



HORTICULTURE TIPS



Division of Agricultural Sciences & Natural Resources * Oklahoma State University

February 2019

GARDEN TIPS FOR FEBRUARY!

David Hillock

General

- Base any plant fertilization on a soil test. For directions, contact your county Extension Educator.
- Provide feed and unfrozen water for your feathered friends.
- Clean up birdhouses before spring tenants arrive during the middle of this month.
- Avoid salting sidewalks for damage can occur to plant material. Use alternative commercial products, sand or kitty litter for traction.
- Join *Oklahoma Gardening* on your OETA station for the start of its season beginning in February. Saturdays at 11:00 a.m. and Sundays at 3:00 p.m.

Trees & Shrubs

- Fertilize trees, including fruit and nut trees and shrubs, according to a soil test. ([HLA-6412](#))
- Most bare-rooted trees and shrubs should be planted in February or March. ([HLA-6414](#))
- Finish pruning shade trees, summer flowering shrubs and hedges. Spring blooming shrubs such as forsythia may be pruned immediately after flowering. Do not top trees or prune just for the sake of pruning. ([HLA-6409](#))
- Look for arborvitae aphids on many evergreen shrubs during the warmer days of early spring.
- Gall-producing insects on oaks, pecans, hackberries, etc. need to be sprayed prior to bud break of foliage.
- Dormant oil can still be applied to control mites, galls, overwintering aphids, etc. [EPP-7306](#)

Fruit & Nuts

- Spray peaches and nectarines with a fungicide for prevention of peach leaf curl before bud swell. ([EPP-7319](#))
- Mid-February is a good time to begin pruning and fertilizing trees and small fruits.
- Collect and store graftwood for grafting pecans later this spring.
- Begin planting blackberries, raspberries, strawberries, grapes, asparagus and other perennial garden crops later this month.
- Choose fruit varieties that have a proven track record for Oklahoma's conditions. Fact Sheet [HLA-6222](#) has a recommended list.

Turf

- A product containing glyphosate plus a broadleaf herbicide can be used on dormant bermuda in January or February when temperatures are above 50°F for winter weed control.

Vegetables

- Cool-season vegetable transplants can still be started for late spring garden planting.
- By February 15 many cool-season vegetables like cabbage, carrots, lettuce, peas and potatoes can be planted. ([HLA-6004](#))

Flowers

- Force spring flowering branches like forsythia, quince, peach, apple, and weigela for early bloom indoors.
- Forced spring bulbs should begin to bloom indoors. Many need 10-12 weeks of cold, dark conditions prior to blooming.
- Feed tulips in early February.
- Wait to prune roses in March.

2019 Pecan and Grape Management Course Deadline Approaching

Becky Carroll

The 2019 Pecan and Grape Management Course brochures are available with registration and class dates. The courses offer an opportunity for potential new or veteran growers to learn or refresh their basic management skills needed to successfully grow pecans or grapes. The classes meet one afternoon a month beginning February 26 for pecan and March 7 for grape and continuing for the growing season. Being able to see the trees or vines from dormancy to harvest give the class a unique opportunity to learn management for all season. Students learn in both the classroom and in the orchard or vineyard setting. The classes meet at the Cimarron Valley Research Station near Perkins. Classes also travel to a couple of pecan orchards or established vineyards/wineries to learn from other growers.

The cost to enroll in either the pecan or grape class is \$250 per student. Registration for the pecan course is due by February 13 and grape deadline is February 15. County extension educators are encouraged to enroll in the courses for a reduced fee to cover cost of resource materials.

The link to the brochures are online at <http://okpecans.okstate.edu/pecan-management-course/2019/2019course> or <http://www.grapes.okstate.edu/grape-management-course/2019/2019course>. Please share this information with interested clientele. If you have any questions, please let me know.

Pecan Graftwood Sources

Becky Carroll

The updated 2019 Pecan Graftwood Source List is available on the pecan webpage located at - <http://okpecans.okstate.edu/PDFs/graftwood-source>.

For information on variety selection or grafting techniques, check out the webpage <http://okpecans.okstate.edu/orchard-establishment-management> for fact sheets or <http://okpecans.okstate.edu/pecan-video-resources> for videos showing different grafting techniques.

2019 Oklahoma Proven Selections

David Hillock

Each year a set of plants is chosen by horticulturists that will help consumers choose plants appropriate for Oklahoma gardens. The program began in 1999 by selecting a tree, shrub, perennial and annual worthy of Oklahoma landscapes. A Collector's Choice plant was not chosen this year. There are many plants to choose from; selections for 2019 are listed below. To see all the plants recommended by the Oklahoma Proven Plant Selection Program, visit our newly overhauled web site at <http://www.oklahomaproven.org/>.

Tree – *Pinus flexilis* ‘Vanderwolf’s Pyramid’, Limber Pine

‘Vanderwolf’s Pyramid’ limber pine is an evergreen tree with a pyramidal habit that typically grows 20-30 feet tall and about 10-15 feet wide. The specific epithet and common name is in reference to the flexible (limber)

branchlets/twigs. ‘Vanderwolf’s Pyramid’ is noted for its closely spaced, twisted, silvery blue green needles. Limber pine is generally considered to be an adaptable, low-maintenance tree with few problems. Limber pine is native to North America and is considered resistant to pine wilt disease.

Best grown in moist, well-drained soils, however species plants are rather adaptable, often being found growing in the wild in dry, rocky soils. It forms a large taproot and is difficult to transplant once established in the landscape.

- Exposure: Full sun
- Soil: Moist, well-drained
- Hardiness: USDA Zone 4-7

Shrub – *Chaenomeles speciosa* (double flowering), Double Take™ series

Flowering quince in the Double Take series are hardy, deciduous shrubs reaching 4 to 5 feet high and at least as wide. Plants in the Double Take™ series produce a profusion of early spring double flowers that resemble camellias. This is a dense, broad-rounded, thornless, shrub. Bold double flowers (to 2” diameter) bloom before the leaves fully unfold in an early spring bloom and come in colors of scarlet, orange, pink, and peach. Plants do not produce fruit. Oval to oblong, glossy dark green leaves provide an attractive look through the summer. Prune lightly after blooms in spring when needed. Double Take™ flowering quince is very drought tolerant once established.

- Exposure: Sun to part shade
- Soil: Tolerates wide variety of soils, but prefers well-drained.
- Hardiness: USDA Zones 5-9.

Perennial – *Eryngium yuccifolium*, rattlesnake master

Rattlesnake Master is a native species to the tall grass prairies. Leaves of rattlesnake master are parallel-veined, bristly-edged, sword-shaped, and medium green (to 3' long) resembling those of yucca. Flowers are greenish-white and tightly packed into globular, 1" diameter heads resembling thistles. The flowering heads attract many kinds of insects

Rattlesnake master prefers dryish, sandy soils, but tolerates clay and shallow-rocky soils. Plants tend to open up and flop in overly fertile soils or in anything less than full sun. This is a taprooted plant which transplants poorly and is best left undisturbed once established.

Use rattlesnake master in a xeriscape garden, perennial border, or native garden. Group plants in naturalized areas for best affect.

- Exposure: Sun, part shade
- Soil: Moist or dry soils, but well-drained
- Hardiness: USDA Zone 5-9

Annual – *Pentas lanceolata* Graffiti® series, Starflower

The flowers, more commonly known as Egyptian starflower, are native to northeastern Africa and thrive in very hot and dry conditions. Considered to be the most uniform in habit as well as bloom time, Graffiti® grows to 16 inches high and 12 to 14 inches wide making it a great plant for containers or in a flower bed. Graffiti® comes in several colors - red, rose, pink, white, violet, and lavender. ‘Graffiti Red Lace’ has large bright red flowers with a white center; ‘Graffiti Lipstick’ has rosey-pink flowers.

Graffiti plants are very heat- and drought-resistant and make great cut-flowers. Pollinators are attracted to the tightly clustered flowers that sit above the foliage all summer long.

Like all Pentas, Graffiti® prefers soil that is not too rich; if it's a bit on the dry side, all the better. Heat, sun, and good drainage will have the plants blooming heartily all summer long.

- Exposure: Full sun to part shade
- Soil: Moist, well-drained soil
- Hardiness: Use as an annual

For more information about Oklahoma Proven go to <http://www.oklahomaproven.org/> or contact David Hillock, 405-744-5158, david.hillock@okstate.edu.

Planting Bare-Root Trees and Shrubs

David Hillock

Bare-root plants can be purchased in winter and should be planted in February or March. Bare-root or packaged plants should be dormant (not showing new growth). The bare-root plant is often prepack-aged in a colorful bag. Open the bag immediately and dampen the roots until planting. At planting remove all bags, strings, or wires.

Never leave roots exposed to air. Very fine root hairs, which are not visible to the naked eye, are responsible for moisture and nutrient uptake and are killed when exposed to dry air for even a very short period. Keep the roots damp and covered while preparing the planting hole to protect the fine root hairs.

Trees and shrubs should be planted at the same depth at which they were growing in the container or field nursery. There is a texture and color change between the trunk or stem and the roots. The base of the plant should not be covered with more than about one inch of soil. Planting too deep is a major cause of plant failure, especially in poorly drained clay soil.

Holes for bare-root plants should be dug large enough to accommodate the roots without crowding or twisting. The hole should be no deeper than the original root depth and at least twice the spread of roots. Broken and badly damaged roots should be removed. A mound or cone may be made in the center of the hole to accommodate the spread of roots and allow the tree or shrub to rest at the proper depth while backfilling the hole.

Soil Testing...the Right First Step

David Hillock

We all appreciate thick green lawns and lush productive gardens around the home. After all, attractive lawns and gardens add to both the aesthetic value and real value of our homes.

To achieve a high level of lawn quality and garden productivity, it is necessary to add fertilizer on a timely basis. When lawns and gardens don't receive the amount of fertilizer that they need, they never achieve the quality or productivity we anticipate. When too much fertilizer is applied, nutrients are wasted and pose a threat to the environment.

The true value of a soil test is to help insure that only needed nutrients are added in quantities which don't adversely affect environmental quality.

The best time to test the soil is during a time when plants aren't growing, although any time of year is satisfactory. In any case it is better to have the soil tested rather than guess which fertilizers to use and how much to apply. To make sure the test is accurate, sample the soil before fertilizer has been applied and follow proper collection procedures.

A soil test is only as good as the sample submitted for testing. Samples collected should represent the lawn or garden as a whole. The following steps will help in collecting good samples for submission.

- Scrape plant debris from the soil surface before sampling.
- Sample lawns to a depth of 3-4". Sample gardens to a 6" depth.
- Use a clean bucket or other container and a soil probe or spade; collect cores or slices of soil from at least 10 different areas scattered throughout the lawn or garden and mix them together in the container.
- Mix soil thoroughly and fill the sample bag (bag can be obtained from your OSU County Extension Office) with a pint of the mixture.
- Submit samples and completed information sheet to your OSU County Extension Office. They will send samples in to the OSU Soil, Water, and Forage Laboratory for testing and then help you interpret the results.

The benefits of soil testing are many – it takes advantage of nutrients already in the soil, identifies nutrients that are lacking, reduces fertilizer applications, provides a proper balance of plant nutrients, allows adjustment of soil pH to an optimum level, and reduces chances of excess nutrients getting into the water sources.

For more information about soil testing contact your OSU County Extension Office or pick up the leaflet [L-249 Soil Testing...the First Right Step](#).

Weed and Feed Products

David Hillock

The concept of combining an herbicide and a fertilizer to “kill two birds with one stone” may be good in theory but may not work in every situation. Several potential problems exist when using this approach.

The first is that the timing for herbicide application and fertilizer application are usually not in sync. Some weed and feed products contain preemergence herbicides that control weeds as they germinate and are best applied before late February depending on weather conditions. Fertilizer applications for warm-season grasses such as bermudagrass should not go on until the first of May. See the problem?! The two really need to be applied at different times; so using a weed and feed blend on bermudagrass in later winter/early spring is not advised.

Second, the selection of formulations for weed and feed blends is much more limiting than if one were choosing only a fertilizer. Fertilizer formulations are much more diverse because fertilizer companies make many more types. Most companies that produce weed and feed products only make one type, not allowing one to take into account special nutrient needs that may have shown up in a soil test, i.e. a need for less or more phosphorus. Once again it is obvious that the best approach would be to apply weed killer and fertilizer separately. (Note also: Types of weed killer used in weed and feed blends is also limited compared to the many formulations available without fertilizer.)

Third, there is more chance of over-application or misapplication of the weed killer. Because tree and shrub roots can also absorb many of the herbicide products, care in applying the herbicide is very important. In fact, many of the herbicide products state that they should not be applied where roots of desirable trees or shrubs are growing. Research has shown that the roots of many tree species extend well beyond the dripline of a tree. So

how does one apply an herbicide to turf areas with trees growing in or near them? By using separate fertilizer and herbicide products and avoiding weed and feeds. Another common problem is overthrow of the product into areas that have sensitive plants growing in them such as flower and shrub beds. This is usually a result of using the wrong equipment such as the use of a broadcast spreader rather than a drop or gravity spreader. Once again, it makes good sense to apply products separately allowing for more accurate rates and distribution.

And fourth and last, why treat healthy grass with something it does not need and could potentially weaken it? By the way, a weakened turfgrass is more likely to have weed problems. Spot treat only the weed prone areas.

The real way to address weed problems is to start with improving turf management. A vigorous, healthy lawn is able to choke out most weeds. For information on recommended turfgrass management practices see [HLA-6420](#) Lawn Management in Oklahoma.

Chill Hours – What are they? And why should Fruit & Pecan Growers Care?

Becky Carroll

Similar to myself and other humans, most fruit trees and pecans need rest to function properly. This rest period is called dormancy. The trees need exposure to cold temperatures to break this dormancy and start growth properly in the spring. This rest period is one way the plant protects fruit buds by delaying growth until the warm temperatures arrive in the spring. Fruit and pecan trees require chilling hours for fruit and leaf buds to break dormancy.

Now what makes a chilling hour? For each hour of temperatures between 34 and 54 degrees, chilling hours are accumulated at different rates, but the ideal temperatures are between 36 and 48. If temperatures drop below that 34 degree mark, no chilling is added. And as temperatures get warmer, those accumulated chilling hours may be reversed or lost. Hours over 60 degrees will be subtracted from the total number.

The Utah Model that we use to figure chilling hours:

- 1 hour below 34 = 0 chill hours
- 1 hour between 34.01 and 36 = 0.5 chill hour
- 1 hour between 36.01 and 48 = 1.0 chill hour
- 1 hour between 48.01 and 54 = 0.5 chill hour
- 1 hour between 54.01 and 60 = 0.0 chill hour
- 1 hour between 60.01 and 65 = -0.5 chill hour
- 1 hour above 65.01 = -1.0 chill hour

We begin accumulating hours after the first freeze. If temperatures warm and begin to lose hours, the accumulated number of hours will never go below 0 hours. So it will never be negative. If we have extended periods of warm temperatures, many of our accumulated hours can be lost. Once the plant reaches that “magic” number of chilling hours needed to break rest, they will enter into a second stage of dormancy until sufficient warm temperatures occur that are favorable for bud growth. In Oklahoma, we often reach the required number of chilling hours in mid-winter, but normally cold temperatures will keep buds from swelling until late February or March.

Some fruits require very little chilling, like figs and some grapes. They may only need about 100 hours of chilling while some apples and cherries may need around 1000 hours. It’s best to plant fruits that have similar chilling requirements as what is normally received for your area. Low-chill peaches for example are best planted in southern Texas or Florida where there is little chilling in any given year. Oklahoma normally receives higher chilling hour totals so it’s best to use fruits that require higher numbers of hours. A low-chill peach may satisfy

the chilling needed early in the winter and then when a few warm days occur, the peach will begin to grow or bloom.

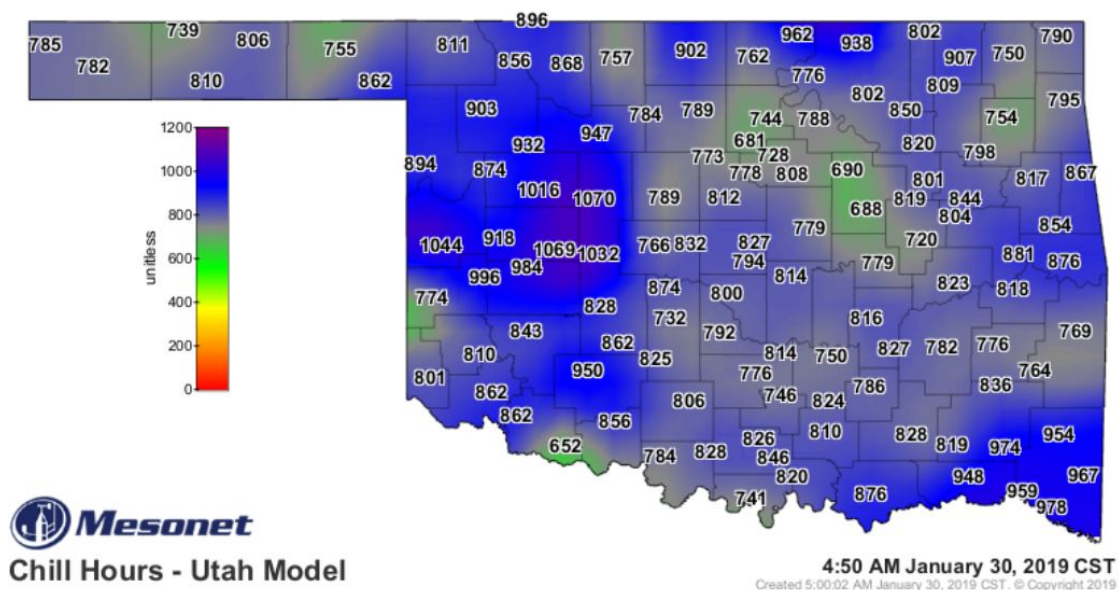
This leaves the tree susceptible to cold injury and will likely not have a peach crop.

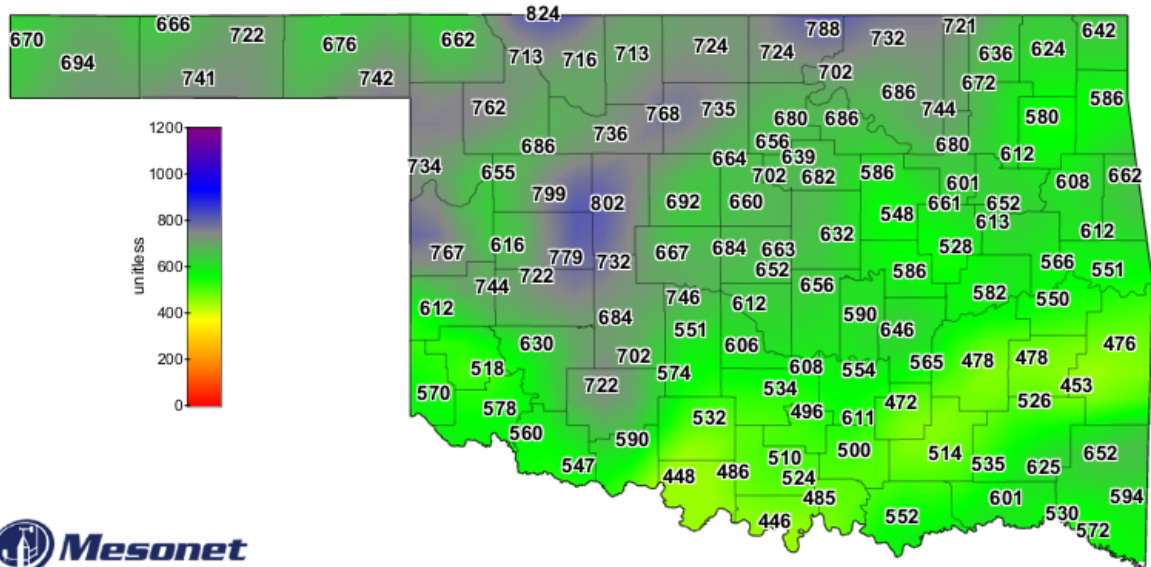
Pecans are can be tricky. Each native pecan is genetically different and may have different requirements. A native pecan tree in Oklahoma may require around 1000 chilling hours and a native in Mexico may only need 100. Using what is adapted to your climate is important to have a productive tree. The range for improved varieties varies greatly.

What happens when we have a very warm winter and don't have enough chilling? Trees may have a delayed or very long bud break time, foliage may be sparse, flowers may bloom erratically causing pollination problems, fruit set can be reduced and quality may suffer.

The following maps show the number of hours accumulated as of January 30, 2019 and January 30, 2018. Notice differences in the two maps - the blues in 2019 indicating higher chilling with the 2018 green showing lower chilling. In those areas with higher numbers of chilling hours, the trees are likely in the second stage of dormancy and ready to begin growth when temperatures warm. This may mean an earlier bud break or bloom for some fruit trees.

I will update the map in the next issue of Horticulture Tips to see how this season is fairing. These maps are not available on Mesonet but if you'd like more information, please contact me.





 **Mesonet**
Chill Hours - Utah Model

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This newsletter is one way of communicating horticultural information to those interested.

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