

WILLIAMSON COUNTY

GARDENING

February 2020



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Cover:

Herb Demo Garden

Photo by Sonia Schuetze

MG 2016



Williamson County Master Gardeners are on Facebook with information about programs and events.



Contact Us

Extension Office:

512-943-3300

100 Wilco Way,
Suite AG201

Georgetown, TX
78626



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The Arrival of Seed Catalogs

by Alice Stultz, MG 1996

One of my favorite times of year is when the seed catalogs begin appearing and they came the week prior to Christmas. I held off looking until January. We used to get catalogs from several companies, but I presume online ordering has curtailed some of the mailings. Nothing like holding a catalog in one's hand and visualizing the color and the combinations in an ideal garden landscape. Last year I made a list of seeds or plants I wanted to try this year. They are Texas Superstar plants and are all heat tolerant.

On the top of the list were seeds of annuals planted in late summer or that endure our hot dry summers here in Central Texas. Two recommendations were Zahara, *Zinnia x marylandica*, and the Hybrid 'Profusion' Zinnias. The hybrid 'Profusion' is a cross between *Zinnia angustifolia* and *Zinnia Elegans*. It does not need to be dead headed.



Zahara Mix from Park Seed Catalog



These are both Texas Superstar annuals and are heat tolerant with continuous blooms with a compact habit. They are both resistant to mildew and leaf spot and will last until first frost if planted later in the summer or in staggered seedings.

'Profusion' Zinnia Mix from Harris Seed Catalog

blooms. Another common name is bachelor button. Plant seeds in early summer in full sun when nights are warm. It is a nice cut flower and the purple blooms will complement a nearby planting of Mexican Mint Marigold.

Globe Amaranth, *Glomphrena globosa*, is a hearty Texas Superstar plant with an abundance of



A mix of different color globe amaranth

Mari-mum, *Tagetes erecta*, is a Texas Superstar hybrid marigold that does great for mass plantings, lasts two to three times longer than chrysanthemums and takes little care. Plant in full sun in the ground or in containers, in late summer, in well-drained soil with a time release fertilizer at time of planting. Additionally, transplants can be grown for late summer plantings to extend the season and fill in trouble spots.



Mari-mum from the Texas Superstar website

These are a few of the plants I want to try this year. Ordering seeds is the next step. The joy will come when they are planted, and I can test them in whatever type of summer we have. I know for sure it will be hot and probably dry. I will patiently augment my soil in February and March, watch the annual poppies, bluebonnets and spring perennials thrive, then plant these varieties of annuals. The Texas Superstar picks are well-tested recommendations from Texas A & M AgriLife research, Texas Nursery and Landscape Association and the GO TEXAS promotion.

Hoops in the Garden



Acres of Acorns and the Origins

by Jean Legan, MG 2013

Over the past 2 months, I've scooped up buckets of acorns dropping from my oak trees.

The squirrel population is larger and fatter! Deer stopped munching on my agaves--favoring piles of acorns instead. We've noticed sheets of acorns strewn along the San Gabriel Trail. Local pecan farmers selling nuts at the Farmers Market boast about their huge crop this year! Clearly, there must be a botanical reason linking all these observations. Scientists call this behavioral pattern masting.



The word mast is derived from the old English term “maest” meaning a bumper crop of fruit or nut that falls to the ground producing fodder for wildlife. Mast is further categorized into hard and soft mast depending on the seed source. Beech, hickory, red-, white- and black-oak trees, even pecan trees produce hard mast, predominately nuts. Soft mast includes berries, cherries, wild apples, grapes and mountain ash. Masting is a natural cycle in which trees and shrubs produce abundant seeds one year followed by years of no or low production of seed.

Plant species, weather, and genetics are thought to control masting cycles. Genetics likely play the most important role in determining how much mast any individual tree or shrub is capable of producing. Some individual plants produce regular, abundant mast crops, while others consistently produce poor crops. The synchronous production of mast among various tree populations has been widely studied. In fact, several hypotheses have emerged to explain this phenomenon.

Consider the gray squirrel as an example in the predator satiation hypothesis. This theory argues that predator populations such as squirrels may be effectively controlled from year to year by variable pulses of food--acorns--made available to them. Making excessive quantities of oak acorns in masting years may over-satiate squirrels leaving a small number of acorns to germinate. During interval years when fewer acorns are dropped, squirrel populations are smaller and more acorns are available to sprout. Masting has significant impact up and down the food chain!



The pollination efficiency hypothesis states that masting may optimize successful pollination and fertilization if all members of a population are synchronized. In other words, aligning all growth factors such as weather, pollination, and genetic variability predicts the success or failure of a masting period. Some scientists suggest that trees may communicate with each other through weather cues or chemical signals. This hypothesis is especially relevant for wind-pollinated species like oak trees.

The resource matching hypothesis theorizes that reproduction varies with availability of high energy and nutritional resources necessary to replicate. The main limiting resources are water, carbon in the form of nonstructural carbohydrates, and macronutrients such as nitrogen and phosphorus. These resources are depleted after mast seeding across various species.

The phenological¹ synchrony hypothesis links temperature and variable seed production in the valley oak (*Quercus lobata*). This hypothesis was tested in a 30-year study measuring temperature, budburst, and acorn production in the valley oak. During cold, wet springs, asynchronous budburst and flowering produced low pollen availability, poor fertilization success and a small acorn crop. Conversely, in warm, dry spring weather, synchronous budburst and flowering generated high pollen counts with good fertilization success and large acorn crops. Study investigators further postulated that fluctuations in mean temperature due to climate change will alter patterns of phenological synchrony and variability in annual acorn production in the valley oak population. In my view, the phenological synchrony hypothesis nicely integrates many elements of all hypotheses to explain masting behaviors.

Masting has been reported globally in many seed-bearing populations. The intensity of mast seeding during the last century has increased, although the mechanisms underlying these long-term changes have yet to be elucidated. Investigating the effects of climate change on the in-

tensity and frequency of mast seeding will help biologists examine shifts in the availability of food resources for wildlife and in forest dynamics.

Based on this information, we can expect Williamson county to experience another hard mast in 2-10 years. Keep in mind that it takes a lot of energy for oak trees to make acorns and tree growth may slow during the period preceding a mast. More importantly, drought, higher temperatures, unexpected freezes and rainfall amounts will all affect future cycles of masting in local seed-bearing populations.

¹ Phenology is the study of the timing of the biological events in plants and animals such as flowering, leafing, hibernation, reproduction, and migration. Scientists who study phenology are interested in the timing of such biological events in relation to changes in season and climate.



The British Are Coming! The British Are Coming!

by A.J. Senchack, MG 2011

“The British are coming” has already happened, by sea at first and then by land. And, they have landed in your neighbor’s yard, if not yours, and are starting to push up their yellow aster flowers! I’m referring to that tough, little English “import,” the “Dandy-Lion” or “Tooth of the Lion.” [The name, “tooth of the lion,” comes from the French *dent-de-lion*, meaning “lion’s tooth”, and refers to the jagged or toothy, deeply-notched (lobed) basal leaves of the dandelion.]

Dandelions most likely came over on the *Mayflower*. Not as an accidental stowaway, mind you, but rather as a coveted medicinal plant, a healthy food source, as well as a bright, cheery spring reminder of the Pilgrim’s Old World abandoned. Given their value to these intrepid English, dandelion seeds were probably snugly secured in watertight containers amongst their belongings.¹

Because Georgetown dandelions started blooming several weeks ago, this feels like a good time to put on my Apologist Hat and try to defend this English invader that’s become known as the turf terror. In the 20th century, the dandelion’s reputation suffered a fall from grace to the point where today it is considered by most homeowners as a scourge to be eradicated from their lawns. Nevertheless, I would like to help salvage its soiled reputation to some extent. To that end, this article provides some known plant facts about dandelions plus an interesting, little-known secret about the physics of how dandelions disperse their seeds..

Did You Know? Tooth of the Lion (*Taraxacum officinale*) is universally known by its botanical name, *common dandelion*, throughout its range.² It is a tap-rooted, perennial herbaceous plant in the *Asteraceae* (*Compositae*) family that has been earth-bound for millennia, well

¹ For the more romantic MGs (Jane? Kate? Catherine?), dandelions have also inspired many a love poem (just google “dandelions in love poems”—4.4 million hits, will ya!).

² The genus name reflects the dandelions long history of medicinal uses. That is, “*taraxos*” is Greek for “disorder” while “*akos*” means remedy. The species name, “*officinale*,” is a Medieval Latin term denoting substances or organisms, mainly plants, used in medicine and herbalism.

before even the Egyptian and Greek civilizations. Scientists believe the dandelion originally evolved 30 million years ago in Eurasia in what is known today as Kazakhstan.

In earlier periods, dandelions were world-famous for their beauty and grown as a common, much loved flower in European and Asian gardens. The Chinese used dandelions for medicinal reasons for thousands of years. The Celts are rumored to be the first to ferment the blossoms into dandelion wine. Japan even has horticultural societies devoted to enjoying the beauty of dandelions and to developing new hybrid varieties. Today, a worldwide survey would find n'er a temperate climate that *doesn't* harbor dandelions.



Figure 1. The book cover of Anita Sanchez's *The Teeth of the Lion: The Story of the Beloved and Despised Dandelion*.

You may know that botanists classify *Taraxcum officinale* as a **perennial herb**, although neither of the latter descriptors usually comes to mind when describing a dandelion. You may know they are “Master Survivalists,” able to thrive in any disturbed soil and every climate condition found in their vast playground. Yet, these wunderkinds are called a weed because they are most willing (eager?) to grow anywhere in our yard, roadside, meadow, *et al.* and very hard to control with modern horticultural technology.

You may know that invasive (and introduced, too!) plants yield little or no value or benefit to our native wildlife. In contrast, though, this invasive dandelion is a vital food source for our many native bee species, butterflies/moths and their larvae, beetles, and goldfinches (Figures 2-3). More importantly, and partly because dandelions are so abundant along side be-

ing a generalist species, they are one of the most important early spring nectar sources for a wide host of pollinators.

You may know the dandelion is a “complete food” for humans. Every part—flower, stem, leaf, root—is edible. For example, the leaves make a nutritious salad green. Moreover, dandelions are reputed to be more nutritious than most of the vegetables grown in your garden!

You may know about the dandelion’s many health benefits. Herbalists tout the dandelion as the “perfect plant medicine,” that’s also packed with nutritional aid. For instance, their root yields a gentle diuretic tea to help flush liver toxins.³ For millennia, dandelion tonics were used to help the body’s filter, the liver, remove toxins from the bloodstream. (In medieval times, dandelions were prescribed for every ailment from warts to plague.)

Nonetheless, a clarion calls for their eradication—this most unwelcome and vile weed ye say! BUT, they will never be eradicated. So, let’s be less militaristic toward this plant; let’s try to learn to accommodate and appreciate their many positive features and inherent beauty. Maybe we could even call it a wildflower on occasion. (More on the dandelion’s health and food benefits is in next month’s installment.)



Figure 2. Busy bee gathering pollen on a dandelion flower.



Figure 3. Butterfly enjoying a quick sugar fix.

But Did You Know? Taraxacum is a large genus of flowering plants, in which many species are known as dandelions that disperse their seeds to the four winds. The dandelion’s bloom is a composite of individual flowers that are enclosed in bracts that are erect. Once pollinated and

³ I am not a registered herbalist or necessarily an advocate that’s recommending dandelions as a healthy, herbal cure for human maladies. That is, I am not an expert or scientist that has scientifically studied dandelions’ medicinal or curative properties.

mature, the flower head form spherical seed heads, called **blowballs** (Figure 4). These familiar puffballs that we all blew on when we were kids contain many single-seeded fruits called **achenes**. Each **achene** is attached to a **beak** stem that connects to a **pappus** or parachute of fine hair-like filaments that enables wind-driven dispersal over long distances (Figure 5). Dispersal over a mile is a no brainer for its offspring. More impressive, dandelion seeds have been recorded traveling as many as 60 miles.⁴



Figure 4. The delicate artistry of the dandelion's blowball or seed head.



Figure 5. Close up of seed head with achenes, beaks, and pappuses (Wikipedia).

What makes such a long sojourn possible for such a small, weightless object? First, the dandelion evolved an ingenious way to lift its seeds. The seed pappus contains a clever structure with a built-in humidity sensor that recognizes the optimal atmospheric moisture for the seeds to be released. Until recently, scientists were unclear about how dandelion seeds managed to traverse such long distances so easily. Then, in a issue of *Nature*, a team of University of Glasgow researchers revealed the dandelion's secret. It was well known that the key to seed flight is its "tuft" or pappus that carries the achene. That is, the pappus appears to act like a

⁴ From "Taraxacum," downloaded at <https://en.wikipedia.org/wiki/Taraxacum#History> at 4:44PM on January 30, 2020.

balloon or parachute, keeping the seed from giving into gravity—alas, a rather poor analogy, though, because the pappus is neither inflated like a balloon nor enclosed to block or hold air like a parachute. Instead, after wind-tunnel tests with simulated dandelion seeds, the surprised researchers learned that, above the pappus, air flow formed an extraordinary “separated vortex ring” or swirling eddy that kept a seed aloft for long periods of time. A theoretical possibility long pooh-pooed by scientists because it was considered too unstable to exist in reality. Voila! We have the dandelion’s gift to aerodynamics and scientific knowledge—a verified new class of fluid behavior (please refer to fn. 5 and 6 for additional discussions, respectively).

Well, that last bit was a tad arcane, wasn’t it? My apologies. I got carried away on several fronts—the rather technical, but fascinating, story of how dandelion seeds “fly,” **and** my enthusiasm for sharing some of the many fascinating features of that yard weed, the common dandelion. Perhaps in the next month or so, we can explore more closely the potential contributions of the dandelion to our health and diet, or how dandelions are “bouncing back” as a potentially sustainable source of latex or rubber. Meanwhile, think of our friend on occasion as a wildflower, not a weed...



Fig. 6. Close up view of the unique achene-beak-pappus “parachute” structure (Wikipedia).

⁵ See Cummins, C., Seale, M., Macente, A., Certini, D., Mastropaolo, E., Viola, I. M. and Nakayama, N. (2018) A separated vortex ring underlies the flight of the dandelion. *Nature*, 562(7727), pp. 414-418 [<https://www.nature.com/articles/s41586-018-0604-2>] for a fuller technical discussion of the fascinating intricacies of the dandelion’s unique flight dynamics that these researchers uncovered.

⁶ Gorman, James (2018). Drifting dandelion seeds produce a vortex never before seen.” *The New York Times*, October 23. Air currents interact as they flow among the filaments of the pappus. These currents help keep the whole seed structure afloat by increasing the drag on the falling pappus. The vortex also contributes to the support of the pappus, because it forms a low pressure area so that air rises.

Cameras in the Demo Gardens

Photos by Sonia Schuetze, MG 2016



From Garden to Table

by Radhika Baliga, MG 2015

This is my take on a dish from my childhood. Enjoy!

Sauteed Beets with Garlic and Cumin

By Radhika Baliga

serves 4

Ingredients

3 medium red beets, cooked*, peeled, and chopped into small 3/4" long batons
1-2 tbsp avocado oil or other neutral cooking oil
2 dried chiles de arbol, de-stemmed, de-seeded and torn into 2" long pieces
3 garlic cloves, peeled and roughly minced
½ - 1 tsp cumin seeds
pinch salt
water



Directions

1. To a medium sized skillet, add enough oil to coat the bottom of the pan. Heat over medium flame.
2. Add dried chile pieces, chopped garlic, and cumin seeds. Stir constantly and cook until garlic turns a golden color.
3. Carefully add the chopped beets to the pan and stir to combine. Add a pinch of salt and ¼ cup water. Cover with lid and cook for 3-5 minutes to get all the flavors to meld.
4. Serve as a side dish, warm or at room temperature.

*To cook beets with an electric pressure cooker: Place washed beets with leafy tops removed

in pressure cooker insert along with 2 cups water. Seal the pressure cooker lid and cook on high pressure for ~20 min (time varies with beet size, freshness, etc.). Allow pressure to release naturally. Slide a paring knife into the beets to test for doneness. The knife tip should slide into the beets with little resistance. While the beets are still slightly warm, but cool enough to handle, remove the skins by hand (peels should rub off quite easily). Rinse the beets one final time and prepare them for your recipe.

Word in the Garden: “Green Thumb”¹

by A.J. Senchack, MG 2011

Perhaps it’s obvious that your thumb should be called “green” because plants are green and because you are a certified Master Gardener, who is known far and wide as one with a natural or learned talent for growing green things. But why this particular appendage? Why not more appropriately a “*green finger*” or a “*green hand*”? One reason is that a Master Gardener often removes unwanted offshoots from a plant’s stem by pinching them between his/her thumbnail and index finger; hence, a green thumb results.



Ok, I agree; the reason for the color “green” needs no elaboration, but isn’t there much that still remains to be explained. For example, “Why the thumb?” A simple response comes from the British Isles. Throughout the UK, it isn’t just a “green thumb.” UKers actually speak of a gifted or talented gardener having “*green fingers*,” although “green thumb” may also be heard on occasion.

“Green fingers” first appears in the 1930s, followed about ten years later by “green thumb.” So, we have a rough origin *date*. As to how one’s thumb or fingers *get* green, several competing hypotheses exist. One involves British royalty. King Edward I developed a love of

¹ Excerpted from *The Word Detective* web site found at <http://www.word-detective.com/2009/09/green-thumb/>.
Downloaded February 3, 2020, at 7:22 p.m.

green peas and kept a dozen servants shelling them. The most efficient “sheller,” judged by the green stains on his fingers, of course, was richly rewarded. Hmm. This one sounds a bit silly. I mean, it doesn’t really have anything to do with gardening. Much more plausible is the connection that green algae encrusted on clay pots often rubs off on the gardener’s fingers. But, this too doesn’t have much to do with a special gift or talent for gardening.

However the saying, whether “thumb” or “fingers,” does seem to have a bit more of a story behind it. In the period right before and during World War II, one of the most popular BBC radio programs in Great Britain was called “In Your Garden,” which was hosted by Mr. C.H. Middleton. The eminent etymologist Eric Partridge suggested that this program might have popularized both phrases, and that “green thumb” was actually a reference to the very old English proverb “An honest miller has a golden thumb.” Millers, merchants who grind corn for farmers, used to judge the quality of their product, corn flour, by rubbing a bit between the palm and thumb. But millers were often suspected of cheating their customers, and “golden thumb” was often used sarcastically, including by Chaucer, to mean a talent for duplicity. (This isn’t going in the right direction!) Nevertheless, the proverb was sufficiently well known in Britain in the mid-20th century to make the “golden thumb” and “green thumb” connection plausible, and would help explain why the thumb in particular is found in the most common form of the phrase. So mill that over in your head.



Winola's Timely Tips for February

by Winola VanArtsdalen, MG 2007

Avoid wounds on oak trees February through June when the beetle that spreads the fungus is most active!

Plan to volunteer in gardens this year to learn best gardening practices.

Check that seeds you are saving are labeled and dry at even temperature. You can put a little pack of desiccant in container.

Check to be sure all beds are well mulched to keep weed seeds from germinating, retain moisture, and protect roots from temperature extremes. Add enough mulch to return to about 3 inches depth.

Trimming: First, consider why we trim. The terminal bud on a shoot produces a hormone that inhibits the development of lateral buds. When this terminal bud is removed the lateral buds near the cut become active and grow. When you trim, make the cut at a slight angle $\frac{1}{4}$ inch above the bud. The angle will allow moisture to flow off the cut. Do not leave a stub because it is not only ugly, but slower to heal.

When you first approach the plant, cut back any dead, diseased/damaged parts. Step back to study what you have left to work with. Remember that cuts near the pruning cut are invigorated and that correct pruning is the selective removal of branches while maintaining the natural shape of the plant. This is much preferred to shearing where all branches are cut the same, destroying the shape of the plant. To rejuvenate old shrubs, remove some of the oldest stems back to where they emerge from ground each year.

The challenge of February is to watch weather and have pruning done before new growth comes that would have to be cut off and that nourishment lost for the plant. Begin with the hardiest plants first, just in case we get a surprise hard freeze. Evergreens are best cut while dormant, so they should be already trimmed now. The target date for roses is Valentine's Day, but remember this is the common, easy to remember date for areas much warmer than ours, so we need to watch weather forecasts!

If it has grown out of bounds for where you want it, you can prune back American Beauty Berry by half in late winter to create a more compact form. Cut subshrubs like *Salvia greggii*, zexmenia, and skeleton-leaf goldeneye back to about one-half now.

If groundcovers have been left unpruned for years, cut back to a few inches high with a mower or string trimmer for fresh growth.

Last, but not least, if you do not have a compost bin, find gardens that can use trimmings to return all this goodness to the earth!

Planting: This is a good time to plant herbs and divide perennials that will lose vigor and become unattractive if not divided and started anew every two or three years. Dig up clumps, divide, and replant the most vigorous. Share extras with neighbors and at garden club sharing tables.

Turf: Remove fallen tree leaves and pine needles from your turf to allow light to come in. Pre-emergent should be correct type for your turf and should be used by mid-February in our area.

Later, plan to use organic or slow release fertilizers to release nutrients slowly, as needed. Do not fertilize now, or you will just feed winter weeds. Wait until after the second mowing of grass.



WCMGA EVENTS

February 3

WCMGA Board Meeting

AgriLife Training Room, AG205

100 Wilco Way

1:00 to 3:00 pm

All members are welcome to attend.

February 10

WCMGA Monthly Membership Meeting

Georgetown Annex Auditorium

100 Wilco Way

6:15 to 8:00 pm

“Backyard Citrus Fruit”

with Teresa Wilts

February 11

Green Thumbs Up Gardening Series:

Round Rock

Round Rock Public Library

6:30 to 7:30 pm

“Snakes and Other Critters”

with Wayne Rhoden

February 13

Green Thumbs Up Gardening Series:

Cedar Park

Cedar Park Public Library

7:00 to 8:00 pm

“Snakes and Other Critters”

with Wayne Rhoden

February 22

Hands On In The Garden

Old Training Room, 3151 SE Inner Loop

10:00 am to 12 noon (new time)

“Beekeeping & Bee-Friendly Plants

with Jennifer Harbour

**Wait for me!
I'm coming soon.**

