

Horticulture Tips

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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

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

<u>Vegetable</u>	<u>Time to Plant*</u>	<u>Days to Harvest</u>	<u>Method of Planting</u>
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.

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.

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.

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 ([EPP-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](#))

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.

Ajuga

Casey Hentges, Oklahoma Gardening Host

Bailey Lockhart, Project Coordinator

Ajuga, also known as bugleweed, is a great groundcover that can handle full sun to part shade. It is a low growing plant that quickly reproduces by stolons. In fact, the species ‘reptans’ means creeping. Each little clump like plant will produce purple flowering spikes in the spring. After they are done blooming, you can trim off these flowers and the plant will continue growing as a groundcover with glossy foliage.

While crown rot may be a problem for it in hot, humid conditions, it doesn’t have any other pest or disease problems. Ajuga is a good plant for those slopes you may not want to mow. It is also a good option for deep shade where grass won’t grow. While it makes a good ground cover, it is not one that can tolerate much foot traffic and is best not planted adjacent to turfgrass where it would compete for water and nutrients. Being hardy to zone 4, it can handle any of our record setting winters.

Ajuga is a member of the Mint family and have over 50 different species. The following are a few that could be found on the market:

- Giant Ajuga, *Ajuga reptans* ‘Catlins Giant’ is one of the taller cultivars. It has flower spikes that reach up to 8-10” with glossy, dark green leaves.
- Bronze Beauty Ajuga, *Ajuga reptans* ‘Bronze Beauty’ will stay smaller with flowering spike 6-8” tall and brown-bronze foliage.
- ‘Burgundy Glow’ has the same flowering and creeping appeal as the others, but instead of a dark foliage, it has a tricolored variegation with white, pink, and green foliage.
- Chocolate Chip Ajuga, *Ajuga x tenorii* ‘Valfredda’ has a dark, almost brown foliage. With its petite foliage and dwarf habit, it is a cute plant that only reaches a 2” height with 3-4” flowers.

- A type of chocolate chip was discovered and named ‘Dixie Chip’. It has all of the miniature features but offers more year-round foliage interest with its tri-colored foliage.
- ‘Blueberry Muffin’ is recognized as a faster and stronger grower than the chocolate chip ajuga. It has a softer blue flower than the traditional purple color. It isn’t quite as small as some other cultivars, but it is about 8” tall when in bloom.

Regardless of which ajuga you chose, they are a great low maintenance groundcover that helps fill in the gaps between plants, rocks or prevent soil erosion.

For more information check out this *Oklahoma Gardening* video - <https://youtu.be/EpLiesT4VYc>

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.

Tomato Cages

David Hillock

Tomato cages are very beneficial to the production of your tomatoes. Not only do they provide a support for indeterminate types to sprawl upon, but they also keep the fruit off the ground and provide better air circulation through the plants thereby reducing chances of disease development. By encouraging vertical growth, you can also grow more in smaller spaces.

Though manufactured cages are available for purchase, some are even quite ornamental, you can build your own. Any strong material can be used including wooden stakes or wire fencing/mesh.

Wooden stakes about 6 feet long should be used. Tie the plant to the stake as it grows. Wire fencing/mesh cages should be about 18 to 25 inches in diameter and 3 1/2 to 5 feet tall. Use concrete reinforcing mesh, 10-gauge wire frame, or other sturdy wire mesh that has openings of at least six inches. These larger openings allow you to reach in and harvest fruit more easily. Cut and bend the mesh into cylinders fastening the ends together. Snip off the bottom one or two rungs. By cutting off the bottom one or two rungs, the cage can be pushed into the ground at least six inches deep around each plant.

Gardening Over Lateral Lines (Septic Drain Fields)

David Hillock

On occasion someone wants to know if it is okay to plant vegetable crops or other plants over lateral (sewer) lines. The general recommendation from Water Quality Specialists is if the system is working properly and no water is coming to the surface, above ground crops should be safe to grow and harvest. If below ground crops (root crops) such as potato or carrots are desired, it is not recommended that they be planted over lateral lines. Risk of contamination to the crop is likely if the system fails and contaminated water comes to the surface. Though contamination is likely to be only on the surface of the vegetable, it is not worth the risk!

Turfgrasses, native grasses, and annual and perennial plants including wildflowers are the best plants to maintain over lateral lines. Shrubs and trees, especially fast growing, with aggressive water-seeking roots such as willow, most maples, elms, birch, poplars, and ash trees could lead to root invasion into lateral lines causing problems with the system working properly. It is best to keep large shrubs and trees at least 30 to 50 feet away from lateral lines. Generally, it is recommended to stay as far away as the plant is tall at a minimum. So, a specimen 50 feet tall at maturity should be at least 50 feet away.

Remember that the drain field needs sun to perform optimally so avoid dense groundcovers and lots of tall plants that cast heavy shade.

Onion Care and Handling

David Hillock

Whether in a home or market garden, onions are a favorite of many vegetable growers. If you planted onions from transplants this year, they should begin vigorous growth soon if they have not done so already. Do not overlook the need for nitrogen fertilizer for producing large onions. Unless you have a garden with very fertile soil, now is the time to apply nitrogen fertilizer to enable vigorous growth. Two possible sources are ammonium nitrate or urea. A rough estimate of how much of these fertilizers to use is 1/4 of a pound for 20 feet of row. Scatter the fertilizer along the 20 feet distance so that it covers 1 1/2 feet on each side of the row. Do not put the fertilizer directly on the plants and do not concentrate it at the base of the plants. Doing so could cause injury to shallow plant roots. Fertilizer can be left on the surface or scratched lightly into the soil surface. Water gently following fertilizer application.

Primary pest problems observed in onions in southeast Oklahoma in recent years include thrips, purple blotch, and black mold. There are additional pests that one should also watch for that affect onions. Thrips are tiny insects that feed on the leaf surface. Heavy infestation will result in leaves taking on a silvery appearance. Thrips are most easily observed when leaves are gently separated at the onion neck. The insect will appear as tiny yellow or dark colored specks that move when disturbed. Although tiny, thrips can be very damaging to onions. Two species are commonly present: onion thrips and western flower thrips. The two species are not readily distinguished by an untrained observer. Insecticide treatment for thrips will depend on the producer's situation. Inspect onions frequently to determine if the plants have an infestation. Contact your County Extension Office for information on insecticides to use for thrips.

Fungal diseases are another concern in onions. Healthy leaves are needed to produce an onion bulb. Diseases of the foliage can quickly destroy healthy plants. Purple blotch is one of these and it is first observed as tiny water-soaked lesions on the leaves. If conditions are suitable the lesions can enlarge and destroy the leaf. The way to control purple blotch is to use preventive fungicide applications. This means the fungicide needs to be applied before the disease is observed. The threat of this disease is greatest under rainy, wet, and humid conditions. When conditions such as these are forecast, the use of fungicide in advance of the wet weather is highly recommended. Your County Extension Office can provide information on suggested fungicides for purple blotch and other vegetable diseases.

Finally, black mold is a disease that has been observed in onions harvested in summers during a rainy period. The onion bulbs may appear normal at harvest but begins to develop a black powdery material under the dry outer scales. This is a mold that infects onions due to extremely wet conditions at harvest. Suggested control measures are to store onions at temperatures below 60. Note that storage at temperatures cooler than that provides additional benefits. Avoid bruising onions during harvesting and handling.

Pruning Hydrangeas

David Hillock

Hydrangeas are one of the more popular plants in the landscape. They have attractive foliage and typically produce large, striking flowers. Hydrangeas are generally easy to grow and tolerate a wide variety of soil. About the only care they need is pruning, however, there are different types of hydrangeas that require different pruning techniques depending on the time of flowering.

Hydrangeas that bloom in the spring, usually before May and June, bloom on last year's growth. Those that bloom later flower from buds formed on the new wood that growing season. Varieties that bloom in spring should be pruned after they flower while those that bloom on new wood can be pruned, if necessary, in late winter, early spring before new growth develops.

So, which are which? The types that bloom on old wood include the mophead, big leaf, and lacecap types, which are *Hydrangea macrophylla* varieties, and the oakleaf hydrangea, *H. quercifolia*. These all produce flower buds on last year's wood.

Types that bloom on new wood include the panicle hydrangea, often referred to as PeeGee types, *Hydrangea paniculata*, and the smooth hydrangea, often referred to as the Annabelle types, *H. arborescence*.

The one exception is the variety 'Endless Summer', which blooms on old and new wood. In all cases it is helpful to remove old blossoms as they fade.

If you're not sure of which type you have, the safest approach is "no pruning is better than the wrong type of pruning." However, you can also take a simplified approach which is suitable for all types. The simplified approach includes removing only winter-killed wood or all dead stems in the spring before or as the buds are opening. You can check for live wood by scratching the stems with your thumbnail or a knife, if it is green, it is still alive, brown, and hard it is dead and should be removed. Rejuvenation is another way to keep your plants healthy by removing dead or very old stems by cutting them back to the ground, this will stimulate new growth and produce more blooms later.

Today there are a wide variety of hydrangeas; make sure you choose a variety that will suit your landscape needs, as well as the site. Most like some water and most prefer a little protection from the hot Oklahoma afternoon sun. With good choices, and correct timing with pruning, your hydrangeas will be the envy of the neighborhood.

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 one’s 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 or gray, and yellow should be used sparingly since they tend 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 pocketbook. 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 underbuying 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!

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

Low Chill Hours for 2022

Becky Carroll, Associate Extension Specialist

I’m not sure about you, but this winter has seemed cool or average in temperatures to me. But, when looking at the number of chilling hours that most fruit and pecan crops need, Oklahoma has experienced a very low amount of those critical temperatures between 32 and 45 degrees. Chilling hours have been discussed in previous Horticulture Tip articles in 2019 and 2021 but I wanted to highlight the unusual year that Oklahoma is experiencing.

In many areas of the state, I’ve noticed fruit trees sporadically blooming and people discussing how late the flowering is this season. Peaches are blooming in some areas but maybe a week or more later than normal. Apricots that usually bloom early in March are just now opening a few flowers. Unfortunately, this is likely due to the lack of needed chilling hours. Each cultivar of apple, peach or apricot may have a different chilling hour requirement but in general, apples and pears need about 800-1200 hours, peaches range anywhere from 150 to 1200 hours, apricots around 700 hours, cherries about 1000 and pears from 600-1200 hours. Pecans can range wildly depending on area of origin.

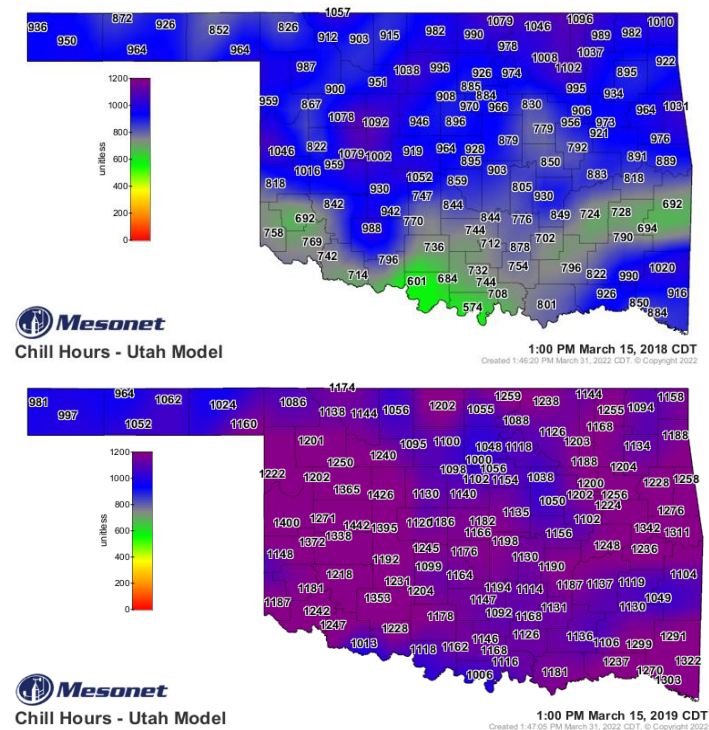
Most fruit trees and pecans need rest to function properly. This rest period is called dormancy. The trees need exposure to cold temperatures to break this dormancy and start growth properly in the spring. This rest period is one way the plant protects fruit buds by delaying growth until the

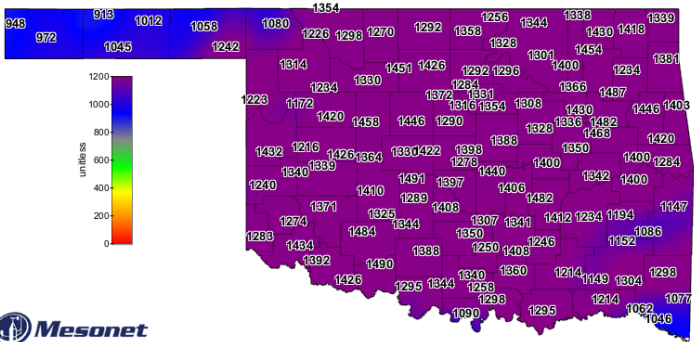
warm temperatures arrive in the spring. Fruit and pecan trees require chilling hours for fruit and leaf buds to break dormancy.

What happens when we have a very warm winter and don't have enough chilling like this season? 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.

With sporadic budbreak and flowering, the pollination may be limited. Timing of bloom can affect those flowers that need cross-pollination. When researching pecan, with high chilling years, more lateral branches form flowers but years with limited chilling hours, flowering and fruiting may be less. This year will be interesting to see how things turn out.

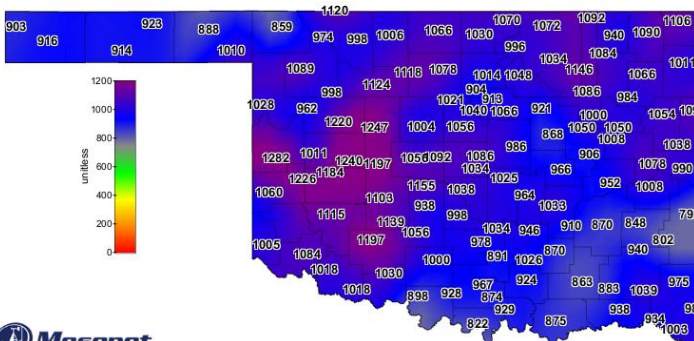
Wes Lee and Mesonet have provided these maps with chilling hours on March 15 for the years 2018-2022. Oklahoma averages between 800 hours in the Southeast to 1200 hours in the Northern sections of the state. The purple and dark blue colors show hours in the 1000 to 1200 range. In 2022, there are some yellow areas with less than 300 hours. The central part of the state is between 500-650 hours.





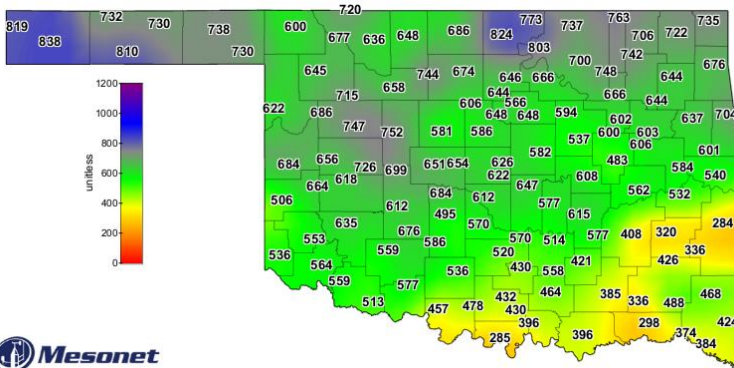
Mesonet
Chill Hours - Utah Model

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