Horticulture Newsletter

Martin-Gatton College of Agriculture, Food and Environment
University of Kentucky.

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AUGUST 2024

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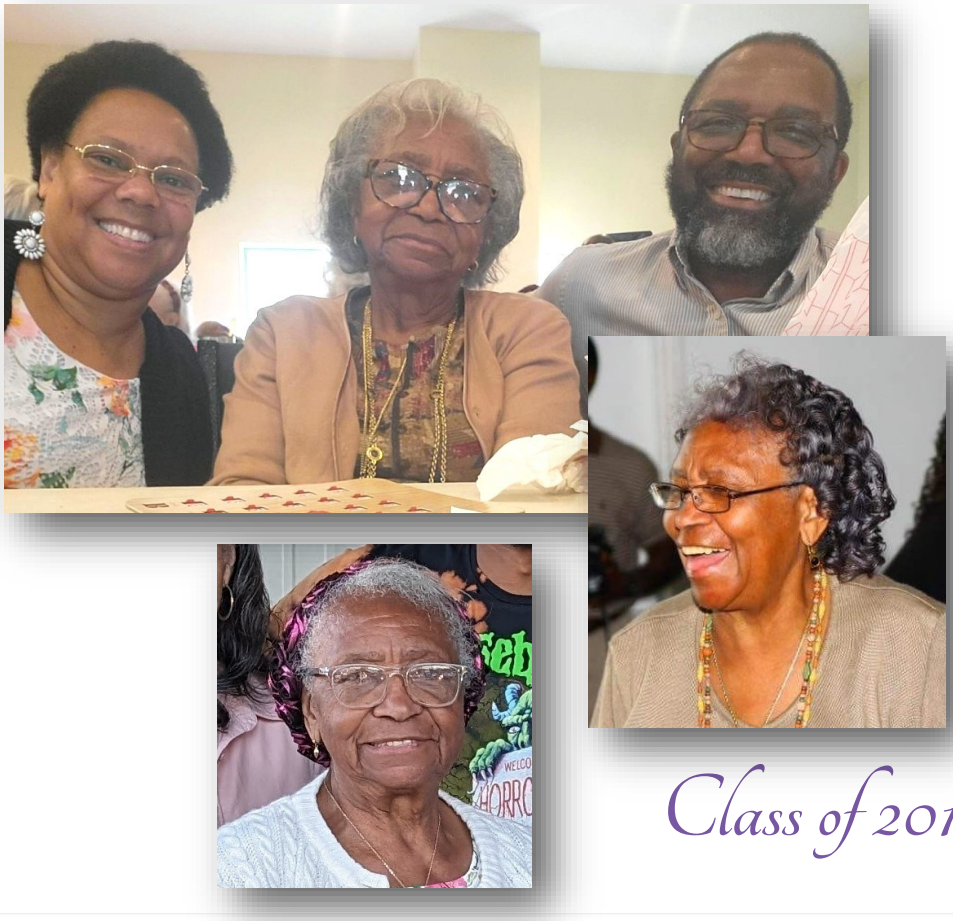
Master Gardener Spotlight

Geneva Fisher



Class of 2012

Installing A Butterfly Garden Can Play A Critical Role In Plant Pollination

Source: Faye Kuosman, UK Food Connection Coordinator

Butterflies aren't the only ones that can benefit from butterfly gardens. Honeybees, which are native to Europe and introduced to the United States, are also important pollinators for home gardens. Numerous other pollinator species including native bees, butterflies and moths, beetles, birds and bats benefit our gardens. Sadly, many of the pollinators have suffered from habitat loss, chemical misuse, diseases and parasites.

Butterfly gardeners play a critical role in nurturing and conserving both native and introduced pollinators. Butterfly gardens and landscapes provide pollinators with food, water, shelter and habitat to complete their life cycles. Urban areas typically feature large areas of pavement and buildings and offer little in the way of food and shelter for pollinators. Garden plantings can help bridge that gap.

Just like with any new flower bed, you want to pick a site for your butterfly garden with good drainage, full sun and an area with good weed control. If you are starting a new butterfly garden, get a soil test, eliminate the weeds and add organic matter.

Butterflies, honeybees and other pollinators need protein from flower pollen and carbohydrates from flower nectar. Plan to provide a variety of different types of flowers and aim to have three different flower species in bloom throughout the growing season. Showy, colorful flowers and massed groups of flowers, particularly in small gardens, provide efficient feeding stations for the pollinators. Flowering trees and shrubs also provide excellent food sources. Native plants share a long history with their pollinators, including a wide variety of natives will make your garden a favorite destination for pollinators.

You want to have a variety of plants, preferably native and non-native ones that will bloom throughout the growing season. Some of these are purple cone flower, black-eyed susan, asters, golden rod, yarrow, tall blazing star, milkweed, coreopsis and many more. The Kentucky Native Plant Society has an updated listing of nurseries in Kentucky that sell native plants.

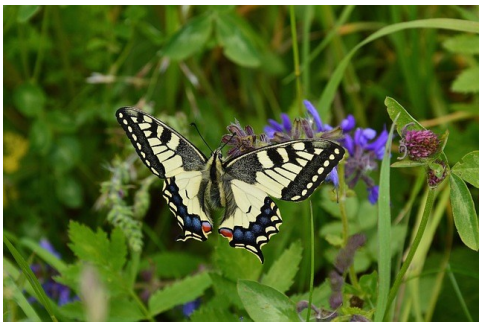


Photo from Pixabay.com

Be sure to have puddling spots for butterflies to get a drink of water. Pollinators also need shelter from the wind, scorching sun, and heavy rain. Fences can serve as windbreaks, which may make the garden more attractive to pollinators.

For information on starting a butterfly garden, contact the McCracken County office of the University of Kentucky Cooperative Extension Service.

https://exclusives.ca.uky.edu/2024/hort/installing-butterfly-garden-can-play-critical-role-plant-pollination

Preventing Postharvest Disease Losses in Vegetable Crops

Vegetable produce is often soft, perishable, and particularly susceptible to a range of damage during harvest and storage. Growers can experience postharvest crop losses between 25% and 50%. A significant percentage of postharvest losses are caused by plant diseases. Infection by disease-causing pathogens can occur in the field and/or through wounds during harvest. Under moist conditions or high humidity, these infections can develop into molds, rots, or other decay. Even produce destined for fresh market can develop postharvest diseases during short-term storage

Figure 1: *Choanephora fruit rot can begin in the field and advance in storage. (Photo: Kim Leonberger, UK)*

Infection in the Field

Plant diseases such as fruit rots, leaf spots, and root rots can occur while plants are growing or while fruit are maturing (Figure 1). Infections can remain latent (dormant) until produce reaches a particular stage of maturity or until certain environmental conditions are reached.

Management

- Maintain a disease management program all season.
- Discard diseased and damaged produce as soon as it is visible.
- Avoid mixing diseased produce with healthy produce (e.g., in storage bins).
- Apply fungicides at harvest or after harvest if field disease was present.

Infection During Harvest & Handling

Wounds, bruising, desiccation, and exposure to temperature extremes can weaken produce and allow pathogen entry, resulting in disease. Many of the same plant pathogens that infect crops in the field can also infect wounded or damaged produce during harvest. Disease may appear soon after produce is moved to the cooler or storage, or there may be a delay in disease development

Management

- Minimize wounds and bruises during harvest, handling, and packaging.
- Raise bins and buckets off the ground during harvest.
- Cool produce as soon as possible.
- Avoid leaving harvested produce in the heat or sun.
- Wash dirty or muddy produce and dry thoroughly before storage.
- Wash and sanitize bins and equipment before each harvest.

Disease in Storage

Improper storage conditions can provide ideal environments for disease-causing organisms to infect (Figure 2). Healthy produce can become diseased in storage when moisture is too high, temperatures are too warm, and pathogens are present.

Figure 2: *Conditions such as excess moisture and improper storage may allow for disease development. (Photo: Kim Leonberger, UK)*

Management

- Separate produce by type, harvest date, and field origin.
- Cool produce as soon as possible while remaining within the safe range for the specific produce.
- Monitor storage temperature and humidity.
- Increase ventilation.
- Raise produce off the floor.
- Reduce surface wetness by maintaining equipment and keeping produce dry.
- Follow a strict sanitation program, which is critical.
- If vegetables must be washed before storage, they should be completely dry before storage.
- Keep all surfaces clean; sanitize regularly.
- Wash and sanitize all bins, tools, and harvest materials before bringing them into coolers or storage units.
- Inspect stored produce regularly and discard damaged and diseased material immediately.

Additional Resources
Postharvest Disease Losses in Fruit & Vegetable Crops (PPFS-GEN24)
Vegetable Production Guide for Commercial Growers (ID-36)
Southeastern U.S. Vegetable Crop Handbook (SEVEW)

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

Fusarium Wilt of Vegetables

Fusarium wilts are common in Kentucky vegetables grown in commercial fields, greenhouses, high tunnels, and back-yard gardens. Tomato, peppers, eggplant, cucumber, watermelon, cantaloupe are susceptible to disease. Fusarium wilts symptoms develop when the fungus clogs vascular tissue (xylem), limiting the plant's ability to move water and nutrients. Infections ultimately result in plant death. Preventative practices and fungicides can reduce damage and limit yield loss.

Fusarium Wilt Facts

- Symptoms often first appear as a complete or partial wilting of plants. During the early stages of infection, plants may recover during the evening or after watering, but over time, wilting becomes permanent. Affected plants become yellow and then necrotic (brown/dead tissue) (Figure 1). Discoloration of the vascular system may be present and can be observed by cutting the stem open length wise (Figure 2). Diseased plants eventually die.
- Disease may be introduced via infected crop debris, seeds, transplants, weeds or infested soil.
- Fusarium wilt is soilborne and is spread by water, such as irrigation or rain, or by movement of infested soil.
- Warm temperatures, periods of high humidity, and acidic soils favor disease development.
- Fusarium wilts are caused by the fungal pathogen *Fusarium oxysporum*. This fungus has many host-specific strains called "formae speciales" that each target different crops.

Figure 1: *Fusarium wilt symptoms begin as wilting, followed by yellowing and necrosis. (Photo: Gerald Holmes, Strawberry Center, Cal Poly San Louis Obispo, Bugwood.org)*

Figure 2: *Vascular discoloration is characteristic of Fusarium wilt. (Photo: Clemson-USDA CES Slide Series, Bugwood.org)*

Management

- Purchase certified disease-free seeds or transplants.
- Select cultivars with resistance.
- Utilize soil solarization.
- Manage weeds in or near plantings.
- Rotate crops away from susceptible crops for a minimum of 5 years.
- Increase soil pH to near neutral (pH 7), depending on crop.
- Remove and destroy infected plants or plant parts.
- Clean and sanitize tools, pots, and equipment.
- Remove and destroy plant debris at the end of the season.

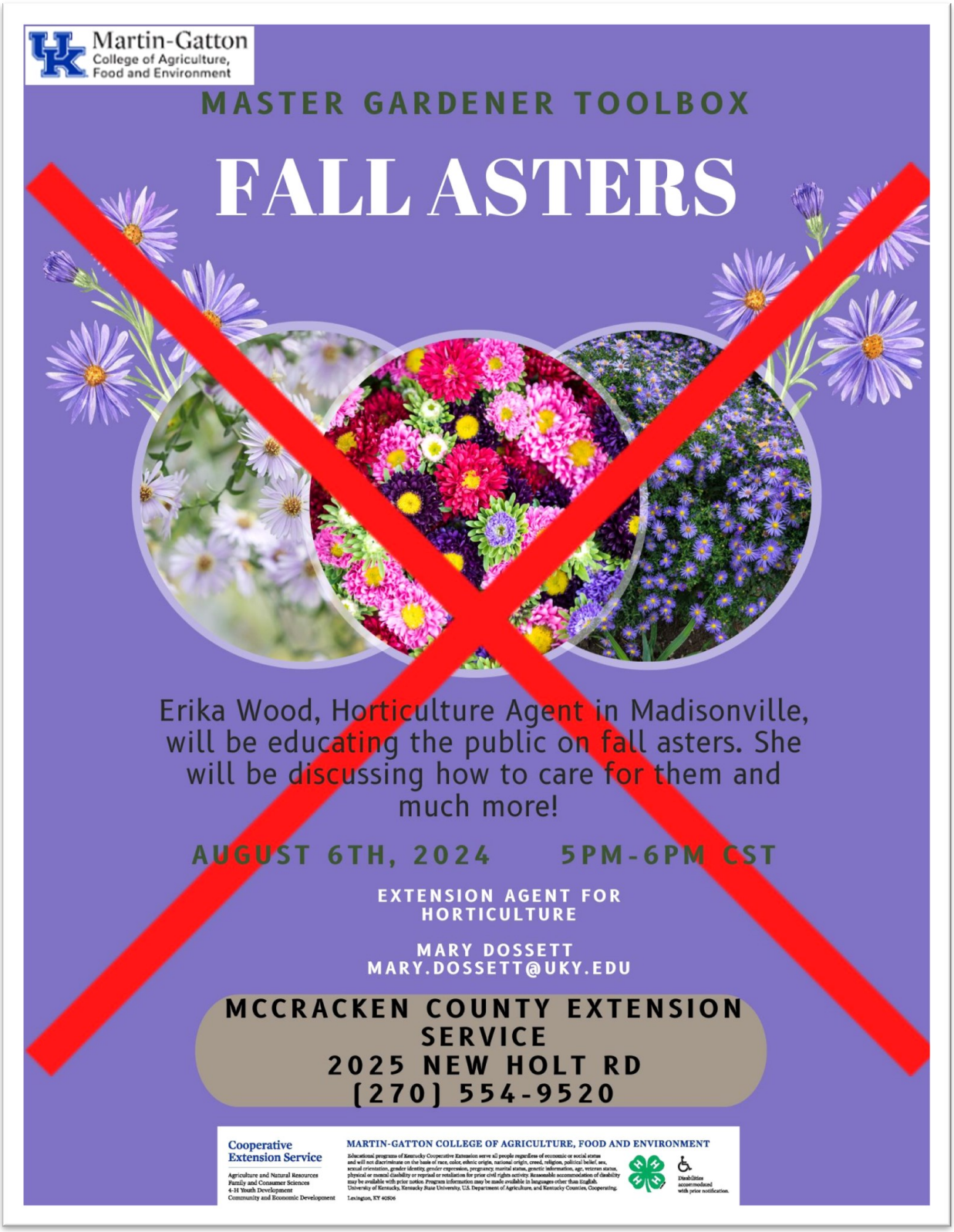
Commercial growers can find information on fungicides in the Vegetable Production Guide for Commercial Growers (ID-36) and the Southeastern U.S. Vegetable Crop Handbook. Homeowners should consult Home Vegetable Gardening (ID-128) for fungicide information or contact a county extension agent for additional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

Additional Resources
Fusarium Wilts of Vegetable Crops (PPFS-VG-15)
Home Vegetable Gardening (ID-128)
Vegetable Production Guide for Commercial Growers (ID-36)
Southeastern U.S. Vegetable Crop Handbook (SEVEW)

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

Unfortunately, our August Toolbox is canceled. If you would like to learn more about Fall Asters, please view the link below.

https://www.youtube.com/watch?v=JKFgIdo25l0



Martin-Gatton College of Agriculture, Food and Environment

MASTER GARDENER TOOLBOX

HYDRANGEA

Mary Dossett, Horticulture Agent, and Savannah Gilbert, Horticulture Assistant, will be educating the public on all things hydrangeas.

SEPTEMBER 3RD, 2024 5PM-6PM CST

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Cooperative Extension Service

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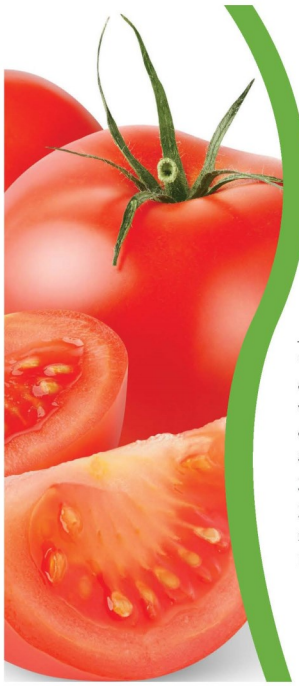
MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Lexington, KY 40506



Tomato Basil Bruschetta

3 plum tomatoes, chopped
⅓ cup thinly sliced and coarsely chopped onion
2 cloves garlic, minced
1 tablespoon red wine vinegar
6 tablespoons olive oil
1 tablespoon minced fresh basil or 1 teaspoon dried basil
½ teaspoon dried oregano
¼ teaspoon salt
⅛ teaspoon ground pepper
1 pound loaf, whole wheat French bread, cut into ½ inch slices

1. Combine tomatoes, onions, garlic, red wine vinegar, 2 tablespoons olive oil, basil, oregano, salt and pepper; set aside.
2. Preheat broiler of oven.
3. Lightly brush both sides of bread slices with remaining olive oil and arrange on ungreased baking sheet.
4. Place three to four inches from the broiler and heat slices for two to three minutes on each side or until golden brown.
5. Top each slice with tomato mixture, using a slotted spoon and serve.

Yield: 16, ½ inch slices

Nutritional Analysis: *140 calories, 5 g fat, 1 g saturated fat, 0 mg cholesterol, 250 mg sodium, 19 g carbohydrate, 3 g fiber, 0 g sugar, 4 g protein.*

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

Plate it up! Kentucky Proud

Kentucky Tomatoes

SEASON: July through October

NUTRITION FACTS: Tomatoes are rich in nutrients that promote good health, including fiber and vitamins C and A. A medium tomato contains about 25 calories, 20 mg sodium, and is a good source of potassium.

SELECTION: Choose firm, well-shaped tomatoes that are fragrant and rich in color. Tomatoes should be free from blemishes, heavy for their size, and give slightly to pressure. Three to four medium tomatoes weigh about 1 pound. One pound of tomatoes yields about 2 ½ cups of chopped tomatoes.

STORAGE: Store ripe tomatoes at room temperature and use them within three days. Keep out of direct sunlight. Place green tomatoes in a paper bag to ripen.

Source: www.fruitsandveggiesmatter.gov

PREPARATION: Wash fresh tomatoes in cool running water.

To peel: Place tomatoes in boiling water for about 30 seconds, then transfer to cold water. Skins will slip off.

To seed: Scrape seeds away from the flesh with a pointed utensil. Avoid puncturing the skin.

To slice: Slice lengthwise to retain juice. A serrated knife works best.

TOMATOES
Kentucky Proud Project
County Extension Agents for Family and Consumer Sciences
University of Kentucky, Nutrition and Food Science students
July 2012

Educational programs of Kentucky Cooperative Extension serve all people regardless of race, color, age, sex, religion, disability, or national origin. For more information, contact your county's Extension agent for Family and Consumer Sciences or visit www.ca.uky.edu/fcs.

COOPERATIVE EXTENSION SERVICE
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