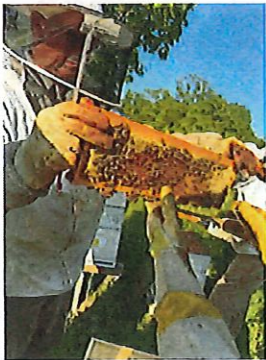




August and the following months are the ideal time to collect soil samples for annual testing. Remember, our office offers free soil testing and we have several soil probes that can be checked out of our office for collection. In this newsletter you will find information about the Kentucky Farm Bureau Youth Competitions, the upcoming Farm Safety Day, and includes a cool summer recipe for you and your family to try this August.

We will be offering the ANR Monthly newsletter via email, if you prefer to receive the newsletter virtually, please call the office and provide your email address.

Beekeeper Club



Casey Byrd
Agriculture and Natural Resource Agent
Garrard County
Cooperative Extension Services
1302 Stanford Street
Lancaster, KY
(859) 792-3026
extension.ca.uky.edu/garrard

The next Beekeeper meeting is
AUGUST 18 at 6:30pm. Newcomers
and those curious about beekeeping
are welcome to join!

SAVE THE DATE:
Farm Safety Day
September 5th
6pm at Garrard
Fairgrounds

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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Lexington, KY 40506



Disabilities
accommodated
with prior notification.

GARRARD CO FARM BUREAU

Youth Contests



CONTESTS WILL BE HELD AUGUST 28,
2025 AT 6:00PM AT THE FAIRGROUNDS
EACH CONTESTANT WILL RECEIVE \$50

VARIETY CONTEST

Variety contestants can perform an act in any performance area: vocal, instrumental, dance, drama, or other.

Contestants must:

- be 9-18 years old.
- be the child of a Garrard Co Farm Bureau member.
- submit a contest application by August 26, 2025.

- The winner will receive an additional \$100 and move on to compete in the district contest.

**CASH
PRIZES**



OUTSTANDING YOUTH CONTEST

Contestants will compete in two areas:

- personal interview
- 2 minute prepared speech related to agriculture or Farm Bureau.

Contestants must:

- be 14-18 years old.
- be the child of a Garrard Co Farm Bureau member.
- submit a contest application, a copy of school grades for the last two years, and a list of their extra-curricular activities by August 26, 2025.

- There will be two winners for the outstanding youth contest, one boy and one girl. Each winner will receive an additional \$100 and will move on to compete in the district contests.



**PICK UP APPLICATIONS AT THE
GARRARD CO FARM BUREAU
OFFICE OR CALL FOR MORE
INFORMATION 859-792-2601**

AG SAFETY DAY

*Sep 5, 2025 at 5:30pm at the
Garrard Co Fairgrounds*

THIS FIELD DAY WILL INCLUDE

- Safety demonstrations
- Free health screenings
- Free meal provided by the Garrard Co Cattlemen's.
- Giveaways!

**Put on by the Garrard County
Farm Bureau Federation,
Garrard County Extension
Office, and Garrard
County Cattlemen's.**

Attending this event
qualifies for the Garrard
County CAIP education
requirement.



**Cooperative
Extension Service**
Garrard County

Before this event, Garrard Co Conservation and Extension office will be hosting a fence recycling event. Bring any old METAL fencing materials (no wood or concrete attached) to the fairgrounds between 9:00-2:00 Sep 5.



College of Agriculture, Food and Environment
Cooperative Extension Service

Plant Pathology Fact Sheet

PPFS-FR-S-06

Rust Diseases of Brambles

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Extension Specialist*

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*Horticulture
Extension Agent*

IMPORTANCE

The three most important rust diseases occurring on brambles in Kentucky are cane and leaf rust, late rust, and orange rust. The most destructive of these diseases is orange rust, which is ultimately lethal to plants. Once infected, entire plants must be removed and destroyed. In contrast, cane and leaf rust, along with late rust, are not lethal to plants and can be managed using cultural practices and fungicides. Distinguishing between these rust diseases is critical for proper management.



CANE & LEAF RUST

Symptoms & Signs

The first evidence of cane and leaf rust is the presence of elongated, bright yellow pustules appearing on infected floricanes (year-old canes that will produce fruit) in spring (FIGURE 1). Pustules rupture through the bark and result in brittle canes that break easily. Small yellow pustules may also appear on undersides of leaves (FIGURE 2) and less frequently on fruit (FIGURE 3). Fungal signs (pustules of powdery yellow rust spores) may be evident in mid-April and extend through summer. Premature defoliation, which results in stress and loss of plant vigor, can occur if leaf infections are severe.

Hosts

Blackberry is susceptible; raspberry infections are rare.



FIGURE 1. (A) CANE AND LEAF RUST PUSTULES ERUPT THROUGH THE BARK OF FLORICANES IN SPRING. (B) CLOSE-UP OF CANE AND LEAF RUST PUSTULE CONTAINING ABUNDANT POWDERY YELLOW SPORES.

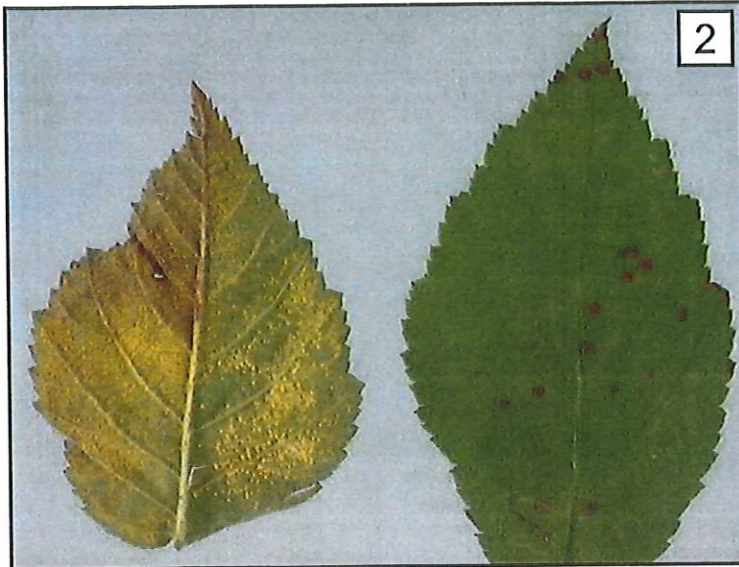


FIGURE 2. CANE AND LEAF RUST INFECTIONS ON LEAVES BECOME VISIBLE AS YELLOW PUSTULES ON UNDERSIDES OF BLACKBERRY LEAVES.



FIGURE 3. CANE AND LEAF RUST CAN AFFECT BLACKBERRY FRUIT IF DISEASE BECOMES SEVERE.

Cause & Disease Development

Cane and leaf rust is caused by *Kuehneola uredinis*, a fungal pathogen that produces multiple spore types on bramble hosts. The pathogen overwinters on infected canes. In spring, bright yellow pustules (uredinia) on infected floricanes release spores (urediniospores), which infect floricanes leaves. Light, yellow-colored pustules develop on undersides of leaves from summer through autumn.

Urediniospores develop in large numbers and are the source for new infections throughout the growing season. Urediniospore production is highest when conditions are wet. Disease spreads when rust spores are carried by air currents. Another pustule type (telia) also develops on leaves during summer; telia sometimes appear on fruit. Primocanes (current year canes) are susceptible to infections by teliospores originating from floricanes or leaves; primocane infections are the source for overwintering.

LATE LEAF RUST

Symptoms & Signs

Late leaf rust symptoms begin in July as chlorotic (yellow) spots on upper sides of mature leaves while yellow-orange, powdery spores develop on leaf undersides (FIGURE 4). By late summer, leaf spots turn brown; leaves curl and eventually drop. Yellow-orange, powdery rust spores also form on canes and petioles. Individual drupelets of fall fruit may become covered with these yellow-orange spore masses (FIGURE 5), making fruit unmarketable. Premature defoliation results in yield losses and reduces winter hardiness.

Hosts

Some cultivars of red raspberry, especially those with wild-type parentage, are susceptible. Blackberry and black raspberry are not affected.



FIGURE 4. LATE LEAF RUST DEVELOPS AS YELLOW TO ORANGE PUSTULES ON UNDERSIDES OF RASPBERRY LEAVES IN SUMMER.

Cause & Disease Development

Late rust is caused by *Pucciniastrum americanum*, a fungus with two possible life cycles and several spore types. Generally, the fungus overwinters in infected canes. Infective spores (urediniospores) are released in spring and throughout the growing season. Spore production is highest when conditions are wet. Disease spreads when fungal spores are carried by air currents. Leaves, fruit, and primocanes (current year canes) become infected in summer and autumn. An alternate host, white spruce, can play a role in the disease cycle by producing different spore types (aeciospores, basidiospores); however, it is unlikely that white spruce is part of the disease cycle in Kentucky.



FIGURE 5. LATE RUST CAN AFFECT DRUPELETS OF FALL FRUITING RASPBERRY.

ORANGE RUST



Symptoms & Signs

Symptoms become apparent as new growth emerges in spring; newly forming primocane shoots (current year canes) appear noticeably weak and spindly compared to healthy shoots. Leaves on symptomatic shoots turn pale green to yellow and are narrow and twisted (FIGURE 6); leaf edges may be bronze-colored. By late April through May, blister-like rust pustules are visible on lower leaf surfaces. Pustules are waxy and erupt with bright orange, rusty, powdery spores (FIGURE 7). By June, leaves wither and drop. In late summer or autumn, pustules darken to brown or black. Orange rust does not normally kill plants outright, but after the first year, plants become stunted, misshapen, and weakened; little to no fruit is produced.



Hosts

Blackberry (thorny) are susceptible; most cultivars of thornless blackberry are susceptible, but some resistant cultivars are available. Black raspberry and purple raspberry are susceptible; red raspberry are not hosts. Wild brambles are susceptible.

FIGURE 6. ORANGE RUST (RIGHT) CAUSES STUNTING, YELLOWING, AND WEAK, SPINDLY GROWTH (HEALTHY PLANT SHOWN ON LEFT)

FIGURE 7. ORANGE RUST PUSTULES EMERGE FROM BLACKBERRY LEAF UNDERSIDES IN SPRING.

Cause & Disease Development

Orange rust is caused by one of two very similar fungi, *Gymnoconia nitens* in the Southeast, and *Arthuriomyces peckianus* in the Midwest; both fungi cause similar symptoms and may be active in Kentucky.

Orange rust fungi overwinter as systemic infections in bramble crowns and bases of shoots. Spores (aeciospores) are released in spring and spread to other plants via air currents, equipment, or humans. Infections occur during cool, moist weather. In late summer and autumn, if conditions are wet,

a second type of spore (teliospore) is produced, causing additional infections of shoot tips and buds on rooting cane tips. The disease cycle resumes in spring with the emergence of new, infected shoots. The pathogen may also spread from plant to plant via root contact that results in root grafts.

Orange rust is systemic (spreads internally) throughout roots, crown, and shoots of infected plants. Once a plant is infected, it remains infected for life and will become a source of inoculum (infection) for further diseases spread.

TABLE 1. A COMPARISON OF THREE COMMON RUST DISEASES IN KENTUCKY.

	Cane & Leaf Rust	Late Rust	Orange Rust
Hosts	Blackberry Rare on raspberry	Red raspberry Purple raspberry	Blackberry Black raspberry Purple raspberry
Plant parts affected	Leaves, canes, fruit	Fruit (fall), leaves, petioles	Leaves, buds, shoots
Infection type	Surface	Surface	Systemic, internal
Symptoms & signs first evident	In early spring just before growth resumes (early April to May)	July	As new growth emerges in spring (mid-April to May)
Pustule color	Yellow	Yellow to yellow-orange	Bright orange

DISEASE MANAGEMENT CANE & LEAF RUST, LATE RUST

Management of these diseases is primarily through cultural practices. Fungicides can be applied to protect healthy plants; however, cultural practices should be the focus of any management strategy.

Cultural Practices

- Promote good air circulation to encourage drying of plant tissues. Proper spacing, pruning, thinning, and managing weeds can improve air movement through plantings.
- Remove fruiting canes and all diseased canes after harvest. Do not leave cuttings in the field; discard or destroy them away from plantings.

Fungicides

- Fungicides can be applied when brambles are dormant in winter, with additional applications at green tip and just prior to bloom.
- Contact a local county Extension office for current fungicide recommendations.

DISEASE MANAGEMENT

ORANGE RUST

Orange rust is best managed by integrating eradication, sanitation, and chemical control strategies. Fungicides alone do not adequately control orange rust.

Planting Material

- Begin with disease-free stock to prevent the introduction of orange rust into a planting.
- When propagating plants, verify that rooted shoot tips are not derived from infected mother plants.
- Consider planting immune species or tolerant cultivars.
- Avoid planting in the proximity of wild brambles or old bramble plantings.

Cultural Practices

- Promote good air circulation to encourage drying of plant tissues. Proper spacing, pruning, thinning, and managing weeds can improve air movement through plantings.
- Remove and destroy all wild blackberries or black raspberries from fence rows or other areas in the vicinity of the berry planting; wild brambles often harbor this disease.

- Once a plant becomes infected, it should be removed (including roots) and destroyed. Plant removal should be done in early spring when infected plants are easy to recognize and before fungal pustules release masses of spores that can cause new infections.

Fungicides

- Fungicides will not cure infected plants. Use fungicides to protect healthy plants, especially when risk for infection is high (e.g. orange rust diagnosed in nearby plants).
- Apply protectant fungicides to healthy plants at 10- to 14-day intervals from late April through June and again from early September through mid-October.
- To prevent development of fungicide resistance, limit the number of consecutive applications of the same fungicide by alternating between two types of fungicides (different FRAC codes) for each application.

ADDITIONAL RESOURCES

- Plant Pathology Extension fact sheets on Small Fruit
<https://plantpathology.ca.uky.edu/extension/publications#SMALLFRUIT>
- IPM Scouting Guide for Common Problems of Brambles in Kentucky (ID-251)
<http://www2.ca.uky.edu/agcomm/pubs/ID/ID251/ID251.pdf>
- IPM Scouting Guide for Common Problems of Brambles mobile website
<https://bramblescout.ca.uky.edu/>

January 2021

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Revised from the original fact sheet, *Orange Rust of Brambles* (PPFS-FR-S-06) by Chris Smigell and John Hartman

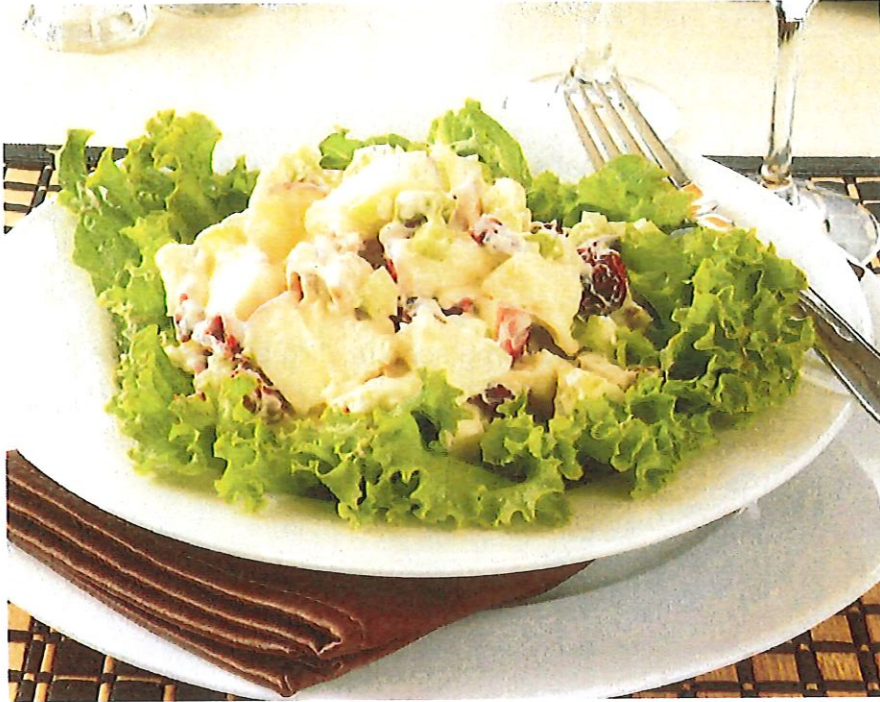
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Cooperative
Extension Service

Apple and Chicken Salad

Servings: Makes 6 servings Serving Size: 1 cup Recipe Cost: \$6.42 Cost per Serving: \$1.07



Ingredients:

- 2 red apples
- 2 stalks celery
- 1/2 cup raisins
- 1/4 cup plain non-fat Greek yogurt
- 1/4 cup light mayonnaise
- 1/4 teaspoon salt
- 1/8 teaspoon ground black pepper
- 2 cups cooked chicken, chopped
- 18 lettuce leaves

Directions:

1. Wash hands with warm water and soap, scrubbing for at least 20 seconds.
2. If needed, cook chicken using the [How to Cook Chicken](#) recipe.
3. Rinse all fresh produce under cold water in a colander. Scrub celery and apples with a vegetable brush.
4. Using the cutting board and knife, dice 2 stalks of celery.
5. Chop 2 red apples, remove the core and seeds.
6. Combine chopped apples, celery, and 2 cups diced chicken in a bowl.

7. Add 1/4 cup Greek yogurt, 1/2 cup raisins, 1/4 cup light mayonnaise, 1/4 teaspoon salt and 1/8 teaspoon pepper to bowl.
8. Stir all ingredients together.
9. Arrange 3 lettuce leaves on a plate and top with 1 cup of apple and chicken salad mixture.
10. Store leftovers in bowl with a lid in refrigerator for 3-4 days.

Make it a Meal

Apple and Chicken Salad

Whole grain bread

Skim milk

Source: Adapted from United States Department of Agriculture, What's Cooking USDA Mixing Bowl. March 2015. www.usda.gov/whatscooking

Nutrition facts per serving:

240 calories; 3g fat; .5g saturated fat; 0g trans fat; 35mg cholesterol; 250mg sodium; 12g carbohydrate; 2g fiber; 35g sugar; 0g added sugar; 17g protein; 0% Daily Value of vitamin D; 4% Daily Value of calcium; 10% Daily Value of iron; 15% Daily Value of potassium.