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Fruit Tree Planting

BY BRUCE J. BLACK

When we think of fruit tree maintenance, dormant-season pruning is often the thing that people think is most important. While pruning is important to do yearly to maintain a healthy and strong tree, year-round training when the tree is young will help prevent problems in the future. Training is the shaping of a young fruit tree into an optimum position to support the weight of carrying fruit, preventing crotch angles to reduce disease, and fortifying the tree from wind or storm damage.

There are two types of training systems commonly used for fruit trees. The first type is the central leader system, where you have one main trunk five to eight feet tall with a series of five to twelve scaffold branches, which are four to eight inches apart vertically. The central leader system is used for apples, apricots, pears, and both sweet and tart cherries. The scaffold branch crotch angles are positioned between 45-60 degrees. Head unbranched new trees at about 30 inches above the ground or eight to twelve inches above the top good lateral branch. In cultivars that tend to grow vertical branches, use spreaders to increase the branch angles in order to slow shoot growth and strengthen the branch angle. Spreaders, weights hung on the limb, or a rope staked into the ground may be used to widen crotch angles. Remove broken or downward branches and leave a small stub to allow for new bud growth at that site if desired.

The second system is the open center system. This system has a single trunk topped to 18-30 inches high and two to five scaffold branches close together vertically. This system is also nicknamed the "fruit bowl" because the center is left open and the scaffold branches grow vertically forming the sides of the bowl. When choosing scaffolds



Tree planting photo courtesy of Richard Hentschel.

leave no branches on the southwest side of the tree. This will allow for maximum light exposure and increased airflow. At planting, if the tree is unbranched (whip), head the leader at between 26 to 30 inches above the ground when the buds start to swell in early spring. If the tree has branches, select three or four branches located 15 to 30" above the soil line, preferably one at each compass point. Cut back by half to an outward facing bud. Remove all branches less than 15" above the soil line and cut the tree off just above the topmost selected scaffold.

The process of training a fruit tree will take several years to get the desired shape and angles. During this time, support trees by staking or trellising them to prevent damage from the elements or animals. Training young trees helps to promote a stronger structure that can support heavy fruit loads, reduce the number of weak or fragile limbs, lessen the amount of annual pruning needed, and lengthen the life of your fruit trees.

For more information about fruit tree training or other questions about fruit trees, contact your local extension office or check out Oregon State University Extension's publication Training and Pruning Your Home Orchard at <https://catalog.extension.oregonstate.edu/pnw400>.

Install a Rain Barrel This Summer

BY GEMINI BHALSOD

If you are concerned about conserving water resources and have noticed runoff or erosion issues in your community, your home might be the perfect environment for a rain barrel! You'll especially love rain barrels if you are busy gardening during the summer months.

According to the United States Geological Survey, a 1-inch rainstorm over a 40x70 foot roof can equal over 1,700 gallons of water. Imagine all the ways you could use that water if you could keep it on your property! That is where rain barrels come in.

Rain barrels utilize a large container that is designed to collect rainwater. These can be either store-bought or homemade, but the purpose is the same: collect rainwater for plant irrigation.

Rain barrels can reduce flooding along with irrigating plants like woody and herbaceous ornamentals along with lawns. Rain barrels also direct water away from home foundations and therefore can prevent basement flooding and save on costs. In addition, rain barrels reduce the amount of water running into lakes and rivers, thus reducing erosion and storm water pollution.

Now is the time that you might ask yourself, "Is the water safe to use in my vegetable garden?" Unfortunately, there are limited studies to answer this question fully, but a few have been done on asphalt roofs. Because of possible leaching from asbestos roofs, it is generally recommended to avoid using a rain barrel to catch and use that water. Rutgers researchers found that heavy metal and pathogen levels did not exceed EPA standards, but precautions should be taken to minimize risk. Most notably, the water should be treated with 1/8 a teaspoon of household bleach per 1 gallon of water. This amounts to about an ounce if you have a standard 55-gallon rain barrel. After applying the bleach, wait 24 hours before using the water.

Rain barrels should be installed on even surfaces that are slightly raised to increase pressure and encourage the flow of water when emptying. Be sure to secure the rain barrel to prevent tipping as they are very heavy when full and can be a hazard. Be sure the inlet leads is protected by a screen to prevent debris from clogging your hoses.

To maximize the conversation impact of your new rain barrel, consider planting drought resistant plants such as native Illinois prairie plants. These plant roots are deep and can handle large rainfalls along with the hot dry summers. Consider planting them along the path of your rain barrel overflow spout to create a small rain garden and absorb the extra water!



Garden Design with Native Plants in Mind

BY NANCY KREITH

If you are looking to protect the environment, support wildlife, and require fewer inputs for your landscape, consider planting native plant species. Native plant species have different meanings for some people. Usually native plants are considered to have been present within 100 miles of your area prior to European settlement of North America.

Before the design process begins, start by identifying landscape goals. Often native plants are chosen to reduce fertilizer and pesticide use, remediate flooding and/or drought issues, and provide habitat and food for native wildlife. Another goal may be to replace exotic plants that have become invasive or are not doing well in your landscape. The gardener's motto of "right plant, right place" suggests replacing traditional ornamental plants with ornamental native plants that will work better with your site conditions.

Maintenance for native plants is lessened. They do not need soil amendments or fertilizers and are adapted to the surrounding environment. Additionally many of them have extensive root systems that allow them to survive during drought while others will tolerate wet feet and could survive temporary flooding. Keep in mind that just because plants are native doesn't mean they will be free of pest damage. However, often insect or disease problems are easier to manage and do not require treatment. If plants ever become unsightly, they can easily be cut to the ground for rejuvenation.

Follow the steps below when it comes to selecting native plants.

1. Inventory and analyze site conditions, then decide on a design strategy. Consider soil conditions, sun exposure, and drainage properties.

2. Beyond the site conditions, consider aesthetics and curb appeal. Perhaps a tallgrass prairie in the front yard will not work with the architecture of your home or aesthetic of your neighborhood so, low growing native species may be the best option. The backyard may be more appropriate for taller prairie plants or even a woodland garden.
3. Use plant selection to create a layering effect. Include native trees, shrubs, and vines. These woody plants, alongside herbaceous perennials, will add dimension to your landscape and create multi-season interest. Native woody plants can offer interesting branch structure, evergreen leaves, and persistent berries while perennials offer longer lasting and more outstanding blooms.

Make sure to review and research native plant lists. Some plants will easily spread and become naturalized, while others will remain in place. This means you may have to dig up seedlings, deadhead or remove mature seed pods before they spread seed. Some seed heads can be left standing to feed wildlife and other ones that are cut back can be shared with friends. Keeping plants in their intended place will maintain the integrity of your design. In general, it is best to leave perennial stems standing over winter because they serve as overwintering sites for native insects.

Many gardeners may not be ready to give up their exotic plants and that may not be necessary. You can determine how much of your yard will be planted with native vegetation, which you can phase in slowly. One option would be to remove unsightly exotic plants and slowly replace them with native plant species. A goal might be to incorporate 50% of the landscape with native plants. This can easily be done over time making it manageable for you and your budget.



THESE NATIVE PLANT SPECIES ARE WELL-BEHAVED IN OUR REGION

TREES: white oak, bald cypress, river birch, ironwood, eastern redbud, downy serviceberry, or smooth sumac.

SHRUBS: bearberry, red chokeberry, New Jersey tea, and common witchhazel.

PERENNIALS: prairie dropseed, wild geranium, blue flag iris, prairie blazing star, common sneezeweed, purple coneflower, false sunflower, butterfly weed, and purple prairie clover.

For a more extensive plant list, please visit go.illinois.edu/conservationathome.

Beauty For a Day

BY JENNIFER FISHBURN

The most popular and widely grown perennial is the faithful blooming daylily. While there is no perfect flowering perennial, the daylily comes close. Daylilies are classified in the genus *Hemerocallis*, which in Greek means “beautiful for a day.” Individual flowers last only a single day, though individual plants may produce flowers for several weeks.

Daylilies are tough, long-lived plants. Tall, old-fashioned orange daylilies are a familiar site along roadsides and old farmsteads. Growing as if they were wild, the most common and familiar colors of daylilies are orange and yellow.



Thanks to hybridizers like Dr. Arlow B. Stout, recognized as the founder of the modern hybrid daylily, daylilies now come in a wide array of colors, including near-white, pink, crimson, red, lavender, deep purple, green, creamy yellow, gold, peach, and pumpkin orange. They also come in bicolors and a range of throat and petal shades. Individual flowers can range from 2 to 6 inches in diameter.

Adaptable and fairly self-sufficient, daylilies are one of the easiest perennial flowers to grow. Modern daylilies will

flower best in six hours or more of sunlight although they will bloom in part shade.

Daylilies prefer well-drained, moderately fertile soil that is kept evenly moist, but they will survive in a wide range of soil conditions. Although daylilies are fairly drought tolerant, they will bloom best if provided with 1 inch of water per week. They will benefit from a 3 to 4 inch layer of mulch.

The American *Hemerocallis* Society has more than 80,000 registered daylily cultivars offering bloom periods from late spring to late summer. With such a large selection, gardeners should not have any problem selecting the right daylily for their landscape. Daylilies can be used in the front or the back of the perennial garden, as foundation plantings, as groundcovers, in mass plantings or as specimen plants. Plant sizes range from one to four feet tall.

Some compact repeat blooming daylilies include ‘Stella d Oro’, ‘Happy Returns’, ‘Bitsy’ and ‘Yellow Lollipop’. Division of repeat blooming plants every 2 or 3 years will guarantee the most flowers per plant.

As for general care, daylilies have relatively few insect or disease problems. If leaves appear damaged or diseased remove immediately. Dead flowers distract from the plant and should be removed by pinching them off. Deadheading is critical to get repeat blooms. When all flowering is finished on a stem, it should be cut back to the ground.

Daylilies are a tough perennial that can tolerate full sun to part shade, and dry to wet growing conditions. They make a great addition to a flower garden or a tough to mow slope. Consider including a few daylilies in your yard as they will be reliable bloomers for many years.



Living with Japanese Beetles

BY KEN JOHNSON

Japanese beetles are one of the most destructive ornamental pests we have in Illinois. They were first discovered in the United States in 1916 in New Jersey and have been making their way across the U.S. since then. The adults are about ½ inch long with copper colored wing covers, shiny metallic green heads, and prominent white tufts of hair along their sides. The larva are c-shaped white grubs that can reach 1¼ inches long. Adults will feed on over 300 different species of plants and the larva will feed on turf roots.

Adults will typically begin to emerge in late June in southern Illinois and in early July in central and northern Illinois and will typically be around for about six weeks. Some of their favorite plants include linden, rose, crabapple, willow, grape, and raspberry. Adults will begin feeding on the upper, sunlit portions of plants and work their way down. Their feeding damage can cause leaves to appear lacy; when feeding is heavy, entire branches can be stripped of leaves. One of the reasons they are so destructive is that they are attracted to plants that have already been damaged. The beetles will also release pheromones to attract other beetles. Because of this, large numbers of beetles can be attracted to susceptible plants—if you can get on top of beetle populations early, you often have fewer problems in the long run.

There are several different things you can do to manage Japanese beetles.

- Adults can be removed by hand. The best time to do this is in the early morning while they are still sluggish. Put a few inches of water in a container along with a drop or two of soap (this is done to help break the surface tension of the water not kill the beetles). You can then shake the bucket to drown them. This may be a great project for kids who love playing with bugs.
- High value plants, like roses, can be covered with cheesecloth or other fine netting during peak beetle activity to protect them. Just make sure that the opening are small enough to keep the beetles out.
- Japanese beetle traps are not recommended for managing populations of Japanese beetles. The traps attract far more beetles than they can trap and may end up doing more damage than good.
- Chemicals can also be used to help manage beetle populations. Check with your local Extension office for the most up to date recommendations. Many of the chemicals will require several applications. When choosing a product, make sure that the site and plant that you plan on applying it to is listed on the label. Always make sure to read and follow all label directions.
- Controlling Japanese beetle grubs in your lawn won't have a significant impact on adult populations. The adults are capable of flying long distances and will fly in from adjacent properties.
- If you don't want to fight the beetles, you can try growing plants that are unattractive to them. Some of these plants include columbine, begonia, dogwood, forsythia, holly, impatiens, lilacs, hostas, and violets.



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The Versatile Elderberry

BY RYAN PANKAU

The American elderberry (*Sambucus canadensis*) is a native shrub to Illinois and much of eastern North America. Despite its weedy habit, often growing in natural areas and unmowed ditches, this plant has some remarkable features. It offers both natural beauty and utility, as well as easy propagation and adaption to a wide range of sites.

Elderberry naturally occurs along streambanks, forest edges, thickets, ditches, and fencerow s. It is a deciduous shrub that spreads primarily from root suckering to form thickets, making it a tough competitor in nature. It also nicely doubles as an excellent hedge-forming shrub in more managed landscapes.

Fragrant, showy white flowers emerge in late spring and persist into early summer. On healthy plants in full sun, the entire canopy is often covered with blooms. These beautiful, umbrella-shaped flowers persist for up to four weeks, developing into large clusters of attractive purple drupes, or berries. The juicy, sweet, and tart berries ripen in August and are a source of food for many species of birds and insects, as well as some small mammals, including humans.

Culinary uses for elderberry are wide ranging, although care must be taken when harvesting elderberry plant parts because the unripe berries, leaves and twigs are considered toxic. However, both the flowers and ripe berries are edible.

Elderberry flowers have been used in baked goods and for extracts. They can be dried and used to make tea. The berries themselves are commonly used for jam, jelly, pie, syrup, and wine. Elderberry juice is used to enhance wine and add coloring to other fruit juices.

The elderberry is easily propagated from roots, berries, or cuttings. Many gardeners have had good luck with hardwood cuttings, including methods as simple as directly planting cuttings in the ground during late winter. Many report success from softwood cuttings later in the year, with use of rooting hormone increasing success in either method of propagation from stem cuttings.

It is difficult to find sites that will not host the elderberry, as it is adapted to a wide variety of conditions. However, it prefers moist, well-drained soils of moderate fertility, making it a frequent understory species throughout Midwestern riparian forests. While flowering and berry production are maximized in full sun, this shrub can also tolerate moderate shade.

Elderberry, with its hardiness, versatility and edibility, is undoubtedly an underused native plant. With applications as diverse as the highlighted specimen of formal gardens and as the dominant plant in difficult to maintain forest edge, the elderberry might be worth considering for your next garden addition!



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