

Cooperative Extension Service
Boone County
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Container Gardening

Rick Durham, Department of Horticulture Professor

Container gardening turns even the smallest balcony or stoop into a pocket-sized farm. If you rent an apartment, battle heavy clay soil, or just prefer vegetables closer to the kitchen door, planting in pots lets you sidestep many headaches that come with traditional plots. The method also works for those with limited mobility as containers can sit on a sturdy table or a rolling platform, bringing those veggies up where bending and kneeling are not required.

Pots let you match each crop to its favorite microclimate. A lettuce tub can chill in afternoon shade, while an eggplant basks beside a sun-soaked brick wall that stores extra heat. Moving crops from



ground to container now and then even plays a role in crop rotation; shifting soil out of the disease cycle keeps problems such as wilt or root rot from getting a foothold.

Almost any vegetable will grow this way, yet leafy greens, herbs, bush beans, peppers, and cherry tomatoes shine. Plant breeders have created compact "patio" versions that load fruit on short stems. One large pot can hold a cherry tomato, another supports a dwarf pepper, and a shallow tray brims with spinach. Remember that every plant sharing a container must enjoy the same amount of sunlight and moisture, or one partner will suffer.

(Continued)



Blossom end rot is a common disorder in tomatoes, peppers, and melons that is caused by calcium imbalances. The bottom portion of the fruit appears to rot. While calcium application may benefit the plant, the disorder is most often caused by a soil pH that is far too high or too low. Wet/dry and hot weather patterns can also lead to blossom end rot.

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The container itself matters less than drainage, volume, and weight. Clay and wooden pots breathe, so roots rarely drown, though you'll water more often on hot days. Plastic, metal, or glazed ceramic hang onto moisture longer, which is handy during vacations but demands restraint with the hose. No matter the material, drill or punch several quarter-inch holes near the bottom and raise the base on bricks or pot feet so extra water can escape. Dark, pint-sized pots heat up fast; keep them out of relentless sun unless you're growing chilies that adore warm roots.



Fill your vessel with fresh soilless mix, not ground soil. The bagged blend of peat or coir, vermiculite, and compost stays light, resists compaction, and comes free of weeds. Moisten it the day before planting; dry peat sloughs off water at first, so give it time to drink. Mix a slow-release fertilizer into the top few inches or plan to feed weekly with a half-strength liquid fertilizer once seedlings sport their second set of leaves.

Tall or vining crops need backup from the start. Slide a tomato cage, bamboo stakes, or a small trellis into place at planting so roots remain undisturbed later. On a windy balcony, lash cages to the railing or slip the container inside a larger, heavier planter for ballast.

Check moisture by sticking a finger two knuckles deep; water only when the mix feels dry. Soak until you see water run from the holes, then empty saucers so roots don't sit in a swamp. During blistering weather, move pots to temporary shade or cluster them together where foliage casts mutual cover.

When lettuce bolts or beans finish, pull the spent plants, toss the used mix onto a compost heap or garden bed, scrub the container with a 10% bleach solution, and start planning the next round. With a small stash of pots, fresh mix, and a bit of attention, you'll harvest salads, salsas, and stir-fry ingredients right outside the back door—no backyard required.

Contact the Boone County Extension office for more information on creating great container gardens.

Wet plant tissues such as leaves are more susceptible to disease than drier tissues. Because of this, it is better to water earlier in the day so that wet leaves can dry off before the sun goes down. Also, whenever possible, water the soil without getting the leaves wet.



Helping Your Garden Weather a Heat Wave

Rick Durham, Department of Horticulture Professor

If you think you're hot, ask your plants (not literally). They can suffer under high summer heat, too.

Most vegetables and native plants can withstand a periodic heatwave, but once the soil dries out in the top few inches, all plants can feel the stress. Some vegetables, like beans and tomatoes, may delay producing fruit during hot weather, but this is usually



temporary. A layer of mulch around your plantings can help hold moisture for those important surface roots and moderate the soil's temperature. A light-colored mulch like straw, pine needles or grass clippings can help to reflect heat back and away from the plant's roots.

But don't worry. There are ways to protect your plants!

Water your plants in the early morning before the heat of day to prevent water loss to evaporation. If you use sprinklers, most of that water can be lost through wind drift and evaporation, so try to water on a calm morning. Hand watering gives you the best control and directs the water exactly where you need it. If you can, it is best to soak the soil directly beneath the plant and avoid getting the leaves wet. Soaker hoses are good for directing the water where it's needed most.

Watering in the morning also discourages slugs and fungal diseases. An evening dousing can leave the soil and foliage wet for longer periods of time and encourage snails, slugs and the spread of disease.

You may have to water container gardens two or even three times a day, depending on how large the container is and how much foliage is present. If they are small enough to be moved, shifting containers to a place where they can get partial shade will help manage the plants' stress, but some plants may not bloom as well when exposed to prolonged shady conditions.

During normal weather, young trees need at least 10 gallons of water a week for the first three years directed toward their developing root systems. If you find yourself in a hot dry spell, provide your young trees and shrubs with more water. They are at their most susceptible during those early years. A tree bag contains a reservoir of water that is released slowly to the plant and can help keep the tree well-watered during the hottest spells. You'll only have to fill the bag occasionally rather than watering every few days. They can be purchased at most garden shops.

Shade cloth, which comes in varying thicknesses, can help protect plants that are withering under the sun's rays. Support it above or to one side of the plants, which will shelter them like a porch protects us from the strongest sunlight. Tree branches with leaves can also be placed over plants to provide shade.

Now is not the time to cut your lawns short. Mow them to at least a three-inch height. That way, the grass blades will provide shade for their own roots and help hold in soil moisture. Avoid fertilizing lawns and

gardens during heatwaves, because roots' capacity for taking up nutrients are reduced during hot weather. You'll just be wasting your money. Most Kentucky lawns are comprised of bluegrass and tall fescue. Once established, both of these species can withstand quite a bit of drought.

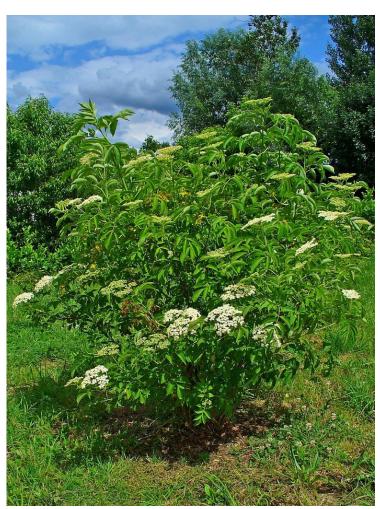
Many cool-season crops are planted in August, but the late summer heat can be hard on young transplants. Again, shade cloth can come in handy. Or plant them under more mature plants, so they can benefit from the shade the larger plant throws.

Elderberries

By Robert Brockman Boone County Extension Agent for Horticulture

Interest in the elderberry plant has grown dramatically in the last few years. There are several species of elderberries, with the common elderberry (Sambucus canadensis) being the most often seen and the only native elderberry in Kentucky. Other elderberries which may be seen is the black/ European elderberry (S. nigra) or the red-berried elder (S. racemosa). These three elderberry species have different uses. The European and red berried elderberry species are often seen as an ornamental in landscapes, while the common elderberry is most commonly planted for its edible berries.

Elderberries tend to be large shrubs, with a height of 5 to 12 feet high. The plant suckers and will often form small clusters of genetically identical plants. In addition to spreading by suckers, birds will often consume the fruit and drop seeds near perching sites. If you want to keep the fruit for yourself, you will likely need to place bird netting over the plants as the fruits start to mature. It is recommended to have multiple elderberries of different cultivars present for good cross pollination. While the



Common elderberry in bloom - photo taken from the North Carolina Extension Plant Toolbox

different species can hybridize, it is a good idea to have multiple cultivars of the same species for optimal fruit production.

Elderberries prefer rich, moist locations in full sun. However, they will tolerate more dry locations and partial shade. In less optimal sites, elderberries tend to be shorter lived. Elderberries will likely need a heavy pruning every few years to keep the plant healthy. The optimal time to prune elderberries is in late winter or very early spring (February/March).

Elderberries are one of the easier species to produce new plants from using hardwood cuttings. You can root these cuttings in water or directly in the ground during the dormant season.

Summer Fertilizer Applications

By Robert Brockman Boone County Extension Agent for Horticulture

At this point in the year, some of us are looking around at how are plants are doing and are a bit discouraged by how little our plants have grown. If your plants have grown poorly, it is very tempting to start fertilizing your plants to "help" them out now. However, fertilizing in mid to late summer has a few risks that we have to keep in mind.

Summer fertilization is very different for woody and non-woody (herbaceous) plants. Herbaceous plants such as the many annual flowers or perennials such as Hostas and coneflowers can still be fertilized at this time of year, but the fertilization should be done with



care. If fertilizer is applied to plants during dry weather, or to plants with poor root systems, it is easy to burn the plant up. The salts within the fertilizer will pull moisture out of the plant's tissues and cause a lot of damage. To combat this tendency to burn, you should keep fertilized plants well watered. You can also apply organic fertilizers which will slowly release their nutrients as the fertilizer breaks down.

Fertilizing woody plants such as shrubs and trees can be very risky at this time of year. If fertilizer, particularly fertilizers high in nitrogen, are applied to woody plants too late in the season, it can cause them to put on late season growth. While this might sound like it has fixed our problem, it has actually created a new problem. Lush growth late in the season tends to be sensitive to frosts and winter damage. Because of this, we recommend that fertilization of woody plants be finished prior to July 15th.

One last category of plants that we should discuss fertilizing is lawns. Lawn grasses are typically split into two categories, cool season grasses and warm season grasses. Many of the lawns south of us are made up of warm season grasses such as zoysiagrass, centipedegrass, and bermudagrass. Most of the lawns in our region and to the north of us are made up of cool season grasses such as fescue, Kentucky bluegrass, and perennial ryegrass. Cool season grasses such as the fescue most commonly planted in our region are stressed out during periods of warm weather. Applying fertilizer, particularly nitrogen fertilizer, can further stress out cool season grasses and make them more susceptible to diseases. Because of this, the University of Kentucky recommends late fall or early winter nitrogen fertilizations.

One last thought to keep in mind with fertilization is that you may not need it at all! Soil testing is a very accurate way of determining fertilization needs for most situations. The Boone County Extension Office pays for soil testing for all residents of Boone County. Samples are sent to a laboratory at the University of Kentucky. Soil sampling will tell you what your soil's pH is, and what levels of potassium, phosphorus, and several micronutrients are.

Planting Fall Vegetables in Kentucky

Rick Durham, Department of Horticulture Professor

It's not too late to continue to enjoy your garden and to add new plantings. You can grow a variety of produce in Kentucky gardens in the coming weeks and have several fresh items available well into the fall.

Cooler nights later in the year can increase the sugar content of many crops and thus increase their quality.



Cooler nights also slow growth, so your crops can take longer to mature than in the summer. Keep this slower pace in mind when you check seeds for days to maturity.

Early August is the right time to make your last planting of bush beans, carrots, sweet corn, kale, collards, bibb lettuce, turnips, and cole crops such as kohlrabi, Chinese cabbage, Brussels sprouts, cabbage, cauliflower and broccoli. For late August and into September, you can try planting mustard greens, spinach greens, radishes, turnip greens and leaf lettuce.

Before planting, remove any existing debris, including crops and weeds from your garden bed, move them to the compost bin and then prepare the soil.

If the previous crop was well fertilized and grew vigorously, you may not need to add much, if any additional fertilizer, otherwise apply about 2 to 3 pounds of a complete fertilizer such as 5-10-10 or 10-10-10 per 100 square feet of planting area.

Remember to keep fall gardens well watered as this tends to be a fairly dry time in Kentucky. A weekly irrigation sufficient to wet the soil to 6 or 8 inches should be adequate. This is more or less equivalent to a weekly 1-inch rain.

To learn more about fall gardening options, contact the Boone County Cooperative Extension Service and ask for publication ID-128, "Home Vegetable Gardening in Kentucky." You may also view the publication online at https://publications.ca.uky.edu/files/ID128.pdf

Don't judge each day by the harvest you reap, but by the seeds that you plant.

-Robert Louis Stevenson

for More Information...

For more information or to register for any of our classes, visit our website at boone.ca.uky.edu. Click "Online Class Registration" or call us at 859-586-6101.

Upcoming Horticulture Events Please Register

Please Note:

► For most Horticulture classes, registration opens one month prior to the class.

Residential Rain Gardens

▶ July 10, 6-7:30pm
Join us at the Boone County
Arboretum's rain garden. ♦ We will
focus on the benefits as well as the
challenges of rain gardens.
Installation and maintenance will also
be discussed.

Growing Fall Vegetables

▶ July 15, 1-2pm Boone County Extension Enrichment Center (Project Room) Learn which plants and seeds you can plant now to extend your harvest well into the Fall.

Youth Butterfly Walk

▶ July 22, 10-11:30am
Join us as we walk through the
pollinator garden at the Boone
County Arboretum. ♦ We will look
for butterflies and discuss both the
lifecycle and importance of
butterflies.

Summer Blooms Walk

▶ July 24, 6-7:30pm
Join us to see blooms and beautiful plant forms as we stroll through the Boone County Arboretum. ◆

Floral Arranging for Beginners

► July 25, 6-7:30pm Extension Nature Center Barn & Gardens

Cut your own flowers and learn the basics of floral arranging in a handson class at our Nature Center.
Geared towards beginners. Limited spots available.

Insects After Dark

▶ July 26, 8:30–10pm
Boone County Arboretum♣
Are you interested in seeing what is happening at the Boone County
Arboretum after dark? Join us as we walk around and find insects and other animals at night.

Nature Center Diagnostic Walk

► July 29, 6-7:30pm Extension Nature Center Barn & Gardens

Are you interested in learning more about plant problems? This class will highlight some of the more common plant insect and disease problems in our vegetable and cut flower rows. **Cut Flowers Walk**

➤ July 31, 5-6pm Extension Nature Center Barn & Gardens

Join us for an educational walk through our Nature Center gardens where we'll see and discuss our blooms of the season. All are welcome.

Floral Arranging for Beginners

► August 7, 6-7:30pm Extension Nature Center Barn and Gardens

Cut your own flowers and learn the basics of floral arranging in a hands-on class at our Nature Center. Geared towards beginners. Limited spots available

Public Diagnostic Walk

► August 12, 6-7:30pm Boone County Arboretum (meet at flagpole) ◆

Join us for a walk around the Boone County Arboretum as we look for plant problems. We will be identifying problems and discussing possible solutions to those problems.

Vegetable & Cut Flower Garden Walk

♦ Register for Arboretum events with the Boone County Arboretum at bcarboretum.org/events



Extension Campus Locations:

Find us here...

Virtual via Zoom, Must register to receive Zoom link **T** Extension Service office, 6028 Camp Ernst Rd., Burlington Enrichment Center, 1824 Patrick Dr., Burlington Florence Location, 7111 Dixie Hwy., Florence Farmers Market, 1961 Burlington Pk., Burlington

Environmental and Nature Center, 9101 Camp Ernst Rd., Union Environmental & Nature Center Barn & Gardens, 9203 Camp Ernst Rd., Union Boone County Arboretum, 9190 Camp Ernst Rd., Union; Register at: www.bcarboretum.org/

► August 14, 6–7pm **Extension Nature Center Barn and** Gardens

This program will highlight the vegetable and cut flower rows which are cared for by Master Gardener Volunteers at the Nature Center. We will be discussing how to grow various species of plants and potential problems that you may encounter.

Flower Arranging

► August 20, 2–3:30pm **Boone County Extension Florence** (Large Meeting Room) Join us in this hands-on program to explore the possibilities of cut flower arrangement. Ages 18+. Registration opens July 22

Fall Container Garden

► August 20, 6 - 7:30pm **Boone County Extension** Florence (Project Room) Join us for this hands-on class to plant a small fall garden container. Children are welcome with an accompanying adult. Space is limited.

Propagating and Enjoying Culinary Herbs through Winter

➤ September 9, 10-11:30am **Boone County Extension** Florence (Meeting Room) Learn how to sow herb seeds and take cuttings from outdoor herbs to bring them inside to enjoy through the winter.

Tomato Basil Bruschetta

3 plum tomatoes, chopped 1-3 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

1-8 teaspoon ground pepper 1 pound loaf, whole wheat French bread, cut into ½ inch slices

Combine tomatoes, onions, garlic, red wine vinegar, 2 tablespoons olive oil, basil,



oregano, salt and pepper; set aside. Preheat broiler of oven. Lightly brush both sides of bread slices with remaining olive oil and arrange on ungreased baking sheet. Place three to four inches from the broiler and heat slices for two to three minutes on each side or until golden brown. 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.

Source: https://fcs-hes.ca.uky.edu/recipe/tomato-basil-bruschetta



Kentucky Iomatoes

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 yound. One pound of tomatoes yield 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 great.

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for more information or if you have questions, contact us—we are here to helpl 859-586-6101 • boone.ca.uky.edu

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