

**CARTER COUNTY
AGRICULTURE &
NATURAL RESOURCES
NEWSLETTER**

July & August 2024



Carter County

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Phone: (606) 474-6686 Fax: (606) 474-8542

extension.ca.uky.edu

facebook.com/CCESAG

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Highlights:

- ⇒ Visit the **Carter County Farmer's Market** for fresh locally, grown produce. In addition to the hours listed on page 4, a pop-up market will be held at Friendship & Chapel House on the first Tuesday of the month from 6:00-8:00.
- ⇒ Youth who visit the Farmer's Market on the **Kid's Days** will receive \$10 in Kid's Bucks to spend at the market this year. Thanks to Anthem and the Carter County Ag Advancement Council for sponsoring this program.
- ⇒ Thanks to Primary Plus for providing the sponsorship match for the Community Farm Alliance grant for the Farmer's Market **Double Dollars**.
- ⇒ Show off your garden vegetables in the Exhibit Hall at the **Carter County Fair** on August 6th.
- ⇒ Join us on the first Friday of the month for **Hike & Learn!**

Enjoy your newsletter,

Rebecca Konopka

Rebecca Konopka,
Carter County Extension Agent for
Agriculture & Natural Resources Education



**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

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University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.
Lexington, KY 40506



Disabilities
accommodated
with prior notification.

Upcoming Events

Denotes events where preregistration is required. Call 474-6686 or email Rebecca.k@uky.edu to register.

7/5 @ 9:00 AM	Hike & Learn Focus: Water Quality	Carter Caves State Resort Park—Horn Hollow Trail
7/29 @ 3:00 PM	Farmer’s Market Kid’s Day	Olive Hill Farmer’s Market
8/2 @ 9:00 AM	Hike & Learn	Grayson Lake Lick Falls Overlook Trail
8/5-8/10	Carter County Fair Exhibit Hall Open Tuesday-Friday from 6:00-8:00 PM	Fairgrounds
8/5	4-H/FFA Youth Livestock Shows	Fairgrounds
8/6 from 12:00 PM—2:00 PM	Exhibit Hall Entry	Fairgrounds
8/6 from 6:00-8:00 PM	Pop-up Farmer’s Market	Chapel & Friendship House
8/6 @ 6:30 PM	Little Sandy Beekeepers	Extension Office
8/10 from 10:00 AM -12:00 PM	Exhibit Hall Pickup	Fairgrounds
8/12 @ 6:00 PM	Ag Advancement Council	Extension Office
8/13 @ 10:00 AM	Extension Council & District Board Meetings	Extension Office
8/20 @ 6:00 PM	Gardening in Small Spaces	Angie Fultz’s
9/3 @ 6:30 PM	Little Sandy Beekeepers	Extension Office
9/6 @ 1:00 PM	Hike & Learn Focus: Forest Health	TBA

Save the date



Join us September 17th
at the farm of Rick & Sherri Rayburn
for the 2024

FARM & FAMILY FIELD DAY

co-hosted by the Carter County Extension Office
and Soil Conservation



 Cooperative
Extension Service

GARDENING IN SMALL SPACES

Garden Tour

Eddie & Angie Fultz's
799 Whitt Cemetery Rd
Sandy Hook, KY 41171

AUGUST 20
6 PM

Sponsored by:

Elliott County Extension Office

606-738-6400

<https://elliott.ca.uky.edu/events>

Carter County Extension Office

606-474-6686

<https://carter.ca.uky.edu/anr>

Little Sandy Beekeepers Association

****First Tuesday of the Month @ 6:30 PM****

August 6th - Speaker: Chris Palmer, Dadant Manager

Topic: Varroa Mite Control & Preparing for Winter

Call 502-848-0000 to place an order for delivery at the meeting and receive a 5% discount and free shipping. Orders must be placed by August 5th.

Carter County Fair—August 5-10

Exhibit Hall Entries Due August 6th from 12:00-2:00

Exhibit Hall Open Tuesday-Friday from 6:00-8:00

Exhibit Hall Classes Available online at Cartercountyfair.org



Carter County Farmer's Market

MONDAY

Olive Hill

**3:00pm-
Sell Out**

WEDNESDAY

Olive Hill

**8:00am-
Sell Out**

THURSDAY

Grayson

**2:00pm-
6:00pm**

SATURDAY

Olive Hill

**8:00am-
Sell Out**

SATURDAY

Grayson

**9:00am-
NOON**

Grayson

94 Fairground Dr.
Behind the Extension Office

Olive Hill

131 Jessica Ln.
In Save-A-Lot parking lot

Follow us on Facebook!

@CarterCokYAg

At the beginning of each month beef, equine, sheep & goat, grazing, and gardening tips are posted to the Carter County Agriculture Extension Service Facebook page. Also, new programs and other information is shared throughout the month.

Weekly Wednesday Webinars

From the Woods Today—11:00 AM—www.fromthewoodstoday.com

Horticulture Webinar Wednesdays—12:30 PM—

<https://kentuckyhortnews.com/horticulture-webinar-wednesdays/>



Carter County Farmer's Market

KID'S DAYS

GRAYSON: THUR. JULY 18, 2024

2:00 - 3:30PM

OLIVE HILL: MON. JULY 29, 2024

3:00 - 4:30PM



Build a Rain Barrel

Rain barrels are an inexpensive way to conserve water in your landscape. They are typically used in conjunction with your gutter system to capture rainwater from the roof and store it for later use. The stored rain water can be used to water lawns and flower gardens, clean tools, moisten compost, clean bird baths and fill ornamental ponds. This reduces the demand for municipally treated water and saves money on water bills.

Utilizing rain barrels also helps reduce the amount of rainfall runoff, or stormwater, leaving your property and entering the storm sewer system. This is important because stormwater runoff carries pollutants such as lawn chemicals, salts, and oils from yards, sidewalks, and driveways to our streams. Excessive runoff also causes soil erosion which introduces sediment into streams. All of these pollutants contribute to impaired water quality. As water quality in a stream degrades, habitat for aquatic life is threatened, availability for human recreation is diminished, and the cost of drinking water treatment increases.

Rain barrels can be purchased from home improvement or gardening supply stores or are easily constructed from used barrels and common hardware materials for about half the price. Contact your county agent to find out more about construction and use of rain barrels and other resources in your community.

Here are a few tips to get you started:

- ⇒ Select a food-grade barrel, such as olive or pickle barrels, and rinse thoroughly prior to use. Non-food grade containers may have residual contaminants.
- ⇒ Select a barrel that is dark in color or paint the barrel to limit sunlight exposure. This will inhibit algae growth.
- ⇒ Select a location where the overflow can be directed away from your foundation.
- ⇒ Situate your rain barrel on a solid, level base to prevent injuries. A full barrel may weigh 400 pounds or more.

Building a rain barrel makes a great weekend project. With proper care, your barrel will last for years. When using harvested water in your landscape, you will be doing your part for the environment by conserving water resources and reducing pollution to our waterways.

Remember, water from your barrel is not potable and should not be used for personal washing, washing vegetables, or cooking.

Additional Resources:

HENV 201: Building a Rain Barrel. <https://tinyurl.com/7uwexum9>

You Tube Video: DIY Rain Barrel Build <https://tinyurl.com/mse3drpz>

Build a Barrel



Rain barrels offer a simple way to store rain water for future use in your home landscape. By collecting rain water, you also reduce runoff from your property. Barrels can be constructed with inexpensive materials and last for years with proper care.



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HOW TO REMOVE A TICK SAFELY

UK Cooperative Extension Publication ENTFACT-618

STEP ONE

Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible. The goal is to remove the entire tick.

STEP TWO

Pull up with steady, even pressure. Do not twist or jerk the tick.

STEP THREE

Clean the bite area and your hands with rubbing alcohol, an iodine soap, or soap and water.

Identification of ticks is available through your local Cooperative Extension Service office.



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Animal Disease Traceability Rule: Infrequently Asked Questions

Dr. Michelle Arnold, DVM- Ruminant Extension Veterinarian (UKVDL)

In a press release issued on April 26, 2024, it was announced that a new rule, entitled “Use of Electronic Identification (EID) Eartags as Official Identification in Cattle and Bison” was finalized. This final rule is an amendment to the animal disease traceability regulations already in place as of January 2013. The new rule requires eartags to be both visually and electronically readable to be recognized as official eartags for interstate travel for cattle and bison covered under the regulations. In addition, the amendment revised the definition of dairy cattle, clarified certain record keeping requirements, and revised requirements for cattle moving to slaughter. This final rule is specifically focused on improving the ability to trace LIVE animals accurately and rapidly to contain disease outbreaks before they can do substantial damage to the cattle industry. The rule will be published in the Federal Register in the coming weeks and will take effect 180 days after its publication. APHIS maintains an Animal Disease Traceability webpage

(Figure 1) with direct access to the Final Rule, FAQs, how to obtain free electronic ID tags, and other resources at <https://www.aphis.usda.gov/livestock-poultry-disease/traceability> . This article will attempt to address some of the less frequently asked questions about important aspects of the new rule. For reference, page numbers are included where these questions are addressed in the final rule.

Home > Animals > Animal Health > Livestock and Poultry Disease > Animal Disease Traceability

Animal Disease Traceability

Last Modified: 04-02-2024

Animal disease traceability is knowing where diseased and at-risk animals are, where they have been, and when is important to ensuring a rapid response when animal disease events take place.

Although animal disease traceability does not prevent disease, an efficient and accurate traceability system reduces the number of animals and response time involved in a disease investigation. This, in turn, reduces the economic impact on owners and affected communities.

Free Electronic ID Tags*

APHIS is currently providing electronic ID tags at no cost to producers. Producers should check with their State Veterinarian to inquire about the availability of these tags in their state.

Locate Your State Veterinarian

Overarching Goals To Increase Traceability

A comprehensive animal disease traceability system is our best protection against a devastating disease outbreak. USDA is committed to implementing a modern system that tracks animals from birth to slaughter using affordable technology that allows for quick tracing of sick and exposed animals to stop disease spread. In September 2019, USDA established four overarching goals to increase traceability. These goals are:

Has anything changed with this new rule regarding which cattle are required to have “official identification” when moving interstate?
No, the final rule does not change the categories of cattle and bison subject to the official ID requirements for interstate movement (page 2). Cattle and bison that move interstate **and** fall into specific categories

need official, individual eartags that now can be read both visually and electronically. **The requirement for individual identification does not include feeder cattle,** nor any cattle or bison moving directly to slaughter.

Beef Cattle (and Bison) that currently require official ID:

- All sexually intact beef cattle and bison 18 months of age or over;
- Cattle and bison of any age used for rodeo or recreational events; and
- Cattle and bison of any age used for shows or exhibitions.

Dairy Cattle that currently require official ID:

-All female dairy cattle of any age and all dairy males born after March 11, 2013; the new rule revised the definition of *dairy cattle* as follows: “All cattle, regardless of age or sex or current use, that are of a breed(s) or offspring of a breed used to produce milk or other dairy products for human consumption, including, but not limited to, Ayrshire, Brown Swiss, Holstein, Jersey, Guernsey, Milking Shorthorn, and Red and Whites.” (page 30)

According to the revised definition of “dairy cattle”, the offspring of a dairy animal requires official ID for interstate movement. Does this include Beef on Dairy calves?

Yes! According to the final rule, “APHIS’ operational guidance has consistently held that beef/dairy cross bred cattle fall under the definition of dairy cattle and are therefore already required to have official identification; our change to the dairy cattle definition codifies this longstanding guidance regarding how to interpret the regulations” (page 31). **Beef/dairy cross breeds should already be officially identified.** We have no indication of noncompliance or controversy surrounding this policy...We acknowledge the possibility that there may be cattle producers that did not consider their beef/dairy cross breeds to be dairy cattle and were alerted to our interpretation of the definition of dairy cattle to encompass beef/dairy cross breeds by this rulemaking” (pages 71-72). In addition, the revision states that the official ID numbers of all dairy cattle, regardless of whether they are sexually intact, must be recorded on the Interstate Certificate of Veterinary Inspection (ICVI or “Health Certificate”). (page 29)

Why would Beef on Dairy calves be at higher risk for disease?

“As stated in the proposed rule, dairy farm management practices, such

as pooling colostrum from multiple cows for many calves, commingling calves at different locations during their lifetimes, and movement to many destinations, result in a higher risk of disease transmission. Beef/dairy crosses born on dairy farms are likely to be exposed to these practices, especially in early life; therefore, they are at an increased risk of disease transmission.” (page 31)

The final rule added several recordkeeping requirements for official identification. Currently anyone (State, Tribe, accredited veterinarian, or person) who distributes official ID devices must maintain records of recipient names and addresses for 5 years. How did this change?

The final rule added that the official ID distribution records must be entered by the person distributing the devices into a database designated by APHIS. Any eartags applied by a federally accredited veterinarian must also be recorded in a readily accessible database available to APHIS in the event of a traceback (page 37). However, a producer who applies official ID tags to his or her own animals but does not distribute the tags to anyone else does not fall under the recordkeeping reporting requirement (page 42).

APHIS did add a new paragraph stating that required records must be maintained by the responsible person or entity and “be of sufficient accuracy, quality, and completeness to demonstrate compliance with all conditions and requirements” of the final rule. It further requires that APHIS be allowed access to all records during normal business hours, to include visual inspection and reproduction (*e.g.*, photocopying, digital reproduction), and the responsible person or entity must submit to APHIS all reports and notices containing the information specified within 48 hours of receipt of request for records. (page 37)

Is a PIN still required to acquire and apply EID tags?

Yes. The PIN (premise ID number) is a nationally unique number assigned to a premise, usually issued through the State animal health official, that is a “geographically distinct location”. The PIN is associated with the location the tag was placed on the animal, not the location of the cattle owner. “All currently approved EID eartags (RFID AIN “840” eartags) are associated with a PIN or a State location identification number (LID), inasmuch as a PIN or a LID is required for” acquisition of the tags. “A PIN is the numerical equivalent of a 911 postal address or a GPS number. A LID is the State-managed equivalent for producers who prefer to have the State

store their information, rather than the Federal Government” (page 46).

This final rule does not require producers to purchase and affix EID eartags to their cattle as the only acceptable official identification device or method to meet the official identification requirements for interstate movement (page 3); the regulations continue to list eartags as one of several forms of authorized official identification, which also include tattoos and brands when accepted by State officials in the sending and receiving States. (see Frequently Asked Questions at the APHIS website for further information).

Given that a major reason for this new official ID rule is to keep transcription errors to a minimum, why does APHIS still require a visually-readable tag?

The 15-digit identification number currently used for all approved EID eartags begins with the same 6 digits: 840003. The first 3 digits are the country code, which is 840 for the United States. The following 3 digits, 003, signify a sequential numbering system from a start number of 003,000,000,000. Therefore, an individual visually reading an EID tag would only read 9 unique characters (the characters following 840003). These characters are only numbers, with readability standards including larger font size and color contrast. A transcription error “is not likely to significantly increase from the current state when relying on visual read of the eartag; if anything, several factors should make it easier, not harder, to transcribe the tag number. However, the use of EID tags would allow for an electronic read of the tag if a transcription error were believed to have occurred.” (page 43) This final rule does not require producers or livestock markets to have electronic reading equipment or additional data management systems, because the official EID tags must be readable visually as well as electronically.

RFID tags were previously categorized as either “Low Frequency” (LF) or “Ultra-High Frequency” (UHF). This final rule refers to RFID tags as “HDX” or “FDX”. Are these terms similar?

The RFID tag technology can be categorized by the radio frequency range it uses to communicate, either low (LF) or ultrahigh frequency (UHF)—whichever the State, producer or industry sector prefers. Low frequency tags have a shorter read range and only one tag can be read at a time. UHF has an extended read range of up to 30 feet, faster data transfer, and is better suited to capturing load lots of cattle.

However, RFID can also be categorized by the way information is transferred between the tag and reader, either “Half Duplex (HDX) or “Full Duplex” (FDX). HDX tags are heavier, they transmit information one way at a time and are better able to transmit through interference such as metal objects, and they have the strongest read range. FDX eartags are lighter in weight, they transmit information continuously but are more susceptible to interference from metal objects and fluorescent lights. Regardless of type, all RFID tags must be approved by USDA and meet standards for quality and performance, be tamper proof, contain a unique ID, and display the U.S. official ear tag shield.

What if the animal already has “official identification” such as the NUES Metal Tag or a visual-only tag? Does it have to be removed or will it be required to apply an additional electronically-readable tag?

No, all visual-only official ID tags *applied prior to the date the rule is effective* will be considered official identification for the animal’s lifetime including the metal NUES tags (Figure 2), commonly referred to as “silver” or “brite” tags, and the Brucellosis Vaccination metal tag, an orange metal tag that indicates the animal was calfhood vaccinated for Brucellosis (Bangs Disease). However, a visually and electronically readable official eartag may be applied to animals currently identified with non-EID official eartags or Brucellosis vaccination tags, even though this results in more than one official eartag in an individual animal (page 102).



Figure 2: National Uniform Eartagging System (NUES) Metal Tag (“Silver” or “Brite” Tag).

What must be on an official ear tag?

USDA Official Ear tags (Figure 3) are designed for one-time use (tamper evident) and imprinted with:

- A unique animal identification number or “AIN” which is a 15-digit number starting with 840003;
- Official Ear tag Shield 
- The words “Unlawful to Remove”;
- Manufacturer’s Logo or Trademark (printed or impression of)
- The placement of official RFID tags is recommended in the left ear, but there is no such regulatory requirement, and the tags may be placed in



Figure 3: Example of an Official Tag

either ear at the owner's discretion.

Buyer beware: Tags containing numbers with the prefix "USA" or a numeric manufacturer code such as 982 are not considered official identification but these tags are still available for purchase and, in many cases, cannot be returned or exchanged for the correct tags. APHIS only recognizes tags beginning with numeric country codes ("840" for the United States) as official (page 49). Bear in mind that there are 840 visual panel tags available that do not contain RFID technology that will not be accepted as official after the final rule becomes effective.

Have the rules regarding movement within slaughter channels changed?

The existing regulations allow cattle to move interstate to an approved livestock market and then to slaughter or directly to slaughter without official identification (typically travel on a backtag) unless held up for more than 3 days. This final rule clarifies that animals may only move to another slaughter establishment or approved feedlot, with appropriate documentation and identification, but must remain in a terminal market and can only be sold/re-sold as slaughter cattle. (page 101)

Will EID tags increase food safety? Will EID tags be used to identify beef imported into the US?

Since animal identification programs end at the time of slaughter, EID tags on cattle will not directly increase food safety. Within the USDA, food safety of meat and meat food products falls under the Food Safety and Inspection Service (FSIS). Although APHIS does not provide oversight of the slaughter or processing operations, APHIS conducts slaughter surveillance for domestic animal diseases, such as brucellosis and TB, and some foreign animal diseases.

Similarly, COOL (Country of Origin Labeling) is not related to APHIS' animal disease traceability program but is under the purview of the Agricultural Marketing Service (AMS). (page 19)

For additional information on EID tags call the Extension Office and request *Animal Disease Traceability Rule Part 2: Eartags* or visit <https://afs.ca.uky.edu/files/off-the-hoof-july-2024.pdf>.

Summer Heat Safety

By Jane Marie Wix - National Weather Service Jackson, KY

Summer heat arrived with a bang in mid-June across Kentucky! Unfortunately, we are only getting started with the summer season - there will most certainly be several months of hot weather ahead. Summer is also the season when everyone wants to be outside, either working or having fun. As much as we love this time of year, it is also a very dangerous season.

Heat continues to be the deadliest form of weather across the country. Higher than flooding, tornadoes, and hurricanes. Sadly, statistics for last year showed a higher-than-average fatality rate. Heat related deaths have been creeping up every year for the last few years.

During excessive heat, avoid heavy activity and direct sunlight. Stay hydrated, find a cool indoor place, and check on children, the elderly, and pets. Protect yourself outside by wearing light, loose-fitting clothes, stay hydrated, and spend time in the shade.

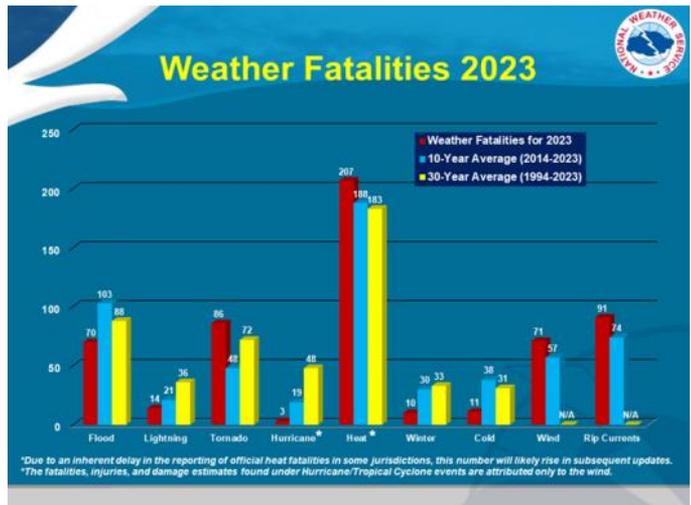
Also, never leave anyone (or pets) alone in a locked car, even in the winter, as death can occur in as little as 10 minutes.

Know the signs:

⇒ Heat Exhaustion: Becoming faint or dizzy, excessive sweating, cool/clammy skin, nausea, rapid/weak pulse, muscle cramps.

⇒ Heat Stroke: Throbbing headache, no sweating, red/hot/dry skin, nausea, rapid/strong pulse, possible loss of consciousness.

If someone experiences these symptoms, get them to a cooler place and try to cool the body (loosen clothing, drink cool water, etc.). If it's a heat stroke, call 911 IMMEDIATELY.





Things to know about Jorō spiders

These large, introduced spiders are in the news and giving people the chills. But how much do you really need to fear these gentle giants?

East KY Hay Contest

Free hay sampling for local producers.

Testing provides nutritional value of hay and haylage/baleage and can result in reduced feed costs and increased animal performance.

Contact the Extension Office to schedule testing this summer and fall. All samples will need to be collected by October 11th.

1

Big, beautiful spider



Female Jorō spiders have a leg-span of about 4 inches, males are less than half that size.

There are lookalikes in KY

Garden spiders are similar in size and color. Jorō spiders don't usually make the web zig-zag though.

2



Black and yellow garden spider

Banded garden spider

Jorō spider

3

Jorō spiders do not truly "fly" through the sky.



Whooooee!

When Jorō spiderlings hatch from their eggs they may "balloon" to new locations. This involves using a silk strand to catch the wind and travel through the air.

4

Jorō spiders have not been found in Kentucky.



They have been detected in nearby in Tennessee and West Virginia though. They are more common in Georgia and The Carolinas.

5

Like all spiders, Jorō spiders have venom

Despite their size, their venom does not pose a significant medical hazard to people.



If you think you found one, email 2-4 photos and your county location to: reportapest@uky.edu

Cucurbit Powdery Mildew

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

Powdery mildew is a common disease of all cucurbits, including cucumbers, squashes, pumpkins, and watermelons. This disease can occur in greenhouses, high tunnels, commercial fields, and home gardens. Cultural management practices can reduce losses from this disease, but fungicides may be required for susceptible cultivars.

Cucurbit Powdery Mildew Facts

- ⇒ Leaf symptoms first appear as spots with a white, powdery appearance on upper or lower leaf surfaces (Figure 1). Over time, spots expand to cover large portions or entire leaf surfaces. Severely infected leaves may become yellow or necrotic. As the disease progresses, affected leaves may die, and defoliation can occur. Note that some cucurbit cultivars may have coloration that can be easily confused with powdery mildew.
- ⇒ Stems and leaf petioles can also be infected. Specifically, the stem where pumpkins attach to plants (“handles”) can become infected, resulting in shortened shelf-life and reduced marketability as carving pumpkins.
- ⇒ Cucurbit powdery mildew does not infect fruit. However, fruit quality and yield may be impacted as a result of insufficient leaf material.
- ⇒ Disease is favored by high humidity but does not require high levels of moisture for infection.
- ⇒ The powdery mildew pathogen infects during the reproductive stage of plant growth. Thus, flowering plants are at the greatest risk of disease.
- ⇒ Pumpkins and winter squash have a shorter storage-life when stems and handles are weakened by powdery mildew.
- ⇒ Most commonly caused by the fungus *Podosphaera xanthii*.
- ⇒ The pathogen survives winter on infected plant debris.

Management Options

- ⇒ Cultural disease management

- ⇒ Utilize powdery mildew resistant cultivars.
- ⇒ Plant in sunny areas with good airflow.
- ⇒ Use recommended plant spacing to facilitate air movement and leaf drying.
- ⇒ Remove weeds that may serve as hosts.
- ⇒ Remove and destroy infected plants.
- ⇒ Clean-up plant debris at the end of the growing season.

Fungicides

- ⇒ Application of fungicides before disease develops (preventative fungicide) provides the greatest level of disease protection. When applying fungicides, it is important to always read and follow all label instructions.
- ⇒ Commercial growers should consult the publication Vegetable Production Guide for Commercial Growers ([ID-36](#)) or the Southeastern US Vegetable Crop Handbook ([SEVEW](#)). Contact a county Extension agent regarding specific recommendations for cucurbit downy mildew management. Growers should take steps, such as fungicide rotations or tank mixing, to reduce the risk of fungicide resistance. When selecting fungicides, be sure to note pre-harvest interval restrictions.
- ⇒ Home gardeners should consult the publication Home Vegetable Gardening ([ID-128](#)) for fungicide information. Contact a county Extension agent for additional information and recommendations regarding fungicides.

For additional information contact the Extension Office.

Figure 1: Cucurbit powdery mildew symptoms begin as white, powdery spots on upper or lower leaf surfaces. (Photo: Kenny Seebold, University of Kentucky)



Common Rust vs. Southern Rust in Corn

Article & Photos By: Kiersten Wise, Plant Pathology Extension Specialist

Common Rust

Common rust of corn, caused by the fungus *Puccinia sorghi*, is easy to find in corn fields in Kentucky this year. The fungus that causes common rust produces brown to brick red pustules that are present on upper and lower surfaces of the leaves (Figures 1 & 2). Young leaves are more susceptible to rust infection than mature leaves. In most years, common rust does not require management in hybrid field corn in Kentucky, and the greatest concern is that common rust is accidentally confused for the more damaging disease, southern rust.



Southern Rust

Southern rust of corn, caused by the fungus *Puccinia polysora*, has been confirmed in Louisiana and Georgia so far in 2024. As of June 18, it has NOT been confirmed in Kentucky. We typically confirm southern rust in Kentucky in mid-July each year, depending on weather conditions. Southern rust is first observed as raised, dusty orange pustules on the upper surface of the leaf (Figure 3). Pustules will typically be present only on the upper surface of the leaf.



Determining Which is Which

These diseases are easily confused, and signs of the disease can vary de-

pending on hybrid and weather conditions. Pustule position on the leaf surface (both sides of the leaf vs. upper leaf surface only) can help distinguish between the two rust diseases, but the only fail-proof way to know the difference between common and southern rust is to examine fungal spore size and shape in a diagnostic laboratory. Spore color and pustule distribution on a leaf are not reliable diagnostic techniques for these two rust diseases.

If southern rust is suspected, the fastest way to get a diagnosis through the Plant Disease Diagnostic Laboratory (PDDL) is to submit samples through county Extension agents. Confirmations of southern rust will be posted on corn.ipmpipe.org/southerncomrust/. On the map, red counties/parishes indicate that southern rust has been confirmed by university/Extension personnel.

It will be important to scout and monitor fields over the next few weeks and submit samples to the PDDL through local county Extension agents if you suspect you have southern rust in a field.

Disease Impact & Fungicide Applications

The potential impact of southern rust in Kentucky will depend on the crop growth stage of a field once southern rust is confirmed in an area. Previous research from southern states indicates that fungicides may be needed to protect yield while corn is in the tasseling through milk (VT-R3) growth stages. Once corn is past milk (R3), fungicides are likely not needed to manage the disease. If fields have already received or will soon receive a fungicide application this year at tasseling/silking (VT/R1), they are not likely to need a second application of fungicide once corn reaches the blister (R2) growth stage. For areas where planting was significantly delayed, careful scouting and monitoring for disease presence is key to determining if or when a fungicide will be needed for southern rust management.

Additional information

More information on timing of fungicide applications for southern rust can be found in Table 2 of the [Crop Protection Network](#) publication on [Southern Rust](#). The efficacy of specific fungicide products for southern rust are described in the updated [fungicide efficacy table](#) for management of corn diseases, which is developed by the national Corn Disease Working Group.



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CARTER COUNTY AG & NATURAL RESOURCES NEWSLETTER

What's Inside:

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