



The Virtual Gardener—For Everything There is a Time

A calendar can be one of the most useful tools in a gardener’s toolbox. Not only can it help in keeping track of the past—what was planted, when it was planted, and how it performed—but it can also help plan for the future by providing guidance on what to plant and when to plant it. This month I want to take a look at some great online tools for creating garden calendars and some tips for using them.

One of my favorites is found on the Burpee Seed Company [website](#). Simply enter your zip code to display a calendar customized for your area. The calendar shows your approximate first and last frost dates, a list of 40 common garden vegetables, ranges of dates for starting seeds indoors, planting seeds outdoors in the garden, and transplanting seedlings started indoors. The graphic format makes it easy to compare the characteristics of different plants. Links on the page also provide additional information about each vegetable listed. As you can see on this calendar even at this late date, there are still plenty of options for planting cool weather veggies outside.

A more elaborate set of tools is found on the Johnny’s Selected Seeds [website](#). Here you will find a set of calendar-related tools to help you with your vegetable gardening.

The first tool is an [interactive table](#) on a webpage showing data for 29 herbs and vegetables and 67 flowers and other ornamental plants. The data shown focus on planting seeds indoors for later transplanting into the garden. They include how far ahead to plant seeds indoors before transplanting and when to transplant seedlings. To get customized data for your area you must supply the average date of last frost for your area.

In addition to the table described above, you can also find a couple of downloadable spreadsheet-based (Microsoft Excel) calculators that provide additional customized data for your area. To use these calculators, you need to supply the estimated first frost date for your area. The first of these, a [succession planting calculator](#), shows a selection of herbs and vegetables (and includes blank spaces for you to enter additional types and varieties), the number of days to maturity for each, the recommended interval between plantings, and the dates for each planting. By using a succession planting strategy, you can be assured of a constant supply of produce throughout the growing season.

The second calculator gives you recom-

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 mended planting dates for 28 vegetable crops to harvest in the fall. In addition it indicates which vegetables should be started indoors and which can be directly seeded into the garden. The dates shown are either for direct seeding into the garden or for transplanting seedlings started indoors.

Because many of our vegetable crops are frost sensitive, the estimated dates of first and last frosts are critical to garden planning. The Western Regional Climate Center (WRCC) maintains extensive data sets containing information about the climate, including 30-year averages of first and last “freeze” dates for hundreds of locations. These data allow you to make sophisticated guesses about these critical dates for your area. Records for cities in Arizona can be found [here](#).

The “freeze” data supplied by the WRCC allows you to assess the risk of temperatures reaching or falling below a selection of five temperatures. Let’s take a look at the table below showing Fall “Freeze”

Probabilities for Sierra Vista and see how to interpret these data.

Although most plants will not immediately expire when the temperature touches freezing, I’m going to select 32.5°F as the critical temperature for this example. You might choose to be a little more daring and select one of the lower temperatures.

As I glance over the chart, I note the earliest date that my critical temperature occurred during the period of record was October 22, so I can be almost certain that it won’t freeze before that date. On the other end of the chart, I see the latest date for my critical temperature to be recorded was November 28. That means it’s almost guaranteed that it will frost on or after that date.

The next column tells me that only 10 percent of the time has a low temperature of 32.5°F been reached on or before October 30. Each succeeding column shows higher and higher probabilities of 32.5°F being reached by the indicated date. The next to the last column tells me that 90 percent of the time it’s been reached by November 24. The 50 percent value is most commonly used as the date of “first

frost,” in this case November 16.

The WRCC produces a similar table showing the probabilities of last “freeze” dates in the spring. That table shows the probabilities that the last “freeze” will occur by a certain date. For Sierra Vista, there is a 50 percent chance that the last “freeze” will occur by March 23.

There are many additional resources on the web that provide guidance on garden calendars and related information. Here are a few for you to check out:

Optimum soil temperatures for seed germination.

[Arizona Master Gardener Manual](#)

Planting and harvesting times for garden vegetables.

[Iowa State Extension bulletin](#)

Scheduling vegetable plantings for continuous harvest.

[National Sustainable Agriculture Information Service](#)

Vegetable planting guide.

[Colorado State University Extension](#)

Until next time, happy surfing!

Gary Gruenhagen, Master Gardener
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Temp F	Earliest	SIERRA VISTA, ARIZONA (027880)										Latest
		10%	20%	30%	40%	50%	60%	70%	80%	90%		
36.5	10/22	10/27	10/31	11/03	11/04	11/04	11/10	11/12	11/16	11/22	11/24	
32.5	10/22	10/30	11/04	11/09	11/13	11/16	11/18	11/23	11/23	11/24	11/28	
28.5	11/05	11/10	11/16	11/20	11/24	11/27	11/29	12/02	12/06	12/13	12/17	
24.5	11/20	11/26	11/29	12/04	12/09	12/13	12/14	12/18	12/21	12/26	**/**	
20.5	11/30	12/07	12/14	12/23	12/27	12/31	**/**	**/**	**/**	**/**	**/**	

Cuttings ‘N’ Clippings

☼ **Cochise County Master Gardener Association**—Check the web site for the next scheduled event or contact Valerie at: valeriedavidson@email.arizona.edu

☼ The Master Gardeners have returned to the **Sierra Vista Farmers Market** on the **first Thursday of each month**.

☼ The next free Water Wise presentation will be **Saturday, September 12 from 10:00—11:00 AM** at Ace Hardware, 3756 E. Fry Blvd. Sierra Vista in the gardening section. Cado Daily, Water Wise Educator will speak on **Winter Gardening: Vegetables and More**. It’s still a great time to plant landscape plants—and a winter garden. Learn how to have a productive winter vegetable

garden and wonderful plants ready for a home in your landscape. Check the Water Wise 2015 schedule on their web site: waterwise.arizona.edu For more information contact Valerie at: valeriedavidson@email.arizona.edu

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✿ The Fall Plant Sale by the Sierra Vista Area Gardeners Club will be held at the Sierra Vista Farmers Market in Veterans Park on Fry Boulevard, **Thursday, September 17 from 10:00 AM to 2:00 PM**. They will have lots of houseplants, cool season vegetables, annuals, and perennials for sale. As usual, they will be offering free packets of seeds. For more information, contact Diane Levine, Chairman Fall Plant Sale, Sierra Vista Area Gardeners Club at:

bob4dian@mindspring.com

✿ The Cochise Chapter of the Arizona Native Plant Society holds monthly programs on the third Friday of each month from September through May at 5:00 PM in the Cochise County Community Development Office Conference Room, 4001 Foothills Dr. (corner of Highway 92 and Foothills), Sierra Vista. The Chapter has established a Facebook website at:

<http://www.facebook.com/AZNPS>

Cochise where much useful information about the chapter and its members is posted.

September 18: Dr. Kit O'Connor, Ph.D. Postdoctoral Research Associate, School of Natural Resources and the Environment and Laboratory of Tree-Ring Research, University of Arizona will present a summary of his current research on fire and climate change risks to the forest assemblages at Fort Huachuca.



✿ Cochise County Master Gardener's Fall Plant Sale will be held **September 19 beginning at 9:00 AM** in the Discovery Garden at UA Sierra Vista, 1140 N. Colombo. Check the

web site for the next scheduled event or contact Valerie at:

valeriedavidson@email.arizona.edu

The Advantages of Fall Planting

I hear people talk about cleaning their garden tools and stashing them away until next spring. No! Don't do it! The very best gardening season is about to begin! Most folks think that spring is the best time for new plantings. We are so fortunate to be gardening in our high desert, as we can actually plant a huge variety of things 12 months of the year. But the best time . . . the VERY best time to plant is in the fall. Our fall season is September through about mid-November, and there are numerous reasons why this is such a great gardening season.

1. The air is cooling down and new plantings require less water on a continual basis to get them started.
2. The soil is still warm from the summer months. Often when plants are installed in the spring, the soil is still cool, and they sit inactive for a bit waiting for warmer soil temperatures to encourage their root growth. When planted in the fall, the warm soil allows for healthy new roots to begin forming in order to support future growth.
3. Fall plantings can use their energies in the still warm soil to become established, then when spring arrives, the energy goes into growth, as opposed to starting from the beginning. When the days become shorter, and the nights longer, the fall plantings shift their objective to root development. In spring, the plant's focus is production of leaves, shoots, flowers, and berries.
4. Even as the autumn soils begin to cool, the developing roots are still using stored nutrients to grow.
5. Fall plantings do not have to deal with the long duration of heat, winds, and drought. They will also suffer less transplant shock.
6. When spring arrives, the autumn plantings will have larger roots which can better keep up with both the water and nutrient needs of active spring growth.

7. New plantings in the fall can be more gradually hardened off to the sun, so as the sun becomes gradually more intense in the spring, there is much less chance of leaf scorch. This is especially true for plants you may wish to place in a sunnier location, but might be borderline shade loving. An example is Star Jasmine (*Trachylospermum jasminum*). If planted in full sun in the spring/summer it will most likely suffer some burning on the leaves. But if planted in the fall, those same leaves become gradually and gently accustomed to the less intense sun, and are hardened off or "sun tanned" when spring arrives when the stronger sun begins rising in our desert skies.

8. Autumn plantings have to deal with fewer pests and less disease than in the hotter months.

9. New fall plantings will lose less water through their leaves, and any winter rains will further soak their roots.

10. Plants in the nurseries are generally larger in the fall, as the growers have had more time with the grow season to bring them up to size. Also, you'll often find fun varieties of plants in the fall which were unavailable in the spring.

11. Many times, there are wonderful sales in the nurseries in the fall as the stores are preparing to clear the decks for the winter season.

12. And the best reason for fall gardening?!? The temperatures are cooling down for US!!! It's fun to be outdoors in the fall. True gardeners are happy to be bundled up, working in a sweatshirt and gloves . . . maybe even in a heavy jacket while the other folks have migrated indoors for the winter.

A last couple of thoughts . . . it's a great idea to give your plants an autumn feeding approximately 6 weeks before the first frost. I know. Your question is, "When is the first frost?" The last many years have been unpredictable. I've seen the first frost on

Halloween. I've seen the first frost in December. I'm no help here. So let's



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Ready, Set... Grow!

As of late I have been in the pecan orchards a lot! What am I doing out there? I am sampling leaves and setting insect traps because a bacterial disease has presented itself in pecan orchards. It is the first time it has been positively identified in Arizona. I thought it would be good to take the opportunity to discuss it here and share the information.

Pecan Bacterial Leaf Scorch (PBLs), caused by the bacterial pathogen, *Xylella fastidiosa*, has been positively identified in Arizona pecans. Variant strains of *Xylella fastidiosa* cause disease in other plants including grape, peach, plum, almond, sycamore, oak, red maple and chitalpa. PBLs is problematic in most pecan cultivars in the Southeast, but has never been positively identified in Arizona. Investigations of the distribution of disease in Arizona orchards as well as the origin of the pathogen and its insect vector(s) are well underway.

A survey will be conducted in August-October with the cooperation of growers. It is funded by the Arizona Pecan Growers Association and the University of Arizona Cooperative Extension. Diagnostics of the cause of disease symptoms will be conducted by the UA Extension Plant Pathology Lab to distinguish PBLs from other diseases and determine its distribution. Insect traps will be distributed by UA Cochise County Cooperative Extension in locations positively identified for PBLs to survey for insect vectors.

PBLs is caused by the bacterium *Xylella fastidiosa*. Research at Louisiana State University indicates the pecan strain of *Xylella fastidiosa* belongs to the *multiplex* subspecies, but strain identification of the pathogen in Arizona has not been confirmed. It resides only in the xylem tissue. PBLs can cause significant defoliation and reduction in yield. Disease development and symptoms can occur on one or several limbs randomly throughout the tree canopy, as well as throughout the canopy.

In Arizona, symptoms are usually noticeable on terminal shoots (but can be secondary shoots) and include curling leaflet margins that turn tan to brown. Necrosis progresses toward the midrib and petiole, followed by abscission of affected leaflets and rachises. The terminal shoot often turns black and dies. Leaves exhibit marginal necrosis that can be confused with, or occur in concert with, other problems such as salinity, black aphid damage, and foliar fungal pathogens. See photos.

No insect vectors have been reported for *Xylella fastidiosa* in Arizona pecans. However, on other horticultural crops including *Vitis* and *Prunus*, species have been limited to members of the *Cicadellidae* (leafhopper) and *Cercopidae* (spittlebug) families. Studies at Louisiana State University show that adult spittlebugs, stink bug (leafhopper), and the glassy-winged

sharpshooter transfer the bacterium to pecan.

Currently, there is no treatment to recommend for these bacteria. All cultivars are susceptible to it as well. The goal then is to identify what is spreading the disease first, then we will work on a realistic and economical approach to suppressing its severity.



Pecan Bacterial Leaf Scorch (PBLs) on the terminal shoot of this limb. Notice the secondary shoot has no symptoms that it spreads through the xylem.



Pecan Bacterial Leaf Scorch (PBLs) on the terminal shoot.

Happy gardening, friends!

*Joshua Sherman, M.S.
Commercial Horticulture Area Agent*

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say to fall fertilize by mid-October. It's that fertilization that stores nutrients throughout the winter and pushes the new growth in the spring.

And just because we're raving about fall planting here, that doesn't mean to not plant anything in the spring. We should ALWAYS be planting. Just celebrate the glorious autumn season and stay outdoors and GARDEN to your heart's delight!

For a list of 30 Great Landscape Plants for Fall Planting, [click here](#).

Jan Groth, Cochise County Master Gardener Coordinator

It's a Bloomin' Cochise County Native Plant of the Month—

A Few Golden Comps ... and One Pink

SAN PEDRO MATCHWEED



Xanthocephalum gymnospermoides
Photo: Liz Makings, SEINet

Xanthocephalum gymnospermoides (also known as Gummy Broomweed and Gummy Snakeweed), is a rich golden-flowered resinous annual of lowland, flat meadows, in moist soils at least during the monsoon. An annual to 3' tall or a bit more, it is showy, even spectacular, in its typically massive dense stands – a sea of gold appears at the end of summer in an otherwise quiet and uneventful landscape. The sticky resinous flowers, though not large, are densely grouped in heads at the tops of the plants. The name 'Matchweed' refers to dried stems apparently having been used in kindling fires as the resin makes them especially flammable. This show is visible now near the Brown Canyon Ranch, around Naco, and most likely in areas around the river.

GUMHEAD, TATALENCHO



Gymnosperma glutinosum
Photo: Mimi Kamp

Gymnosperma glutinosum (formerly *Selloa glutinosa*) has impressed me as a potentially excellent landscape plant. It seems to hold its own from arid desert scrub grassland to oak and pinon/juniper grassland. Often found on rocky hillsides in sandy or gravelly soil, it is a well-balanced and woody plant to 2' tall or more that looks good though drought and becomes glorious with rain. The linear leaves are a glowing green, slightly resinous, with dense compact small-flowered heads of rich yellow. Without having propagated it myself, I'd like to suggest that we might collect seed and give it a try! Does anyone have a skill with cuttings? How bout it? Up to the maples, down to the creosote – such a range of habitat and elevation make Tatalencho a good candidate for survivability through climate changes. In Mexico, leaves are put in shoes for sore feet and rubbed on ant bites.

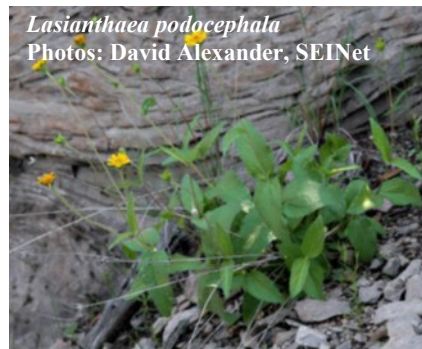
Speaking of gummy comps, I must mention **CURLYTOP GUMWEED, Yerba del Buey** *Grindelia nuda* var. *aphanactis*, a somewhat weedy but handsome biennial or perennial that I find in disturbed areas from 5,000'. White gum (goo) is produced on the buds or discs (no rays on this species). All parts of the

plant are resinous, and are believed to help congested breathing.



Grindelia nuda var. *aphanactis*
Photo: Mimi Kamp

SAN PEDRO DAISY



Lasianthaea podocephala
Photos: David Alexander, SEINet

Lasianthaea podocephala is a beautiful yellow composite with a lovely crown of minute open disc flowers surrounding the unopened greenish disc buds. This feature, the hairy opposite leaves, its shortish stature, and sense of gentle grace distinguish it from other yellow comps. At home in oak grassland (4,000' - 7,500'), it enjoys shaded or open, often sloping, sites. A cluster of longish, spindle-shaped tubers ensures its endurance through dry times.

In Mexico the plant is lovingly called **Pionia** (no relation to Peony) and the tubers are reputed to relieve

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'empacho' (intestinal blockage). Plant this one for its sweet beauty in semi-domesticated mid-elevation habitat with trees.

THURBER'S DESERT PEONY



Acourtia thurberi
Photo: Reis Lindley

Acourtia thurberi is an astoundingly beautiful robust herbaceous perennial with holly-edged leaves and large pink flower heads - the queen of rocky granitic oak grassland hillsides above drainages or ethereal streams. Related to the little Desert Holly with similar honey-smelling flowers...but this one has bigger heads with more flowers atop stems that reach 3 - 4'. A heaven and haven for innumerable insects... many butterflies!! After a spectacular bloom, there is another fall show as the sun glows through the pure white seed plumes.

The astringent root of the similar but lower elevation *Acourtia wrightii* of the Sonoran desert is a Navaho remedy called Brownfoot or Buffalo Fur - for the soft brown fur at the top of the root which occasionally protrudes from the ground. This fur can also be seen on our high desert species. A name like Buffalo Fur seems more fitting than Desertpeony for a composite that has nothing to do with the peony family. It is an important insect flower for landscapes. The one I got from Peter Gierlach (Petey Mesquitey of Spadefoot Nursery) last year is thriving!

Mimi Kamp, Guest Author, Herbalist, Plant Illustrator, Cochise County Herbarium Curator, taxonomist and consultant

Did you know . . . The Cochise County Fair will be held at the fairgrounds in Douglas on September 24—27? For information go to <http://cochisecountyfair.org/>



Ask a Master Gardener

Cochise County Master Gardeners are available to answer your gardening questions either by telephone call to the Cooperative Extension Office or on-line on the web site at:

<http://cals.arizona.edu/cochise/mg/ask-master-gardener>



Cochise County Master Gardener Newsletter Editor
Carolyn Gruenhagen

September Reminders

- ◆ Keep on watering!
- ◆ You can always plant something—try cool season veggies
- ◆ Start shopping for bulbs



The Cochise County Master Gardeners are now on Facebook! Like us at www.Facebook.com/CochiseCountyMasterGardeners