University of Kentucky
College of Agriculture, Food and Environment
Cooperative Extension Service

Cooperative Extension Service
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Agent for Horticulture

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2023

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Master Gardener Spotlight

Michael Vessels,

Master Gardener Vice President

Class of 2019

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

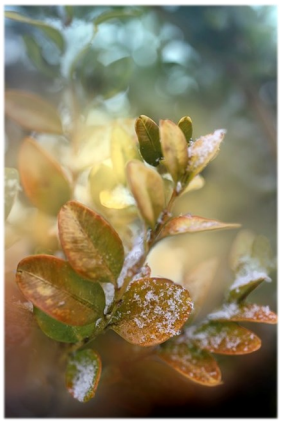
LEXINGTON, KY 40546

Disabilities accommodated with prior notification.

Replacing Or Rescuing Damaged Shrubs

Source: Rick Durham, UK Extension Horticulture Specialist

The extreme cold spell at the end of December 2022 caused severe damage to many shrubs and bushes around Kentucky homes. With plants greening up this spring, you may be wondering what to remove and what to attempt to rescue in your landscape.



The cold is just one part of the puzzle when shrub health declines. Other factors include soil pH, soil volume, too much or too little water and light availability.

Some shrubs may just need a good pruning and time to recover from the winter stress. If you want to try to revive the shrub through pruning, you'll need to trim it down with sturdy pruning shears. Don't remove more than one-third of the plant in a season. If the plant is healthy, it will soon produce new green shoots. If your shrub has more brown branches than green at the core, it may be time for you to remove it. When shrubs become too woody in the middle, start over with another plant.

Well-established shrubs may have large, complex root structures. Make sure to completely remove them before planting something new. Use the transition time to do a soil test so you know what amendments it will need before you bring home new plants.

If you must replace landscape shrubs and plants, Kentucky has more than 1,200 nurseries and retailers selling hundreds of types of trees, shrubs, groundcovers and perennials. With 120 counties of resources, you can buy locally without driving very far. The Kentucky Department of Agriculture's Kentucky Proud program allows individuals locate local retail garden centers that market Kentucky-grown trees and shrubs. Search the garden center database at https://www.kyagr.com/agbus/products.aspx?group=19&category=112.

Retailers looking to stock their garden centers with Kentucky-grown trees and shrubs may use the Landscape Plant Availability Guide https://www.kyagr.com/marketing/plant/common-name-search.aspx.

Kentucky also has many qualified nursery growers, retailers, landscapers and arborists. The Cooperative Extension Service offers many green-industry classes throughout the year. Kentucky nursery growers and retailers are a very well-trained group of horticulturists. They are familiar with Kentucky soil types, weather and other factors playing a role in plant performance.

Photos Pixabay.com

When you visit a local nursery to choose new plants, make sure and read the tags and note the light, water and soil requirements. Ensure the new plants fit your landscape.

To learn more about transplanting container plants, check out the University of Kentucky Cooperative Extension publication Planting Container-Grown Trees and Shrubs in Your Landscape, HO-114. You can find it online here: https://tinyurl.com/24fx9j9p.

For more information about horticultural topics or classes near you, contact the McCracken County Cooperative Extension Service.

A Native Crane Fly Species May Be A Potential Pest In Alfalfa Fields Of Kentucky

Armando Falcon-Brindis[1], Raul T. Villanueva[1], and Julian Dupuis[2]
[1]University of Kentucky, Research and Education Center at Princeton, Kentucky, USA
[2]University of Kentucky, Entomology Department, Lexington, Kentucky, USA

Overview of crane flies

Adult crane flies (Diptera: Tipulidae) are often misidentified as giant mosquitoes (Figure 1A), they are actually different in size (0.8 to > 1 in. of body length) and belong to a different family. The larvae of crane flies are known as "leatherjackets" and in this case the larvae are found around 1-2 inches depth in the soil (Figure 1B), displaying tan to dark brownish colors, with a retractile head capsule and spiracles.

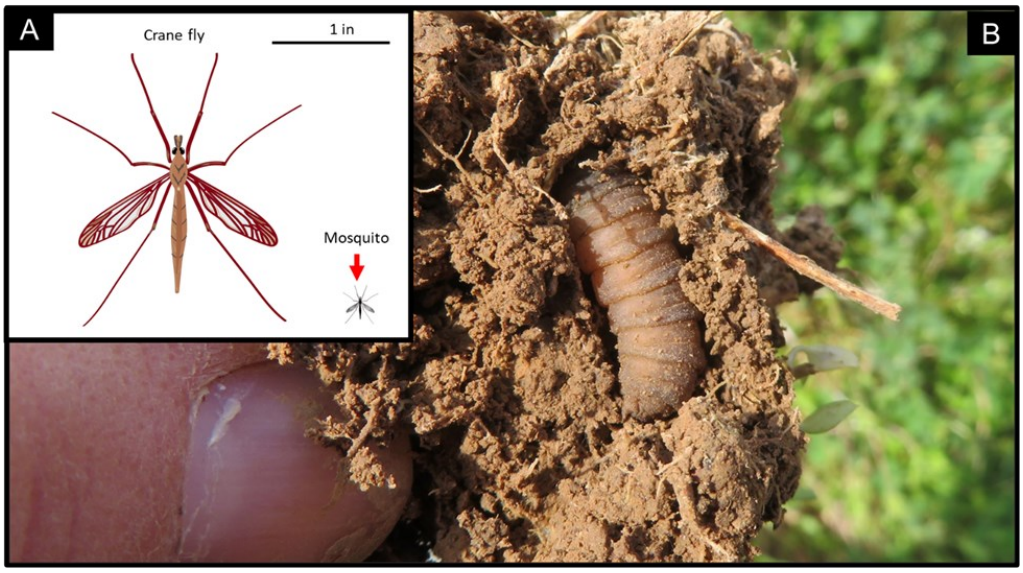


Figure 1. (A) Adult tipulid size compared to adult mosquito, and (B) larva of tipulid fly, also known as leatherjacket (Photo: A. Falcon-Brindis).

Most native crane fly species do not represent a threat to agriculture, but they may become pests when certain conditions are met. For instance, some invasive species are considered pests in golf courses and in some pastures. Here is the first report of a native species, *Tipula paterifera* that was found feeding on roots and foliage of alfalfa in Kentucky (Figure 2). The damage to alfalfa plants can be severe when high numbers of larvae are present in the soil (Figures 2 and 3). This species was previously found feeding on herbaceous plants in grasslands.

Figure 2. Severe defoliation and injuries caused by larvae of the native crane fly *T. paterifera* in an alfalfa field in 2020 (Photo: R.T. Villanueva).

Figure 3. Comparison of damage to alfalfa plants caused by crane flies and alfalfa weevils, (Photo: A. Falcon-Brindis).

Biology and ecology of *Tipula paterifera*

The larva of *T. paterifera* is mostly found within 5-in. depth in the soil and some of them are collected close to the main root of alfalfa plants (Figure 4A). Pupae are found close or on the ground surface (Figure 4B). Between 1 to 10 crane fly larvae/ft^2 were found in soil samples in 2022. The larva's lengths ranged from 0.5 to 0.9 inches. Under laboratory conditions adult females lay on average 397±121 (SEM) eggs, ranging from 41 to 1,361 eggs within 72 h. Eggs are laid on small clusters containing up to 18 eggs. Under dry conditions, larvae remained in hardened soil clumps (Figure 4C). These individuals barely moved unless poked or if the soil clump was intentionally opened. In contrast, larvae in soaked conditions were able to breathe using their annal breathing tubes or spiracles (Figure 4D).

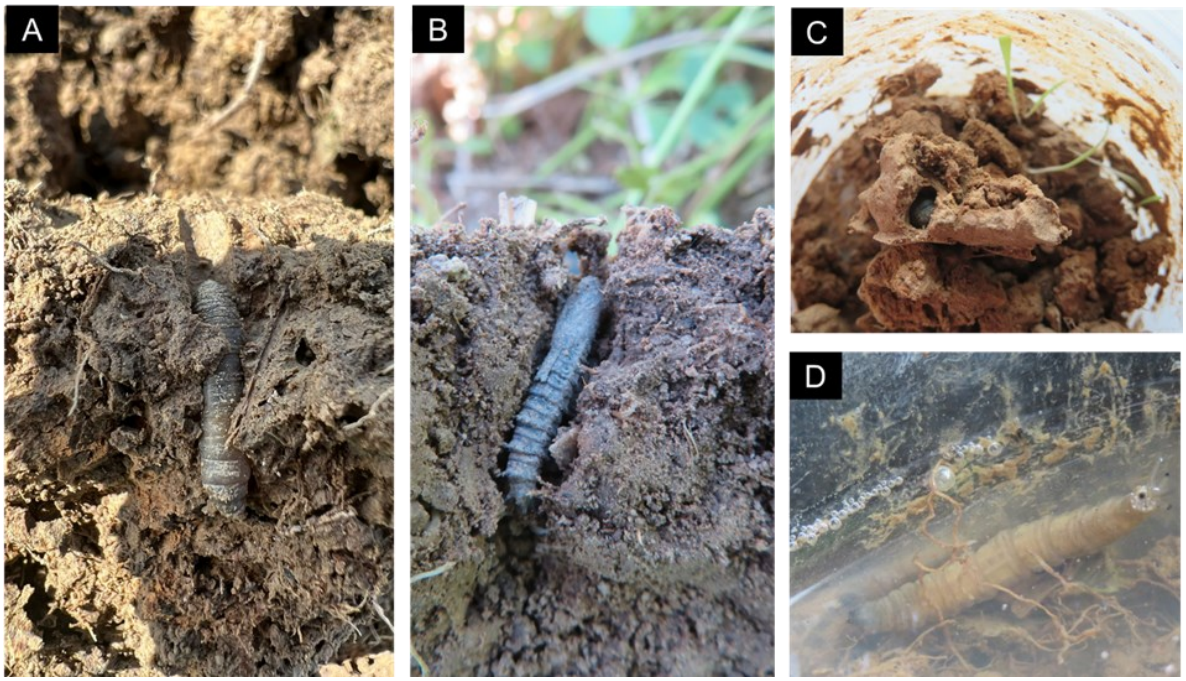
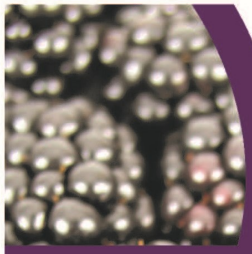


Figure 4. (A) Larvae and (B) pupa of *T. paterifera* found in alfalfa fields of Kentucky, and pictures of the capacity of *T. paterifera* larva to survive in (C) dry and (D) wet conditions (Photo: A. Falcon-Brindis).

Tipula paterifera larva (as many crane fly species) is physiologically adapted to survive both dry and moist conditions during larval stages. It caused economic damage to alfalfa only when high larvae populations appear (i.e., 2019 and 2021). However, there is no known economic threshold thus far. The outbreaks of *T. paterifera* in alfalfa fields could be attributed to certain climatic and ecological conditions not yet understood. The low populations of this species detected in 2022 could be explained in part by the extreme drought conditions across the north central U.S.

More information

- Chen-Wen, Y. 1978. Comparison of the crane flies (Diptera: Tipulidae) of two woodlands in Eastern Kansas, with a key to the adult crane flies of Eastern Kansas. The University of Kansas Science Bulletin. 51(12): 407-440.
- Oosterbroek, P. 2023. Catalogue of the Craneflies of the World, version 12.01.2023. Available via https://ccw.naturalis.nl/index.php
- Pritchard, G. 1983. Biology of Tipulidae. Ann. Rev. Entomol. 28: 1-22. https://doi.org/10.1146/annurev.en.28.010183.000245
- Villanueva, R.T., and B. Kenned. 2019. Crane Fly Larvae Might Be on the Rise in Soggy Alfalfa Fields. In Kentucky Pest News Blog (Checked on 04/20/23).
- Villanueva, R.T., and R. Bessin. 2020. Warrior II with Zeon Technology® Approved for Control of Crane Flies in Alfalfa. In Kentucky Pest News Blog (Checked on 04/20/23).



Blackberry Coffee Cake

1 cup all-purpose flour
1 cup whole wheat flour
1½ cups white sugar
2 teaspoons baking powder
1 teaspoon salt
⅓ cup margarine
⅓ cup applesauce
½ teaspoon cinnamon
2 tablespoons brown sugar
2 eggs
1 teaspoon vanilla
⅔ cup 1% milk
2 cups blackberries, washed

Preheat oven to 350 degrees F. **Grease** and **flour** a 9-by-13- inch baking pan. In a large bowl, **combine** flours, sugar, baking powder and salt. Using a pastry blender, cut margarine and applesauce into the mixture until it resembles coarse crumbs. **Stir** in the cinnamon and brown sugar. **Set aside** ¾ cup of crumb mixture to be used as a topping for the cake. In a medium bowl, **mix** together eggs, vanilla and milk. **Blend** into remaining flour mixture. **Spread** batter into prepared pan. **Sprinkle** blackberries evenly over the batter. Gently **press** blackberries into the batter. **Sprinkle** reserved crumb mixture over fruit and gently pat down. **Bake** in preheated oven for 25-30 minutes or until a toothpick inserted into the center of the cake comes out clean.

Yield: 15 servings.

Nutritional Analysis: 170 calories, 5 g fat, 1 g saturated fat, 1 g trans fat, 30 mg cholesterol, 280 mg sodium, 32 g carbohydrate, 2 g fiber, 18 g sugars, 3 g protein.

Kentucky Blackberries

SEASON: June to September

NUTRITION FACTS: A ½ cup serving of raw berries contains 35 calories, has zero fat, and is a good source of potassium, vitamin C and fiber.

SELECTION: Look for plump fruit that is uniform in color and appears fresh. Berries should be free of stems or leaves. Avoid fruit that is moldy, crushed, bruised or contains extra moisture.

STORAGE: Store unwashed and covered berries in the refrigerator. Use within two days.

PREPARATION: Handle all berries gently. Wash berries by covering them with water and gently lifting the berries out. Remove any stems and drain on a single layer of paper towels. Blackberries are delicious cooked, which intensifies the flavor, or eaten fresh as a snack or in a salad.

PREPARING: Berries may be preserved by canning or freezing, or made into jellies or jam. For more information, contact your local County Extension Office.

KENTUCKY BLACKBERRIES
Kentucky Proud Project
County Extension Agents for Family and Consumer Sciences
University of Kentucky, Dietetics and Human Nutrition students
August 2018

Source: www.fruitsandveggiesmatter.gov

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

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Bacterial Spot Of Pepper

Bacterial spot is the most common and economically important disease of peppers in Kentucky. The disease occurs in commercial and homegrown production. Disease damage to leaves results in yield reduction, while diseased fruits become unmarketable. Cultural and sanitation practices can help reduce disease severity, but chemical management may be needed to protect plants from infection.

Bacterial Spot Facts

- Symptoms begin as small, brown, circular spots that overtime expand and may develop an angular appearance. Lesions may develop on leaves (Figure 1), stems, petioles, and fruit (Figure 2). The center of older lesions on leaves may become white and fall out, leaving a “shot-hole” appearance. Infections of petioles often results in defoliation. Spots on fruit may be either sunken or raised depending on cultivar.
- Disease is introduced via contaminated seed, crop debris, or from weed hosts.
- Bacterial spot is spread by water, such as overhead irrigation or rain.
- Periods of wet, warm, humid conditions favor disease development.
- Once bacterial spot establishes in a planting, it can spread rapidly.
- Bacterial spot is caused by multiple bacterial *Xanthomonas* species

Figure 1: *Bacterial spot lesions on leaves are small, brown, and circular. (Photo: Kenny Seebold, UK)*

Figure 2: *Infected fruit may have raised or sunken lesions. (Photo: Cheryl Kaiser, UK)*

Management

- Purchase certified disease-free seeds or transplants.
- If saving seed from a previous season, heat treatment should be used to disinfest seed.
- Select resistant varieties.
- Manage weeds in or near plantings.
- Rotate crops.
- Increase plant spacing.
- Remove and destroy infected plants or plant parts.
- Avoid overhead watering.
- Prune plants to improve air flow.
- Monitor and manage humidity in greenhouses and high tunnels.
- Clean and sanitize tools, pots, and equipment.
- Remove and destroy plant debris and discarded fruit at the end of the season.
- Preventative copper applications are recommended for commercial production.

Commercial growers can find information on fungicides in the *Vegetable Production Guide for Commercial Growers* (ID-36) and the *Southeast U.S. Vegetable Crop Handbook*. Homeowners should consult *Home Vegetable Gardening* (ID-128) for fungicide information or contact a county Extension agent for additional information and recommendations regarding fungicides.

Additional Resources
Bacterial Spot of Pepper & Tomato (PPFS-VG-17)
Managing Greenhouse & High Tunnel Environments to Reduce Plant Diseases (PPFS-GH-1)
Greenhouse Sanitation (PPFS-GH-4)
IPM Scouting Guide for Common Pests of Solanaceous Crops in Kentucky (ID-172)
Home Vegetable Gardening (ID-128)
Vegetable Production Guide for Commercial Growers (ID-36)

By: Kim Leonberger, Plant Pathology Extension Associate, and Nicole Gauthier, Extension Plant Pathologist

University of Kentucky

2023 Pest Management Field Day

at the UKREC Farm

June 29, 2023

Location: 1205 Hopkinsville St., Princeton, KY 42445
Time: 8:30 a.m. to 12:30 p.m. CDT — Sign-in begins at 8 a.m. CDT

Pre-registration is highly recommended by June 22, 2023
by either scanning QR Code, clicking web link, or by telephone.

https://uky.az1.qualtrics.com/jfe/form/SV_4PjveAuq6mK9rXU
Or contact the UKREC at (270) 365-7541, ext. 22569.

Topics and Speakers

• Palmer amaranth and Waterhemp control • Weed Control in early planted soybean • Weed Control in corn • Italian ryegrass Research Update	*Travis Legleiter*
• Herbicide Resistant Johnsongrass • Weed Management utilizing cover crops	*JD Green* *Erin Haramoto*
• Corn Disease Research Update • Entomology Research Update	*Kiersten Wise* *Raul Villanueva*

Continuing Education Units for
Certified Crop Advisors and Kentucky pesticide applicators available

Follow us on Twitter: *@TravisLegleiter* and *@KYGrainCropsIPM*
Like us on Facebook: *KY Grain Crops IPM*

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FLORAL ARRANGEMENTS

MASTER GARDENER

TOOLBOX SERIES

JUNE 6TH , 2023

5PM CST

University of Kentucky
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Clay Smith, from Riverside Wholesale Florist, will be presenting on floral arrangements. Join the Master Gardeners at 5pm at the Extension Office with all your floral design questions!

FREE EVENT

Contact the McCracken County Cooperative Extension Service at (270) 554-9520 to learn more

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Mary Hank

Extension Agent for Horticulture

If inclement weather closes McCracken County Schools, programs are canceled

PLANT YOUR OWN GARDEN

JUNE 27TH , 2023

10AM CST

University of Kentucky
College of Agriculture, Food and Environment
Cooperative Extension Service

Purchase District Health Department
Promoting Health. Preventing Disease. Protecting You.

McCracken County Horticulture Agent, Mary Hank, will be teaching participants how to plant a raised self-watering bed. Participants will be planting a raised bed to take home with them. All supplies will be provided. Information will be provided on nutrition and plant management. RSVP is required.

FREE EVENT

Contact the McCracken County Cooperative Extension Service at (270) 554-9520 to sign up.

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