be more prevalent in fields that showed symptoms of *Cercospora* leaf blight (Figure 3). Certain varieties in some areas had severe *Cercospora* leaf blight develop late in the season this year. The largest economic losses associated with these seed diseases to farmers occur at the grain elevator, when loads of harvested seed may be docked due to "damaged seed." Of the two diseases, Phomopsis seed decay generally causes the greatest reduction in seed germination.

The two most common questions that I am receiving about these diseases are: "Why am I having this problem this year?" and "What could I have done to prevent these seed disease issues?"



Figure 1 (Left):  
Symptoms of  
Phomopsis seed  
decay



Figure 2 (Right):  
Symptoms of  
purple seed stain



Figure 3: Soybean leaves  
affected by *Cercospora*  
leaf blight

*Why am I having this problem this year?*

The primary reason why Phomopsis seed decay and purple seed stain occur in a field has a lot to do with the weather that has occurred since soybeans have been at physiological maturity. Fields in areas of the state that have received frequent rainfall since soybeans have been mature have been hit the hardest with seed disease problems. Along with wet weather, the very warm temperatures that the state was experiencing up until recently also helped promote infection by these fungi. The Phomopsis seed decay pathogen is best able to infect seeds after physiological maturity and the longer that soybeans sit in the field in wet and warm conditions after they are mature, the greater the likelihood of Phomopsis seed decay problems.

*What could I have done to prevent these seed disease issues?*

Harvesting soybeans as soon as possible after physiological maturity and at optimal seed moisture is the primary way to avoid problems with Phomopsis seed decay and purple seed stain; however, when rainy conditions prevail, seeds take longer to dry down, and harvest becomes delayed. Planting soybean varieties with relative maturity ratings that match your region and your farming operation also may help with a timely harvest. Since these seed pathogens survive in soybean debris, rotating fields with a non-legume crop may help reduce inoculum levels in the field. Since these pathogens also survive on seed, planting bin-run seed may help perpetuate the problem in a field by continually introducing the pathogen back into the field. Although soybean germplasm lines have been identified with resistance to Phomopsis seed decay, no commercial soybean varieties are marketed as having resistance to this disease, and soybean breeding programs may not intentionally screen their lines for resistance to Phomopsis seed decay. When applied at later growth stages, such as R5 (beginning seed stage), foliar fungicides have been shown to inconsistently reduce Phomopsis seed decay in research trials. Unfortunately, even when reductions in Phomopsis seed decay have occurred with late-applied fungicides, often-times the magnitude of the reduction would not have been enough to prevent levels of disease that would still be discounted at the grain elevator. Overall, the wet and warm harvest season that parts of the state experienced was likely so favorable for infection and disease development, that there was little that could have been done to avoid some losses due to these diseases this year.



## Why Leaves Change Color in the Fall

*Sharon Flynt, UK Extension Horticulture Agent*

Fall is one of the most beautiful seasons of the year, as tree leaves change colors to bright oranges, vibrant reds and eye-popping yellows. Trees that change color in the fall are deciduous trees. They go dormant in the winter to protect the tree from freezing temperatures and will generate new leaves in the spring.

Three factors cause the tree leaves to change color at this time of year: length of night, leaf pigments and weather. Length of night is the only constant of the three. Following the summer solstice in June, the daylight shortens in the Northern Hemisphere and nights become longer. The increasing length of night triggers certain reactions in trees and leaves.

In conjunction with sunlight, chlorophyll, which produces the green color in leaves, and carotenoids, which give us the orange, yellows and browns, are working all summer to produce food for the tree. After the solstice, night length steadily increases, causing excess plant sugars to build up and chlorophyll production to slow down and eventually stop in the leaf. When chlorophyll production ceases, the carotenoid pigments are unmasked, and any anthocyanins in the leaf start producing reddish purple colors in response to bright light, giving the leaves their fall colors.

As time passes, a cell layer between the leaf petiole, which connects to the tree's stem, begins to close. Once that cell layer completely closes, the leaf drops, closing off any openings into the tree and protecting it from winter's freezing temperatures and harsh winds.

Fall color vividness depends on temperature and moisture. Sunny, warm days, cool nights and soil moisture in early fall produce the most color. This combination of moisture and temperature produce a vast array of color, and that's why no two autumns are ever alike.

 University of  
Kentucky  
College of Agriculture,  
Food and Environment

**JOIN US!**

**Clarks River  
Beekeepers**

**EVERY 2ND TUESDAY AT 6PM**  
**AT THE MARSHALL COUNTY EXTENSION OFFICE**

**Cooperative Extension  
Service Marshall County**  
2081 Mayfield Hwy.  
Benton, KY 42025  
(270) 527-3285  
[marshall.ca.uky.edu](http://marshall.ca.uky.edu)

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Disabilities  
accommodated  
with prior notification



# The Soil Calcium to Magnesium Ratio: Not a Factor in Choosing Your Ag Lime Source

*Dr. John Grove, UK Agronomy/Soils Research & Extension*

Fall is a good time to take soil samples. Fields that need soil pH adjustment (usually need some ag lime to raise pH) are identified. Soils are usually dry and easier to get over with spreaders that are heavy with lime. And every fall I get questions about whether the grower should use calcitic or dolomitic ag lime. The short answer is: Doesn't matter – not much of a lime quality factor.

Ag lime quality depends on the calcium carbonate equivalence (CCE) and the fineness of the particles that make up the lime. The CCE value rises somewhat as the amount of magnesium carbonate in the material rises (only takes 84 pounds of  $MgCO_3$  to neutralize the same amount of acidity as 100 pounds of  $CaCO_3$  will neutralize). The CCE is much more strongly related to the quantity of impurities (non-carbonate rock) in the lime, falling rapidly as impurity level rises. Ag lime particle fineness is also strongly related to lime quality – the finer the particles, the higher the quality. When these two quality factors are taken together, the ag lime's relative neutralizing value (RNV) is determined and is used to effectively compare among different ag lime materials from different sources when choosing which ag lime to use. So, if your soil test report calls for a lime application, feel free to apply a local source of good quality ag lime, whether calcitic or dolomitic. The soil Ca/Mg ratio should have no impact on your lime source choice.

So, why the question about the calcium to magnesium ratio? Most of the time, the grower's soil test report is the culprit. Most soil test reports give results for plant available calcium and magnesium in at least two of three ways: mass basis (pounds Ca or Mg/acre, ppm Ca or Mg); charge basis (meq Ca or Mg/100 g soil); and/or charge proportion basis (% Ca or Mg charge on the soil cation exchange capacity-CEC). Many labs then calculate the calcium to magnesium ratio (charge ratio of Ca to Mg on soil CEC). When the ratio is 'high' the soil test lab might recommend dolomitic lime be used – when the ratio is 'low' the lab recommends calcitic lime. The recommendation causes a problem when the grower learns that the recommended type of lime is not locally available – transportation costs become a significant issue.

The problem is that the soil Ca/Mg ratio has no value as a predictor of crop response. This has been shown in many studies, but one of the best (McLean et al. 1983) looked at six years of corn, soybean, wheat and alfalfa yield response to 18 different (2.3 to 26.8) Ca/Mg ratios. The authors tabulated the soil Ca/Mg ratios for the 5 highest, and 5 lowest, yields among the 18 different treatments, for each crop (Table 1). Given the large degree of overlap, there was no relationship between soil Ca/Mg ratio and the yield of any of these crops. In fact, for soybean, the range in soil Ca/Mg ratios for the 5 highest yielding treatments was entirely contained in the range in soil Ca/Mg ratios for the 5 lowest yielding treatments.

So, if your soil test report calls for a lime application, feel free to apply a local source of good quality ag lime, whether calcitic or dolomitic. The soil Ca/Mg ratio should have no impact on your lime source choice.

Reference  
McLean, E.O., R.C. Hartwig, D.J. Eckert, and G.B. Triplett. 1983. Basic cation saturation ratios as a basis for fertilizing and liming agronomic crops. II. Field studies. *Agronomy Journal* 75:635-639.

Table 1. Range in soil Ca/Mg ratio for the 5 lowest and 5 highest treatment average yields.

| Yield Level | Soil Ca/Mg Ratio Range |          |          |          |
|-------------|------------------------|----------|----------|----------|
|             | corn                   | soybean  | wheat    | alfalfa  |
| Lowest 5    | 5.0-21.5               | 2.3-16.1 | 6.8-21.5 | 5.7-21.5 |
| Highest 5   | 5.7-26.8               | 5.7-14.9 | 5.7-14.0 | 6.8-26.8 |
| Overlap (%) | 75                     | 100      | 87       | 74       |



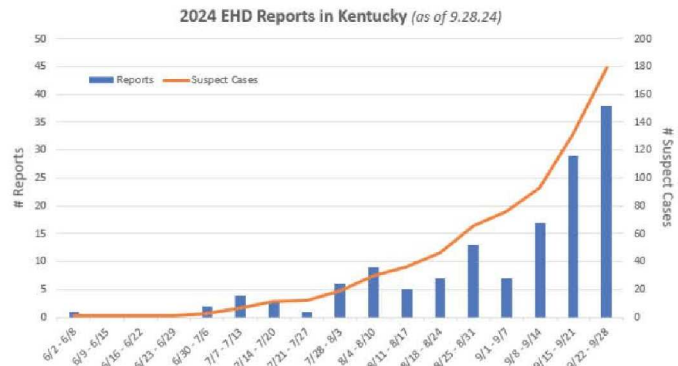
# Wildlife Health Alert: Cases of Hemorrhagic Disease



**WILDLIFE  
HEALTH  
PROGRAM**

## Current Situation

As of September 28, 2024, the Kentucky Department of Fish and Wildlife Resource's Wildlife Health Program has confirmed cases of Epizootic Hemorrhagic Disease in 5 counties in Kentucky, with suspected cases reported in 63 counties, accounting for approximately 53% of the state. This outbreak spans all regions and reflects a significant increase in both confirmed and suspected cases.



a. Reports and suspect cases have surged since June 2024.

## What is Hemorrhagic Disease?

Hemorrhagic Disease (HD) encompasses a group of viral infections transmitted by biting midges, which thrive in conditions of early rainfall followed by dry weather. In Kentucky, these midge populations peak in late summer and early fall. HD primarily affects white-tailed deer. It does not pose a risk to human health.

## Clinical Signs of Hemorrhagic Disease

Infected white-tailed deer may exhibit a range of clinical symptoms, including:

- Depression and lethargy
- Fever
- Swelling of the head, neck, tongue, and eyelids
- Difficulty breathing and internal hemorrhaging

Severe cases can lead to death within 1-3 days, with affected deer often staying near water sources. For more information about HD visit [fw.ky.gov](http://fw.ky.gov).

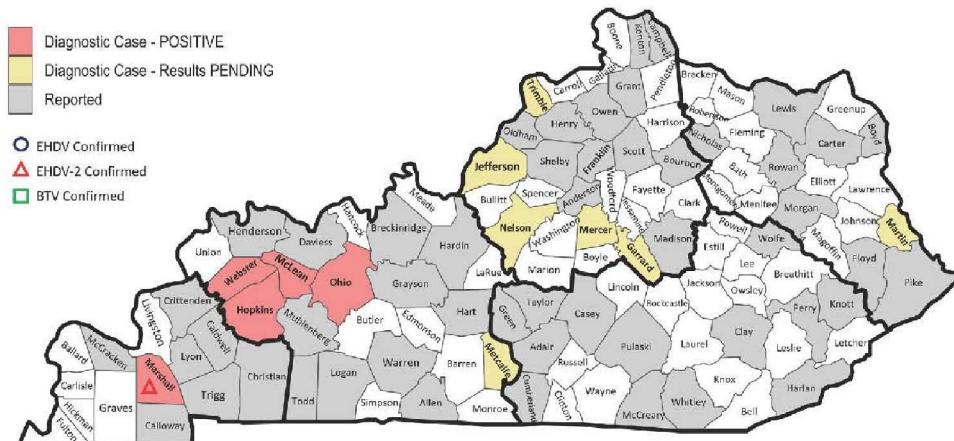
## Report Sick or Dead Deer

Scan QR code or visit [fw.ky.gov](http://fw.ky.gov)



## Hemorrhagic Disease Cases in White -Tailed Deer

Updated: September 28, 2024



b. A map displaying reported and suspected cases by county.

# Recipe of the Month

## Slow Cooker Venison Enchiladas

### Directions:

In a large skillet, cook meat, green pepper, and onion until meat is browned. Add the beans, tomatoes, water, cumin, chili powder, and pepper, and bring to a boil. Reduce heat, cover, and simmer for 15 minutes. In a slow cooker, layer 1/3 of meat mixture, 2 tortillas and 1/3 cup of cheese. Repeat the layers 3 times. Cover and cook on low for 5 to 7 hours.

Source: Adapted from: "Fish & Game Cookbook" Bonnie Scott. 2013.

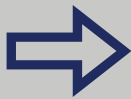
370 calories, 8g total fat, 4g saturated fat, 80mg cholesterol, 350mg sodium, 39g total carbohydrate, 10g dietary fiber, 3g total sugars, 31 g protein, 15% DV calcium, 35% DV iron, 15% DV potassium

### Ingredients:

- 1 ground venison (may sub elk or beef)
- ½ cup chopped green pepper
- 1 cup chopped onion
- 1 can (16 ounces) low sodium pinot or kidney beans, drained and rinsed
- 1 can (15 ounces) low sodium black beans, drained and rinsed
- 1 can (10 ounces) no-sodium diced tomatoes with green chilies, undrained
- 1/3 cup water
- ½ teaspoon cumin
- ¾ teaspoon chili powder
- ¼ teaspoon pepper
- 6 corn tortillas
- 1 cup colby jack cheese, shredded



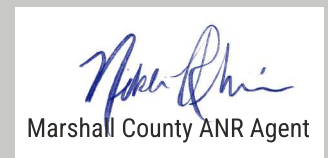
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