Horticulture Tips
April 2021

Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Department of Horticulture & Landscape Architecture
Oklahoma State University

Garden Tips for April

David Hillock, Consumer Horticulturist

Fruit and Nut

- Don't spray insecticides during fruit tree bloom or pollination may be affected. Disease sprays can continue according to schedule and label directions. (EPP-7319)
- Control cedar-apple rust. When the orange jelly galls are visible on juniper (cedar) following a rain, begin treating apple and crabapple trees with a fungicide. (EPP-7319, EPP-7611)
- Fire blight bacterial disease can be controlled at this time. Plant disease-resistant varieties to avoid diseases.
- Continue spray schedules for disease prone fruit and pine trees.

Tree and Shrub

- Proper watering of newly planted trees and shrubs often means the difference between success and replacement.
- Remove any winter-damaged branches or plants that have not begun to grow. Prune spring flowering plants as soon as they are finished blooming. (HLA-6404, HLA-6409)
- Control of powdery mildew disease can be done with early detection and regular treatment. Many new plant cultivars are resistant. (EPP-7617)
- Leaf spot diseases can cause premature death of foliage and reduce plant vigor.

Lawn

- Warm-season grass lawns can be established beginning late April from sprigs, plugs or sod. (HLA-6419)
- Fertilizer programs can begin for warm-season grasses in April. The following recommendations are to achieve optimum performance and appearance of commonly grown species in Oklahoma.
    - Zoysiagrass: 3 lbs N/1,000 sq. ft./year
    - Bahiagrass: 3 lbs N/1,000 sq. ft./year
    - Buffalograss: 2 - 3 lbs N/1,000 sq. ft./year
    - Buffalograss/grama mixes: 3 lbs N/1,000 sq. ft./year
    - Bermudagrass: 4-6 lbs N/1,000 sq. ft./year
    - Centipedegrass: 2 lbs N/1,000 sq. ft./year
    - St. Augustinegrass: 3-6 lbs N/1,000 sq. ft./year

  When using quick release forms of fertilizer, use one pound of actual nitrogen per 1,000 sq. ft. per application; water in nitrate fertilizers. (HLA-6420)

- Mowing of warm-season lawns can begin now (HLA-6420). Cutting height for bermudagrass and zoysiagrass should be 1 to 1½ inches high, and buffalograss 1½ to 3 inches high.
- Damage from Spring Dead Spot Disease (SDS) becomes visible in bermudagrass (HLA-7665). Perform practices that promote grass recovery. Do not spray fungicides at this time for SDS control.
- Grub damage can be visible in lawns at this time. Check for the presence of grubs before ever applying any insecticide treatments. Apply appropriate soil insecticide if white grubs are a problem. Water product into soil. (EPP-7306)

Vegetables

- Wait a little longer for it to warm up before planting cucurbit crops and okra.
- Plant vegetable crops in successive plantings to ensure a steady supply of produce rather than harvesting all at once.
- Cover cucurbit crops with a floating row cover to keep out insect pests. Remove during bloom time.
- Watch for cutworm damage and add flea beetle scouting to your list of activities in the vegetable garden.

Garden Planting Guide for Warm-Season Vegetables

Vegetable	Time to Plant*	Days to Harvest	Method of Planting
Bean, Lima	April 15-30	90-120	Seed
Beans, Green or Wax	April 10-30	50-60	Seed
Beans, Pole	April 10-30	60-90	Seed
Cantaloupe	May 1-20	80-100	Seed or Plants
Cucumber	April 10-30 or later	50-70	Seed or Plants
Eggplant	April 10-30	80-90	Plants
Okra	April 10-30 or later	60-70	Seed
Pepper	April 10-30 or later	90-110	Plants
Pumpkin	April 10-30	90-120	Seed
Southern Pea	May 1-June 10	85-100	Seed
Squash, Summer	April 10-30 or later	40-60	Seed or Plants
Squash, Winter	May 15-June 15	110-125	Seed or Plants
Sweet Corn	Mar. 25-April 30	80-100	Seed
Sweet Potato	May 1-June 10	100-120	Plants
Tomato	April 10-30	70-90	Plants
Watermelon	May 1-20	90-120	Seed

*These dates indicate planting times from southeast to northwest Oklahoma. Specific climate and weather may influence planting dates. For Cool-Season Vegetables, the soil temperature at the depth where the seeds are planted should be at least 40°F.

Flowers

- Most bedding plants, summer flowering bulbs, and annual flower seeds can be planted after danger of frost. This happens around mid-April in most of Oklahoma. Hold off mulching

these crops until spring rains subside and soil temperatures warm up. Warm-season annuals should not be planted until soil temperatures are in the low to mid 60s.
- Harden off transplants outside in partial protection from sun and wind prior to planting.
- Let spring flowering bulb foliage remain as long as possible before removing it.

Landscape - General
- Hummingbirds arrive in Oklahoma in early April. Get your feeders ready using 1-part sugar to 4-parts water. Do not use red food coloring.
- Keep the bird feeder filled during the summer and help control insects at the same time.
- Lace bugs, aphids, spider mites, bagworms, etc. can start popping up in the landscape and garden later this month. Keep a close eye on all plants and use mechanical, cultural, and biological control options first.
- Be alert for both insect pests and predators. Some pests can be hand picked without using a pesticide. Do not spray if predators such as lady beetles are present. Spray only when there are too few predators to be effective.

Pecan Topics for April Zoom

Becky Carroll, Associate Extension Specialist, Fruit and Pecans

April 9 at 1 p.m. is the next update for the Pecan Topics zoom series for 2021. The meeting will cover timely topics for pecan growers and homeowners. Subjects on the agenda include Dr. Mulder discussing control of pecan nut casebearer. Charlie Graham with Noble Research Institute will cover disease management. Weed control and grafting techniques will be presented as well.

Register in advance for this meeting:
https://dasnr.zoom.us/meeting/register/tJwofuqvrT8uHNd9fSuQMwOEkbz2Ys7RMOX-

The program is offered to anyone and at no charge. Extension educators who participate will receive in-service credit. Please feel free to promote to your pecan audience.

Information and recordings of previous sessions are available on the Oklahoma Pecan Management webpage- http://okpecans.okstate.edu or the Oklahoma Pecan Management Facebook page - @okpecans.

Questions can be emailed to becky.carroll@okstate.edu.

Oklahoma Pecan Growers Association to hold in-person meeting

Becky Carroll

After cancelling the 2020 Annual Conference & Trade Show, the Oklahoma Pecan Growers Association invites growers and pecan enthusiasts to register for the upcoming 90th meeting. Reserve June 10-12, 2021 to attend at the Stoney Creek Convention Center in Broken Arrow. The three-day event will host a mini pecan class on Thursday after lunch and a social that evening. On Friday, the group will have the opportunity for a full day of educational meetings, networking and meeting vendors. A banquet will be held Friday evening. The State pecan show will be displayed, and the Pecan Food Show will be judged. Be sure to enter your best pecan treats – both sweet or savory will fit one of the numerous categories for both adults and kids. On Saturday, educational information will be delivered at a nearby pecan orchard. Equipment demonstrations will highlight the morning with a lunch concluding the meeting.

For more information, go to www.okpecangrowers.com where you can register online.

Strawbale Gardening

Casey Hentges, Oklahoma Gardening Host
Laura Payne, Oklahoma Gardening Field Producer

Do you have bad soil or perhaps you are in a temporary living arrangement and don't want to invest in a raised bed, but still want to garden. If so, strawbale gardening maybe the solution. Typically, strawbales are preferred over hay bales, due to the number of weed seeds, but both still have some seeds in them.

Place the bales so the wire or twine is parallel to the ground. Do not unwrap the bales. The wire or twine is keeping the raised straw bed held together. The sides that don't have the twine is the top and bottom.

If using a new bale, it will need to be conditioned or aged before planting. This process will typically take about two weeks. Conditioning a bale means initiating decomposition within the bale. This is important to do before planting, otherwise, microbes will take available nutrients away from the plants.

To condition a strawbale, water it every day and sprinkle a nitrogen rich fertilizer on top of it every other day for 14 days. During the 14 days, the bale will heat up. This this is an exothermic reaction. You may notice the temperature change by sticking your hand down into the bale or using a compost thermometer. Another way to see if the bale is heating up is to get a piece of rebar or some metal rod and stick it into the bale. Let the rebar set for a minute then remove it and carefully touch it to see if feels warm. This will allow you to gauge what is going on inside your bale. After a noticeable temperature spike, the bale will cool down again. This temperature spike and cool down typically occurs in a 14-day window. After this, the strawbale is conditioned and ready to plant.

There are two ways to plant a strawbale garden. If the bales are all lined up, a flat method can be used by putting 2-3 inches of compost along the entire top of the bale. The pocket method can also be used by spreading the straw apart and creating pockets. Fill the pockets with compost. The size of the bale and the plants being used, will determine how many pockets can be made.

For about $5 a bale, a raised bed can be constructed. Plus, an added bonus, at the end of the growing season the straw can be added to the compost pile, to another area of the garden as a mulch layer, or for walkways between next year's strawbale garden. Each year of strawbale gardening will only improve the soil under your feet.

For more information about strawbale gardening, check out fact sheet PSS-2264 - Straw Bale Bed: A Way to Garden While Building Soil.

Resistance, Our First Defense to Pests

David Hillock

One of our best defenses to common pest problems in the garden and landscape is plants with natural resistance. By selecting varieties of plant species, or species that are inherently resistant to common pest problems, the use of pesticides needed to keep our plants looking good can be reduced.

When buying seeds or plants, try to choose those with built-in resistance to diseases, insects, and nematodes. Sources for this information include OSU Extension Fact Sheets, seed catalogs, and plant and seed packages. It may be better to forego some production capability in favor of the increased pest resistance, if you must make such a choice.

During the growing season, stressed plants can lose their resistance to pests, so be sure the crop has the water and nutrients it needs. When shopping for seeds and plants, check the labels for indications of pest resistance. For example, many garden phlox and crapemyrtles are susceptible to powdery mildew fungal disease; however, several varieties are available that are resistant to powdery mildew. When purchasing vegetables, check labels or packaging for abbreviations like these, used to designate various types of pest resistance or tolerance:

A—Alternaria stem canker
ALS—angular leaf spot
ANTH—anthracnose
CMV—cucumber mosaic virus
DM—downey mildew
F—Fusarium (race 1)
FF—Fusarium (races 1 & 2)
L—leafspot
MDM—maize dwarf mosaic
N—nematode
NCLB—northern corn leaf blight
PM—powdery mildew
SCLB—southern corn leaf blight
St—Stemphylium (gray leaf spot)
SW—Stewart's wilt
TMV—tobacco mosaic virus
V—Verticillium

Don’t Cut Back Spring Flowering Bulbs Too Early!

David Hillock

As spring flowering bulbs such as tulips, daffodils, hyacinths, etc. finish blooming, if possible, allow the foliage to turn yellow and die back. The leaves should be easily removed by just tugging on them when they have completely died back. Allowing the leaves to remain on the plant until they turn yellow allows the photosynthesis process in the green leaves to replenish the bulb with plenty of energy for next year’s blossoms. Removing them too early robs the plant of food needed to produce spectacular blooms.

In Oklahoma, most tulip bulbs are treated as annuals, meaning they are replanted every year. The high heat and humidity along with heavy clay soils makes it difficult to maintain most tulips as a perennial plant in the garden. A gardener interested in a challenge could dig them up after the leaves have turned yellow and store them in a cool, dark area and then replant them in the fall.

Daffodils are one of our most reliable species that is perennial in Oklahoma and typically needs little care. Locating daffodils in an area such as a perennial border or shrub and groundcover area where they can be left to die back after flowering is best. Occasionally they will need to be thinned out to encourage vigorous growth and lots of blooms.

Giving your spring flowering bulbs a light feeding after flowering, but before leaves turn brown will help in developing stronger plants.

Using Bedding Plants in the Landscape

David Hillock

Bedding plants or annuals continue to be a garden favorite because they can provide a full season of color and interest. They also have many uses, to name a few – temporary ground covers, hanging baskets, containers, dried flowers, cutting gardens, wildflower gardens, bedding plants, etc. The following tips will help to ensure a successful and stunning display.

Bed Preparation – The real key to a successful planting is proper bed preparation. Remove all debris and gain control of weeds before planting. Choose a suitable site: i.e. – sun, shade; close to a water source; and away from shallow rooted trees and shrubs, which compete for water and nutrients. Soil tests are recommended to determine proper amounts of fertilizer to apply. Often gardens need only applications of nitrogen. Amend soil by incorporating 3 - 4” of composted organic matter into the area; this improves soil aeration, improves drainage, encourages healthier root systems, and is easier to plant and manage. Spade or till in the organic matter at least 6” deep. After planting, apply a light mulch a couple inches thick if necessary. Mulches can aid in shading out weed seed as well as moderating soil temperatures and moisture.

Timing – In Oklahoma, planting times will vary some depending upon which part of the state you live in. In the north central portion of the state the middle to latter part of April is the time to begin planting many of the annuals available in your garden center or nursery. Southeast residents may be a week earlier and northwest residents may be about a week later. Remember

that these planting times are based on average last frost dates. The planting of flowers like *Catharanthus roseus* (Annual Vinca) should be delayed until warmer weather is sure to stick around and the soil temperatures are at least 65°F or better.

Design - A Living Bouquet – While the following are not necessarily hard and fast rules and may create a bit of a challenge for some of us, it is certainly worth the time and effort when the right "combination" is achieved. Take time to plan the design properly. Take into consideration cultural requirements, principles of color, and placement of different species. Also, don't be afraid to copy what others have already proven to be successful.

Avoid planting monocultures (beds with all the same species e.g. – all vinca or all marigold, etc.) or monochromatic gardens (all one color). Instead, try combining several annual species into one design. The benefits of mixing several species together are twofold: 1) it adds interest (height, color, and texture differences) to the garden and is pleasing to the eye. While the flower and color in themselves are beautiful, using just one flower and/or color will not hold ones interest for very long. 2) At the same time, you protect yourself from total failure due to a pest particular to one species that could wipe out the whole bed. Mixing species and/or cultivars provides genetic diversity, which reduces the chances of an insect or disease to become well established in a bed.

Group plants that have the same cultural requirements to increase success; make sure you select those species best suited for the site i.e. sun, shade, wet, or dry (HLA-6425). Do not place plants that thrive in cool, moist shade into a bed in full sun and little water.

Working with colors can be tricky, but by using the following principles and tips, and some practice, you will soon be creating some wonderful bouquets.

- The color wheel is divided into cool and warm hues, using three primary colors – red, yellow, and blue. Cool colors such as blue, green, and violet are subdued. Warm colors such as red, yellow, and orange tend to catch the eye more easily.
- Color groupings can be harmonious or contrasting. Hues are shades of colors. Hues in any neighboring group on the color wheel are harmonious or analogous. Complimentary contrasts are formed by choosing colors opposite each other on the color wheel.
- A successful design will have a balance of analogous and complimentary contrasts.
- White, silver, gray, and yellow should be used sparingly since they have a tendency to drown out the rest of the design. These colors can be used as a "sparkle" and in general should not make up more than 10 percent of the composition.

In general, flowers need to be planted in drifts or clumps large enough to make a visual difference when viewed from the farthest vanishing point. Of course, this may not be practical as dictated by the pocket book. But large masses of flowers are more dramatic and satisfying.

Color balancing and strategically placing the dominant colors in the composition or throughout the garden will lead the eye from one end of the bed or garden to the next.

Color balancing can be used to trick the eye into thinking that the garden is deeper or larger than it really is. By using bright strong colors close to the viewer, and then getting progressively bluer and grayer and lighter as you go further back, you can create the illusion of depth.

Height differences can also be used to exaggerate depth by emphasizing the height differential between the little plants in front and the tall ones in the back. The ever-increasing height allows more of each color to be seen enhancing the overall effect.

In general, small or short plants are placed in the front and tall ones in the back. However, more interest can be created by bringing some of the tall plants closer to the front and pushing short ones toward the back. Some successful combinations for partial or light shade might include begonia, impatiens, lobelia, wishbone flower and a touch of marigolds for sparkle. For sun you might use combinations of blue salvia, summer snapdragon, vinca, Joseph's coat, and use zinnia and dusty miller for sparkle.

How many bedding plants do I need? – Avoid overbuying or under-buying the number of bedding plants you need. All it takes is some simple arithmetic.

1. Measure the area of your garden and calculate its square footage (width x length = square feet). If the area is irregularly shaped – oval, round or long and winding – a rough estimate is good enough.

2. Use the chart below to estimate the number of plants you will need. You will probably want to get at least a few more than you will need, just in case some are damaged by weather, animals, or pests.

Recommended Spacing	Number of Plants per Sq. Ft.
6 inches	4
8 inches	2.25
10 inches	1.44
12 inches	1
18 inches	.44
24 inches	.25

Example: A 125 sq. ft. garden, using plants recommended to be spaced 10 inches apart would need approximately 180 plants.

The above information is only the tip of the iceberg. For more information and ideas look for books that discuss the principles of design and color and study them or visit your local public gardens or retail garden centers for their expertise. Oh, and don't forget, Have Fun!

N-P-K and Plant Growth

David Hillock

Plant growth and health is dependent on several mineral elements in the soil. Nitrogen (N), phosphorus (P) and potassium (K) are considered the macronutrients, not because they are larger than the other essential elements, but simply they are used in larger quantities by the plant. These are also the three numbers you will see on most fertilizer bags and always in that order, N-P-K.

Nitrogen is needed for the development of dark, green color in plants. It is essential for rapid and continuous vegetative growth. Of all the nutrients, N is most commonly deficient, especially when plant vegetation is removed from the area where it grew (bagging lawn clippings).

Phosphorus aids plants in getting off to a rapid, vigorous start, promotes early root formation, stimulates blooming and seed production, and hastens maturity. Phosphorus deficiency in mature landscapes and gardens is uncommon because plants use only about 1/8 as much phosphorus as they do nitrogen. Since phosphorus is also immobile in the soil, it accumulates and will be adequately supplied by soils that have a history of annual applications of phosphorus.

Potassium or potash is needed for plant health and disease resistance. It is important in ripening of fruit and helps to develop full, plump seeds. Potassium deficiency is common in high rainfall regions such as eastern Oklahoma.

Where needed and applied in required amounts, commercial fertilizers do not injure the soil. They do not poison vegetables or other plant growth. They do not destroy animal life—earthworms or bacteria—in the soil. On the contrary, the addition of fertilizer provides both plant and animal life in the soil with nutrients essential to their welfare.

Organic fertilizers or organic soil amendments may also be used. Organic fertilizers are products derived from the remains or by-products of a once-living organism. Some organic products have a nutrient guarantee, such as blood meal and bone meal, but others are sold as soil amendments with no nutrient guarantee, even though they have nutrient values.

In general, organic fertilizers release nutrients slowly and gradually because organic fertilizers depend on soil organisms to break them down to release nutrients. An organic amendment may only release 50 percent of the total N during the first growing season. In contrast, N in commercial synthetic fertilizers is readily available. Therefore, a doubled amount of total N from an organic source needs to be applied to supply the needed N. During cold, wet periods, organic sources may not be able to supply the needed nutrients to a plant because the microorganisms that break it down are inactive. During these times if there is a need for nutrients then supplementing with synthetic fertilizers may be needed to meet the demands of the plants.

To make sure your plants have the required nutrients to encourage lush and vigorous growth and production have your soil tested every few years. Soil tests can be conducted through your County Extension Office. For more information on improving soil fertility and taking soil samples see fact sheets HLA-6007 Improving Garden Soil Fertility and PSS-2207 How to Get a Good Soil Sample.

Planting Trees

David Hillock

To ensure successful tree establishment, the following planting techniques and methods should be used.

When to Plant – The best time to plant most trees is spring or fall; however, many containerized trees can be planted any time if handled properly. Plants installed during the growing season are susceptible to high transpiration rates leading to drying of plant tissues.

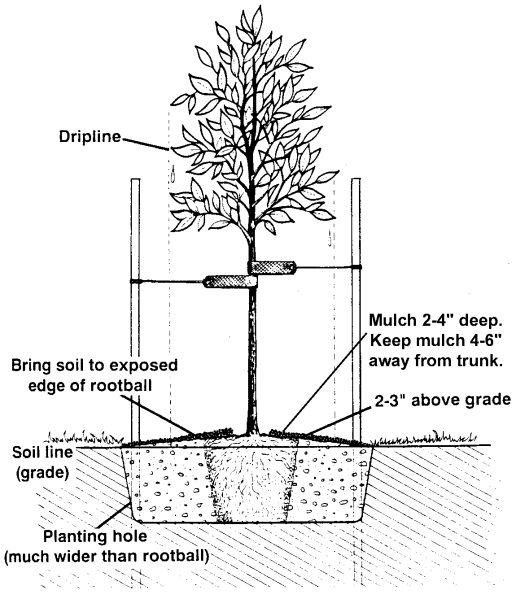
- Early fall - best time for container-grown and balled & burlapped (B&B) trees.
- Mid-February through early April - bare-root.

Handling Trees before Planting – Avoiding unnecessary damage and stress to trees prior to planting will ensure better success.

- Keep the rootball moist.
- Handle the tree by the container, not by the trunk.

Preparing the Hole and Planting the Tree – Preparing the planting area properly before planting is very important.

- *Do not* apply amendments to backfill.
- Dig the planting hole two to three times the diameter of the tree's rootball and no deeper than the rootball itself.
- Since most Oklahoma soils are clay, plant trees 1-3" above grade. Plant trees at original grade in sandy soil.
- *Do not* put crushed stone or gravel in the bottom of the hole!
- Remove the bag, container, and all strings and wires from the trunk! The burlap of B&B trees may be left on to decay. Be sure to lay burlap back away from trunk and cover with soil.
- If roots are excessive and circling inner walls of the pot, score the outer edge of the rootball by slightly severing or scratching the root system. *Do not* cut deeply into the rootball.



Backfilling the Planting Hole – Fill in the planting hole (backfill) with native soil and tamp lightly. Soil amendments are not necessary and may result in further complications such as root rot.

Fertilizing – A new tree has a very limited capacity for utilizing fertilizer until it becomes established. Heavy fertilization is not recommended at the time of planting. Excessive fertilizer

in the root zone can be damaging. If fertilizer must be used at planting or in the first growing season, apply a controlled-release or liquid fertilizer at the lowest labeled rate.

Watering the New Tree – Newly planted trees should be watered well at the time of planting and during establishment. Natural rainfall is usually not adequate to provide the moisture needs of newly planted landscape trees.

Generally, young plantings need an equivalent of one inch of rain per week. Newly planted trees may need to be watered two or three times a week in extremely hot, dry, windy weather because their root systems cannot take up the amount of water needed to replenish the water lost through the leaves. Watch for signs of wilting as an indicator that the tree needs water.

Apply water slowly at the base of newly planted trees. This is especially important for container grown plants as their soilless mixes can dry while the bed or surrounding soil remains damp. If you have several young trees and shrubs, a drip irrigation system would be wise.

Be cautious not to overwater or the amount of oxygen in the soil will be lowered to a level that will damage roots. Make certain the timing and patterns of lawn watering systems are not overlapping into plant beds and too much water is being applied.

Mulching the New Tree – New trees should be mulched using an organic mulch 2-4" deep and 5-6' in diameter; keep mulch at least 2-4" away from trunk of tree. Do not mound mulch up against trunk of tree. The benefits of mulching are:

- Create a weed and turf-free area.
- Reduced plant competition for water and nutrients.
- Regulate soil temperature and moisture.

Pruning the New Tree – Avoid overpruning new trees. Leave the lower limbs intact if possible. Remove injured or diseased branches only. Overpruning may result in sunscald and inhibit tree growth.

Trunk Protective Materials – Protective wraps provide physical protection against lawn mower and weed-eater damage.

Protective wraps also provide protection by regulating temperatures and bark moisture for thin-barked trees such as ash, birch, linden, and maple.

If misused, however, damage may occur from trunk girdling or constriction, insects, diseases, and excessive moisture.

- Protective wraps may not be necessary at planting time. Use wraps based on type of protection needed.
- Normal application of tree trunk wraps is October – March for the first two growing seasons.
- Remove wraps each spring prior to spring growth.

- Wrap loosely from the base of the tree up to the first branch by overlapping for shingle effect.
- Plastic guards should fit loosely and include holes or slits.
- Inspect for damage and insects and spray for borers when necessary.

Staking Trees – Stake young trees sparingly and briefly when possible. In fact, prolonged staking can have detrimental effects on the development of the tree. Too often, staking materials end up injuring or girdling the tree.

Stake trees when top-heavy or planted in windswept areas. The material used to attach the tree to the stake should be broad, smooth, and somewhat elastic. Do not stake the tree too rigidly. Always allow for sway. Tight or prolonged staking results in an overall weaker tree that is more subject to girdling. Triple staking provides more protection against strong wind and lawn mowers. Support stakes and guy wires generally should be removed after one growing season. If staking is left in place for more than two years the tree's ability to stand alone may be reduced, and the chances of girdling injury are increased.