



Doña Ana County Master Gardener Monthly Magazine

- **Doña Ana & Luna Counties**
  - U.S. Department of Agriculture
  - NMSU College of Agricultural, Consumer and Environmental Sciences

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Gardening-Related Information & News*

**•MARCH 2017•**  
**PLANT-OF-THE-MONTH**

Vol. 18, Issue 3

	Page
<b>CONTENTS:</b>	
• <u>Plant-of-the-Month: Daffodils</u> ( <i>Narcissus spp.</i> )	1-3
• <u>Water-Wise Plant-of-the-Month: Fairy Duster</u>	4
... <u>Other Species &amp; Cultivars</u>	4
• <u>Tropical Plants: Sandalwood</u> ( <i>S. album</i> )	5
• <u>Winter Pruning Tips For Spring Roses</u>	6-7
• <u>Top Ten EDGY Plants</u>	8-9
• <u>Do Not Trust INTERNET Gardening Advice</u>	10
• <u>Fertilize With Epsom Salts</u>	11-12
• <u>Gardening With Organics</u>	13-14
• <u>Biggest Pruning Mistakes</u>	15-16
• <u>Hidden Life of Trees</u> (Book)	17
• Summary of <u>Hidden Life of Trees</u> (Book)	17
• <u>7 Best Apps to Get Your Yard Greener</u> (App)	18
• <u>Honey-Do List for March 2017</u>	19-20
• <u>Special Event Dates</u>	21
<b>Gardening, In General</b>	
• <u>Food Growing Focus Group</u>	22
• <u>Garden Activity Tracker</u>	23
<b>Wildlife</b>	
• <u>Rock Squirrels</u>	24
• <u>Roadrunners</u>	25-26
<b>Insects</b>	
• <u>Feather-Legged Flies</u>	27
<b>HEALING HERBS &amp; PLANTS</b>	
• <u>Healing Herbs: Pot Marigolds</u>	28
<b>U.S.D.A. INVASIVE PLANTS:</b>	
• <u>Texas Blueweed</u> ( <i>Helianthus ciliaris DC</i> )	29
• <u>MG Monthly Meeting Minutes</u>	30-31
• <u>MG Hotline Duty Information</u>	32
• <u>NMSU Plant Diagnostic Clinic</u>	32



## **DAFFODILS: How To Plant, Grow & Care For Daffodils**

Link: <http://www.almanac.com/plant/daffodils>

Sunny, yellow Daffodils are a wonderful sign that spring has arrived! Plant the bulbs in the fall and they will bloom in late winter or early spring. Daffodils are hardy and easy perennials to grow in most areas in North America, except Southern Florida.

The attractive plants of Daffodils usually bear showy yellow or white flowers with six petals and a trumpet-shape central corona. Leafless stems bear between 1 and 20 flowers; sometimes the flowers need to be staked so they don't weigh down the stems.

Daffodils are suitable for planting between shrubs or in a border, or for forcing blooms indoors. They also look wonderful in a woodland garden and in large groves. You'll find that many gardeners plant the bulbs not just by the dozens but by the hundreds! Their flowers are excellent for cutting.

## PLANTING

Select a site that offers full sun or part shade. Most Daffodils tolerate a range of soils but grow best in moderately fertile, well-drained soil that is moist during the growing season. Many of the popular species prefer neutral to acidic soils, but some prefer slightly alkaline soils, so consult your nursery. *Article Continues on Page 2*

Master Gardener Hotline Contact Data						
(February 1, 2017 through February 27, 2017)						
# Total Contacts	21	Geographic Area	Subject of Inquiry			
# Total Issues Addressed	41	Las Cruces	13	Animals	2	Irrigation
Ethnicity of Contacts		Anthony	1	Disease	0	Lawns
Hispanic Females	3	Chaparral	1	Fertilizer	3	Shrubs
Hispanic Males	2	Deming	1	Flowers	1	Soil
Non-Hispanic Females	6	Do Ana	1	General Info	0	Trees
Non-Hispanic Males	10	Fairacres	1	Herbicides	0	Veggies
Asian Female or Male	0	Las Vegas, NV	1	Insecticides	1	Weeds
Black/African Male	0	Mesilla	1	Insects	1	Misc.
		Mosca Park	1			(Pruning)

Mesilla Park | Thank you to Certified Master Gardener Laurie Davidson for collecting this data.

**Daffodils—Continued From Front Page****PLANTING (Continued)**

- Select high-quality Daffodil bulbs that have not dried out. The larger the bulb, the better.
- Plant bulbs in the fall—about 2 to 4 weeks before the ground freezes. Get tips on dates for planting fall bulbs.
- Plant bulbs 1½ to 5 times their own depth. Where winters are severe, make sure there is at least 3 inches of soil covering the bulb.
- Daffodils will tolerate some crowding but prefer to be spaced 3 to 6 inches apart.
- It may help to sprinkle a little bulb fertilizer in the hole during planting.
- Resist the temptation to uncover spring-flowering plants such as Daffodils and Tulips. You can loosen mulch, but the shoots will still benefit from protection against cold, drying winds.
- Get more tips for growing bulbs.

**CARE**

- Apply a low-nitrogen, high-potash fertilizer after flowering if bulbs are not performing.
- Water late-flowering Daffodils in dry spring weather (flowers may abort in dry conditions).
- Deadhead plants as flowers fade (for neater garden appearance) and allow leaves to remain for at least 6 weeks.
- Lift and divide the clumps when flowering becomes sparse or the clumps congested.
- After they bloom in the spring, allow the plants to grow until they die off. They need time after blooming to store energy in the bulbs for next year.
- To remove the dead plants, either snip them off at the base, or twist the leaves while pulling lightly.
- Once Daffodils and Tulips have gone by, add bonemeal to the soil for next year's blooms.



Large Narcissus Fly



Narcissus Nematode

**PESTS/DISEASES**

- Daffodils are both deer-resistant and rodent-proof, as these animals do not like the taste of the bulbs in the *Narcissus* family.
- Daffodils are also poisonous to pets, so make sure your animals don't munch on them.
- The most common problems include Large Narcissus Bulb Fly (shown above), Bulb Scale Mite, Narcissus Nematode (also shown above), slugs, Narcissus Basal Rot and other fungal infections, and viruses.

**TIPS**

- When cut, Daffodils should be kept alone in a vase, as their stems secrete a fluid that promotes the wilting of other flowers. If you must combine them, soak them by themselves for as long as possible, then rinse them and add them to the arrangement last.
- Note that contact with the sap of Daffodils may irritate skin or aggravate skin allergies.

\* \* \*

**DAFFODILS @ Link:**

<http://www.theflowerexpert.com/content/mostpopularflowers/morepopularflowers/daffodil>

Daffodils, the flowers symbolizing friendship, are some of the most popular flowers exclusively due to their unmatched beauty. Daffodils belong to the genus *Narcissus*. Daffodil flowers have a trumpet-shaped structure set against a star-shaped background.

Often the trumpet is in a contrasting color from the background. The name Daffodils includes the cluster-flowered yellow Jonquils and the White Narcissis, as well as the more common trumpet shaped flowers, members of the genus *Narcissus*.

Daffodils are constantly recurring flowers with at least 50 species and many hybrids. Where climate is moderate, Daffodils flourish among the first spring buds. Daffodils often bloom in clusters.

*Article Continues on Page 3*

**Daffodils—Continued From Page 2**

Daffodils are native mainly to the Mediterranean region, in particular to the Iberian Peninsula, as well as Northern Africa and the Middle East.

In addition to the species, the [Daffodil Data Bank](#) lists over 13,000 hybrids. Generally Daffodils are yellow, and range from yellow-and-white, yellow-and-orange, white-and-orange, pink, and lime-green.

All Daffodils have a corona in the center that looks like a trumpet and a ring of petals all around. The natural Daffodil is colored golden yellow all over while the trumpet may often appear in a contrasting color.

The paper-white Daffodils could be planted in gardens that are outdoors. But they could also grow in indoor gardens during Christmas.

**Miniature Daffodils**

Daffodils come in all sizes, from 5-inch blooms on 2-foot stems to half-inch flowers on 2-inch stems. Largely for show purposes or for guidance in gardening, certain species and named cultivars have been determined by the [American Daffodil Society](#) to be miniatures and must compete by themselves in Daffodil shows.

**Difference between Daffodils and Narcissus**

There is literally no difference between the Daffodils and Narcissus. The two words are synonymous. *Narcissus* is the Latin or botanical name for those commonly called Daffodils and Daffodil is the common name for all members of the genus *Narcissus*.

**Facts About Daffodils**

- The earliest known reference to Daffodils can be found in the 6th century A.D. writings of the Prophet Mohammed.
- The garden Daffodil's ancestors come from the states around the Mediterranean Sea, such as Spain and Portugal and the Middle East, such as Turkey. The earliest record mentioned about Daffodils was around two or three hundred years B.C.
- Grown extensively by the ancient Greeks and the Romans, Daffodils nevertheless became a forgotten flower until about 1600 and even in 1860, there were fewer than 350 cultivated hybrids.
- Around 1629, a group of Englishmen took the Daffodil out of the weeds and put it into the garden. Daffodils were in favor again.
- During the days of the American experience and the expansion west, Daffodils were well established as a "must have" in the garden.
- Daffodils were brought to Britain by the Romans who thought that the sap from Daffodils had healing powers. Actually the sap contains crystals that can irritate the skin.

**Growing Daffodils**

Daffodils grow perennially from bulbs. In temperate climates they flower among the earliest blooms in spring. Daffodils often grow in large clusters, covering lawns and even entire hillsides with yellow.

Depth, as a general rule, needs to be thrice the height. This means large bulbs should have a depth of 6 to 8 inches; a medium size 3-6 inches and a smaller size 2-3 inches. Always remember that the load of soil proves helpful in protecting the bulbs from breaking too easily and in keeping them upright for a longer duration.

If this fact is ignored and enough depth is not given, the Daffodil will bend down very soon. Though Daffodil blooms will come in bigger clumps, the bulbs and flowers will be scant.

**Steps to Growing Daffodils**

- Choose a well-drained, sunny place, with a slightly acidic soil.
- Plant your Daffodils so that their top (pointed end) is at least two times as deep as the bulb is high (top of a 2" bulb is 4" deep).
- Plant bulbs deeper in sandy soil than in clay.
- High-nitrogen fertilizers should be avoided.
- Daffodils need lots of water while they are growing.
- After blooming, never cut the foliage until it begins to turn yellow (usually late May or June).
- This is then the time to dig them. Wash the bulbs thoroughly and let them dry completely (at least a week).
- Put them in onion sacks (or panty hose) and hang them in the coolest place you can find until they're ready to plant. Good air circulation will keep the storage rot at a minimum.

**Daffodil Plant Care**

- Like most perennials, Daffodils will do well with about 1 inch of water per week while they are actively growing and blooming - from March to May.
- Mulch can be tremendously helpful for Daffodils to conserve moisture.
- The best thing you can do for your Daffodil bulbs is to provide them rich, well-drained soil with lots of organic matter in it.
- Most organic bulb fertilizers can be placed right into the planting hole because they're very gentle and non-burning.
- Since a Daffodil is a perennial, every 5 to 10 years, divide the clumps of bulbs in early summer. ■

## WATER-WISE PLANTS



Pink 'Fairy Duster' Blooms &amp; Bush

### Fairy Duster (*Calliandra eriophylla*)

**Sources:** *Fairy Duster in 'Water-Wise Plants for the SW' by N. Sterman, M. Irish, J. Phillips and J. Lamp'l, Cool Springs Press, 2007.*

And *NM Gardener's Guide*, by J. Phillips, Cool Springs Press, 2004

**Zones:** 6 through 8

**Form:** Open vase-shaped with slender arching stems.

**Growth & Mature Size:** Slow-growing semi-deciduous shrub to 3 feet x 4 feet

**Uses:** Accent shrub, dry streambeds, desert landscapes, foreground

**Soil:** Prefers gritty, sandy, well-drained infertile soil

**Pests:** None

**Description:** Fairy Duster is a Chihuahuan Desert native with an open, twiggy form and finely divided leaves. It epitomizes the paradox of resilience and fragility characteristic of the most drought- and heat-loving plants. Fairy Duster is fancifully named for its pink powder-puff flowers and 1-inch bundles of stamens that look like a soft pink haze from a distance. It blooms most heavily in spring, providing a welcome home for returning hummingbirds. Throughout the summer, flowering returns sporadically. The tiny leaves drop in the winter or in response to drought. Baja Fairy Duster (*Calliandra californica*) shown in Column 2 is semi-deciduous in harsh climates, evergreen in milder ones.

#### Cultivation:

- The taproot of nursery-grown desert plants is interrupted by confinement in a container, which causes roots to branch. So, despite its preference for unimproved conditions, loosen the soil well so that the lateral roots have an easy time breaking through the ground.
- Even when it's first transplanted, water sparingly, never more than once a week.
- To keep plants leafy and encourage flowering, water established plants once a month, especially from March through August, to a depth of 3 feet.
- Fairy Duster needs no fertilizer.
- Protect new plants from rabbits with repellents or wire mesh fencing until Fairy Duster is well established and able to outgrow the feeding.
- No pruning is needed.

#### Shared Spaces

- Use as an accent along dry streambed pathways and between the boulders that stabilize slopes in xeric gardens.
- The best complements to Fairy Duster's featherlight appearance are offered by architectural plants such as prickly pear, yuccas, and Century plants.

*Calliandra 'Sierra Starr™'*

#### Other Species and Cultivars:

There is a newer hybrid of Fairly Duster and Baja Fairy Duster, *Calliandra 'Sierra Starr™'* (shown above) that grows more dense and has large red flower puffs on and off throughout the growing season. It may be more cold hardy than its Baja parent, and if so, would be a gorgeous addition to the xeric palette in the hottest low desert gardens in the Southwest. ■

*Calliandra californica*

**TROPICAL PLANTS of INTEREST****Sandalwood Tree***(Santalum album)*

Links: [Tropical Trees of Hawaii](#) by Dorothy & Bob Hargreaves, and  
[https://en.wikipedia.org/wiki/Santalum\\_album](https://en.wikipedia.org/wiki/Santalum_album)

**DESCRIPTION:** The Chinese formerly called Hawaii the 'Sandalwood Islands' because from about 1790 to 1840 there were many natural groves of Sandalwood that were exported. The Chinese used the wood for temple incense, furniture, etc. It was one of the first profitable export trades in Hawaii.

Today, few Sandalwood trees can be found on Oahu. There is a small tree in Foster Gardens. The government is trying to increase plantings. In 1932 they planted 1,000 *S. album* seedlings.

Trees are scattered in some forests in Hawaii. The tree is partly parasitic, and is usually set out near host trees of Koa or Ironwood.

Sandalwood is one of the most costly of woods. It's a class woods from trees in the genus *Santalum*. The woods are heavy, yellow, and fine-grained, and unlike many other aromatic woods, they retain their fragrance for decades.

Sandalwood oil is extracted from the wood for use. Both the wood and the oil produce a distinctive fragrance that has been highly valued for centuries. Consequently, species of these slow-growing trees have suffered over-harvesting in the past century.



Sandalwoods are medium-sized *hemiparasitic* trees, and part of the same botanical family as European *mistletoe*. Notable members of this group are Indian Sandalwood (*Santalum album*) and Australian Sandalwood (*Santalum spicatum*); others in the genus also have fragrant wood. These are found in India, Nepal, Bangladesh, Pakistan, Sri Lanka, Australia, Indonesia, Hawaii, and other Pacific Islands.



**PRODUCTION:** Producing commercially valuable Sandalwood with high levels of fragrance oils requires *Santalum* trees to be a minimum of 15 years old (*S. album*) the age at which they will be harvested in Western Australia – the yield, quality and volume are still to be clearly understood.

Australia likely will be the largest producer of *S. album* by 2018, the majority grown around Kununurra, Western Australia. Western Australian Sandalwood is also grown in plantations in its traditional growing area in the 'wheatbelt' east of Perth, where more than 37,000 acres are in plantations. Currently, Western Australian Sandalwood is only wild harvested and can achieve upwards of AU\$16,000 per tonne, which has sparked a growing illegal trade speculated to be worth AU\$2.5 million in 2012.

Sandalwood is expensive compared to other types of woods; therefore, to maximize profit, Sandalwood is harvested by removing the entire tree instead of sawing it down at the trunk close to ground level. This way wood from the stump and root, which possess high levels of Sandalwood oil, can also be processed and sold.

**FRAGRANCE:** Sandalwood oil has a distinctive soft, warm, smooth, creamy, and milky precious-wood scent. It imparts a long-lasting, woody base to perfumes from the oriental, woody, fougère, and chypre families, as well as a fixative to floral and citrus fragrances. When used in smaller proportions in a perfume, it acts as a fixative, enhancing the longevity of other, more volatile, materials in the composite. Sandalwood is also a key ingredient in the "floriental" (floral-ambery) fragrance family – when combined with white florals such as jasmine, ylang, gardenia, plumeria, orange blossom, tuberose, etc.

Sandalwood oil in India is widely used in the cosmetic industry. The main source of true Sandalwood, *S. album*, is a protected species, and demand for it cannot be met.

Many species of plants are traded as "sandalwood". The genus *Santalum* has more than 19 species. Traders often accept oil from closely related species, as well as from unrelated plants such as West Indian Sandalwood (*Amyris balsamifera*) in the family Rutaceae or Bastard Sandalwood (*Myoporum sandwicense*, *Myoporaceae*). However, most woods from these alternative sources lose their aroma within a few months or years. ■



## **Winter Pruning Tips for Beautiful Spring Roses**

By Annie Thornton | Fox News | Published January 26, 2017

After the threat of frost has passed, hit the garden armed in your toughest clothes and sharpened pruners for the annual task of cutting back the roses. While gardeners may share different insights on the art of rose pruning, one thing is certain: While roses' winter dormancy persists, it's time to prune, ensuring a prolific bloom and healthy plants in spring and summer.

Cynthia Chuang, president of the Santa Clara County Rose Society in California and an ardent rosarian since 1994, considers this routine essential to the health of her award-winning roses. Most of her January days are spent outside, pruning and tidying her 200 roses. And every May she and the neighborhood relish the bounty.

**Why Prune?** Pruning is regenerative. It stimulates new growth and can enhance and open up the form and shape of the plants, Chuang says. It also removes dying or diseased portions that can damage the overall health of a garden. Roses are sturdy and forgiving, and will be healthier plants because of it. While you may not prune perfectly every time, it's always better to prune than not to prune.

**When To Prune.** Prune roses during their dormancy, before they send out new growth. In mild climates, this means mid-December through February. In more extreme climates, wait until the final threat of frost has passed. Otherwise you run the risk of damaging canes.

- **Tools and gear.** Chuang spends about 20 minutes pruning each shrub. Make sure you're comfortable and well equipped. You want to enjoy the time you spend outside in preparation for spring.
- **High-quality rose pruners** (sharpen often; Chuang applies WD-40 weekly)
- **Loppers** (for larger-diameter canes)
- **Pruning saw** (for old canes and canes too big for loppers)
- **Scissors** (for detail work)
- **Heavy-duty gloves**
- **Eye protection**
- **A long-sleeve shirt and pants made of a sturdy material**
- **Knee pads or bench** (optional)
- **Pruner holster** (optional)

**Tip:** Sanitize tools with rubbing alcohol after contact with diseased plants. (You can also use disinfectant wipes as well.)

**Make the Cut.** Rosarians may disagree on how much to prune, when to prune and what to prune, but they unanimously agree that the cut itself is important in promoting rose health.



- Cut 1/4 inch above an outward-facing bud eye. Locate an outward-facing bud eye on a thick, healthy cane. A bud eye occurs just above the junction of a leaf (Chuang suggests five-leaflet leaves) and the cane — or at a dormant eye. The dormant eye is where a leaf used to be and resembles a swelling band.
- Leaving the leaves on the bush until the end of pruning makes it easier to identify where to cut. The cut signals the bush to send water and nutrients to that part of the bush. New growth will emerge from the bud eye in the direction of the cut.
- Cut at a 45-degree angle with the direction of leaf growth, away from the bud eye. This is the direction in which the new growth will emerge, so you will be promoting an open and outward-facing shrub. The angle also directs sap and water away from the bud eye, and naturally seals the cut. (Some rosarians suggest sealing cuts wider than a pencil with a sealant like Elmer's Glue to prevent borers.)

### **How to Prune Roses**

- While expert demonstrations, extensive reading and planning are helpful preparation for pruning, nothing educates you like **hands-on experience**. You may prune too much or too little, but roses are resilient, and they'll grow back.
- **Leave healthy, major canes.** First, cut off dead or dying canes to their origin. Get in there with the saw if necessary, says Chuang. The sure sign of a healthy cane is a rich green bark and a solid white core. Older rosebushes may get woody, so pick and choose the canes that you would like to keep. The [American Rose Society](#) suggests leaving four or five major canes for hybrid teas and grandifloras; more for floribundas. **Cut off dying canes**, even if healthy canes shoot off them.
- You want to ensure a healthy rose plant, above all. Then you want to **think about shape**. Chuang says she'll cut canes smaller than the diameter of her pinkie finger. New growth will be thinner than its origin; so thin stems will produce even thinner, weaker stems, unable to support the weight of the rose.

**Tip:** If you cut healthy canes off, put the stem in the ground and stake it. The stem may sprout roots and form a secondary plant.

*Article Continues on Page 7*

**Pruning Roses**—Continued From Page 6

**Remove Suckers.** Many roses are grafted onto a rootstalk of another rose type. Beneath the joint (bud union) is the rootstalk, and above is the rose variety you are growing.

**Every once in a while you will see a vigorous straggler growing straight from the rootstalk — these are suckers (shown above).** Suckers have different leaves and a different form than the bush and need to be yanked from the base as soon as possible. Otherwise the rose bush will waste precious energy on the unwanted sucker.

**Tip:** When pruning, keep an eye out for Y-branches. Chuang uses these as spacers between stems close to crossing as a guide for open growth.



**Maintain an Open Form.** While pruning, think about the final form of your rosebush as an upright, open hand or vase. You want canes to radiate up and out from the center, ensuring airflow and circulation, and preventing mildew and disease.

**Canes that cross the center of the plant or cross another,** healthy cane should be pruned. Thin out portions of the plant that have become too dense, all the while remembering the pinkie rule and the outward-facing rule. This is your opportunity to guide the form of your plant.

If too many stems originate from the same part of the cane (Chuang says three or more), or if you notice too many bends and previous cuts in the cane, cut them back.

Avoid having too much of the rosebush in the shade—even its own shade. Ideally, **plant rose bushes 3 to 4 feet apart.** Think about the sun pattern when pruning; if you have to decide between keeping one of two canes, cut the one that will spend more time in the shade. **Cut one-third or one-fourth off the top.** While there is not a steadfast rule, Chuang says that she aims to cut off a third to a fourth of a bush's overall height when pruning.

Chuang says she often sees roses cut too short, which inhibits the bush's ability to regrow or regenerate, because too much of its energy has been removed. Alternatively, if you prune too little, the plant will not rejuvenate, and you'll end up with a spreading, unkempt plant that will not produce well.

**Strip Leaves After Pruning.** Some rosarians strip leaves before pruning, but Chuang says leaving them on until after pruning makes it easier to identify the direction of growth when making your cuts.

Removing leaves eliminates pests or diseases that may be growing on the plant. If you notice rust or mildew later in the year, simply strip the leaves to prevent spreading.

**Clean Up.** Remove all fallen leaves and surrounding plant debris. Rose debris is typically not composted, as it doesn't break down quickly, and residual disease and fungus may still live on the leaves. Discard the debris as soon as possible to avoid the spread of any infections.

**What to Do After Pruning**

**...Spray.** Chuang says two sprays following pruning are key to a healthy plant over winter and into spring. Spray the canes heavily all the way to the ground and even the surrounding ground. Spray from the top down and let the spray blanket the shrub.

**...Apply a dormancy spray** when you will have at least three days without rain and at least 24 hours without freezing temperatures. Dormancy oil is horticultural oil that smothers pest eggs that may reside on last year's leaves, canes and the surrounding dirt. Follow the directions on the package. While it's not necessary to spray immediately after pruning, the sooner you do, the sooner you will eliminate possible pests.

**...One Week Later**, apply a mixture of dormancy oil and sulfur. The sulfur will smother fungus spores.

**...Fertilize One Month Later.** Chuang places a ring of a fertilizer blend around the base of each bush, consisting of:

- Alfalfa pellets
- 3/4 cup slow-release fertilizer
- 4 to 5 cups chicken manure

**...Water Well After Fertilizing.**

The first blooms emerge in Chuang's garden in mid-April, with the big show coming in mid-May. If you continue to lightly prune throughout the year, Chuang says, you can expect up to five repeat blooms per rose a year, depending on variety.

**Tips for Specific Rose Types:**

○ **Climbers:** Bend and tie the canes, arching slightly below horizontal, during dormancy. This will produce more prolific blooms. Follow the pinkie rule and don't cut back the main canes if they're still producing.

○ **Old Garden Roses:** If they are single-blooming species, prune after blooming. Repeat-blooming roses can be pruned similarly to modern roses but more lightly.

○ **Miniature Roses:** Clean up the inside, creating an open, radiating shrub to promote good airflow and circulation. The stem-diameter rule does not apply, but remove any thin, spindly stems. ■



## TOP TEN EDGY PLANTS

Melinda Myers | Birds & Blooms | Aug/Sept. 2015

Never underestimate the value of great border plants. They can dress up a bare fence, create a colorful screen and add a bit of needed color next to your house or shed.

For the best results, use a mix of plants. Add options that provide color from spring through fall, and that range in height. In addition, include plants with fine foliage and flowers to contrast with the bold leaves and blooms of neighboring plants.



**Peony (Paeonia) Zones 3 to 8**

Add three seasons of charm with this old-fashioned favorite. Known for their large and often-fragrant flowers, the foliage also provides interest for multiple seasons. Watch as the leaves emerge with a reddish tint in spring, turn deep green for summer and finish off the season with purplish red shade in fall. Select varieties with stiff stems that do not need staking, like 'Buckeye Belle'.

**Why We Love It:** It's a long-lived, low-maintenance perennial for sunny borders.



**Willow Amsonia (Amsonia hubrichtii) Zones 4 to 9**

Light blue, star-shaped flowers top the fine foliage of this spring blooming native, and the leaves seem to glow when they turn yellow-gold in the fall. You'll have the best results growing this 3-foot tall plant in full sun. Avoid shade and over fertilization because it can lead to floppy growth.

**Why We Love It:** It's drought-tolerant once established, and the deer tend to let it be.



**Caradonna Salvia (*Salvia nemorosa*) Zones 3 to 9**

The fragrant green foliage is topped with spikes of indigo flowers on purple-black stems in early summer. Deadhead faded flowers for additional bloom throughout the summer. Though it prefers full sun and moist, well-drained soil, it will tolerate drought, heat and humidity.

**Why We Love It:** It brings those hummingbirds and butterflies out to the border where we can get a closer look.



**Garden Phlox (*Phlox paniculata*) Zones 4 to 8**

Great for the middle or back of the border, Garden Phlox adds color to summer and fall garden borders. The white, pink, red, blue or purple flowers are often fragrant. Select powdery, mildew-resistant varieties, and grow in full sun to light shade and moist, well-drained soil.

**Why We Love It:** You'll enjoy it in so many ways—including in the garden or as cut flowers. Plus, all the butterflies and hummingbirds attracted to the garden.



**Switchgrass (*Panicum virgatum*) Zones 3 to 9**

In late summer the delicate light pink flowers hover above the fine foliage of this tall North American native grass. The yellow fall color and persistent seed heads extend your enjoyment into fall and winter. Select a clump-forming cultivar like Heavy Metal, Northwind or Shenandoah, which are more suitable for the garden.

**Why We Love It:** You'll enjoy the butterflies that visit the flowers and finches that feed on the seeds. *Article Continues on Page 9*

**Top Ten Edgy Plants—Continued From Page 8****Snowbank False Aster (*Boltonia asteroides*) 'Snowbank' Zones 4 to 8**

The large size and fine texture of this plant make it a nice addition to the middle or back of the border. The small, white daisy-type flowers appear late summer through fall. Grow in full sun and well-drained soil for best results and to avoid the need for staking.

**Why We Love It:** The flowers look like a cloud has descended onto your garden. The white blossoms brighten the night and fall garden.

**Dark Towers Beardtongue Penstemon (*Penstemon*) 'Dark Towers,' Zones 3 to 9**

Border plants aren't just for the front of the garden. This tall, summer-blooming perennial will add color and vertical interest to the middle or back of the border. Bi-colored bell-shape blooms top the colorful foliage, which hummingbirds will love. Heat, humidity and drought tolerance makes this a good choice for sunny borders.

**Why We Love It:** The reddish-purple foliage color persists throughout the season.

**Zagreb Coreopsis (*Coreopsis verticillata*) 'Zagreb,' Zones 3 to 9**

Brighten the border with a long-blooming coreopsis. The ferny foliage creates a nice backdrop for small daisy-shaped flowers. This short Coreopsis makes a great stand-alone edger plant, or tuck it along the front of other border plants for added color. Regular division will keep this perennial blooming with minimal deadheading.

**Why We Love It:** Not all border plants give such reliable color. Yet, these flowers will enliven spaces from early summer all the way through fall.

**Hardy Hibiscus (*Hibiscus moscheutos*) Zones 4 to 9**

The 6- to 12-inch flowers of this back-of-the-border plant will wow you from summer through fall. Grow in full sun to partial shade with moist soil. It is one of the last perennials to emerge in spring. This means you'll want to mark its location with a stake or spring flowering bulbs, so you don't accidentally damage it during spring cleanup.

**Why We Love It:** The plants are tall and make a statement, yet they seldom need staking.

**Blazing Star (*Liatris spicata*) Zones 3 to 8**

The purple or white spikes of blossoms add vertical interest to the flower garden and cut flower bouquets. Native to moist meadows and marshes, this native perennial prefers full sun and moist, well-drained soil, and it grows up to 4 feet. Select the variety 'Kobold', if you want more compact plants.

**Why We Love It:** The seed heads provide winter interest and food for the birds. ■

**Shrubs For A Sunny Border**

Caryopteriaa	Mahonia
Ceonanthus	Ninebark
Daphne	Panicle hydrangea
Deutzia	Rose of Sharon
Dogwood	Smokebush
Hypericum	Viburnum
Lilac	Weigela



## It's Not Wise to Trust the Internet for Gardening Advice

Denise Schreiber | Home & Garden | May 31, 2016

The Internet is a wonderful thing. We can communicate instantaneously with family and friends, do research for school and work, and even assume that everything that we see on it is true. Surely, you've seen the commercial where the girl walks up to a friend and says that she is waiting for her date, a French model. Telling her friend that everything you read on the Internet is true, she excitedly greets the so-called model, an unattractive man with a fanny pack under his large belly who says, "Bond Jor."

**So many of us receive emails and see memes that tout gardening ‘facts’—and while some of these are laughable, others are downright dangerous.**

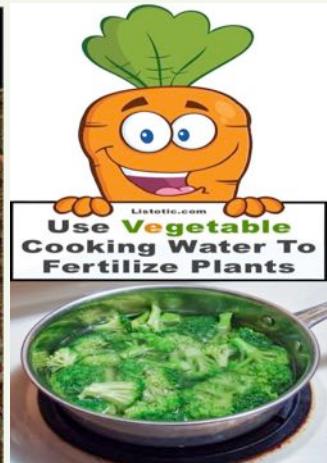
So here are some things that I think you should know:

- **Marigolds do not repel bunnies, groundhogs or deer.** In fact, they are one of their preferred foods. Certain types of marigolds repel nematodes (roundworms) in the soil, but those types of nematodes can't survive in our climate.
- **PAM®, the cooking spray, is not a substitute for horticultural oil** to kill scale insects on plants, but it is a good way to make your plant a sticky mess that will collect dirt and dust.
- **Peonies do not attract ants and do not need them to open their buds.** Peony buds are extremely large, which is why you notice the ants on them; the ants are only interested in the nectar of the flower.
- **You cannot tell the sex of peppers by the number of lobes on the pepper.** If you could, what would that make jalapeno and chile peppers?
- **‘Whacking’ a tree is not a good way to make it flower—it’s a good way to kill it.** When you damage the cambium of a tree, it will put out flower buds to produce seed to make sure that its genes live on, since the tree will die.
- **Planting by the moon, stars or anything else will not make a difference in the crop.** You also cannot accurately reproduce the exact same conditions every year. Moisture, soil temperature and nutrients will all vary over time.
- **All of those vibrating electronic devices that are supposed to repel mice, voles, moles, etc., do not work.** If you think they will, I have a bridge in Brooklyn that I can sell you...cheap.

- **Having a pregnant woman sow your seed because she is fertile** means that you will have a bountiful crop. Seriously...don't even ask.
- **Spraying your houseplants with water creates humidity that helps them thrive.** Actually, it creates an opportunity for fungal problems. If you are growing plants that require high humidity, keep them in a bathroom with good light or set them on a tray of water. Even better, put a humidifier on your furnace.

Every time I trust somebody, they show me why I shouldn't.

- **Mulch does not attract termites.** Termites prefer damp, solid wood to create their caverns. If you have termites, have your foundation checked by a professional, but don't blame your mulch. Cedar mulch does not repel insects either. It loses its fragrance in the outdoors.
- **Using river rock means never mulching again!** This one may be true, because you'll be in a back brace. To cover a 3'x10' area with ¼-inch river rock will take 1,198 pounds, or .599 tons of river rock. You also shouldn't use rock as mulch because it heats up on warm winter days, tricking the plants into thinking that it's time for them to start growing. When it turns cold again, the plants suffer. Rocks also retain leaves, dirt and weeds, so you still have to weed and clean up.



- **Compost tea is not a ‘wonder drug’ for the garden,** because it adds very few microbes, contributes to groundwater contamination, and cannot legally be used as a fungicide. But you can contract E. coli and salmonella from it when the tea isn't made properly or is accidentally contaminated. Compost is good for your garden, so use that instead of compost tea.
- In the meme that says, '**Never use Roundup® Weed Killer again**', the alternative concoction is just as dangerous as the chemical itself, if not more so. It kills earthworms, contaminates the soil and damages the landscape. There are plenty of organic weed controls that you can use instead. ■



## Fertilize with Epsom Salts

Charlie Nardozzi | National Gardening Assn. | June 23, 2008

After working with home gardeners for more than 10 years, I know that they love to use home remedies on their plants. From setting out beer traps for slugs to hanging bars of soap to repel deer, if the household product seems to work, gardeners try it. That's why I was intrigued by the often-mentioned idea of using Epsom salts as a fertilizer.

Gardeners apply it to tomatoes, peppers, and roses, hoping to produce more flowers, greener plants, and higher yields. You can use it to improve magnesium content if you know you have a soil that's deficient in that element, but home gardeners are most likely to apply Epsom salts to peppers, tomatoes, and roses.

I wanted to find out if it really works and learn the best ways to apply it for best growth, so last summer I asked some of our test gardeners (home gardeners who tested seeds and products for National Gardening) to test Epsom salts' effects on plant growth and vigor by applying it to pepper plants and roses. Then I talked to researchers about using the salts as fertilizer. [Here's what I found out.](#)

### The History and Science of Epsom Salts

This natural mineral, discovered in the well water of Epsom, England, has been used for hundreds of years, not only to fertilize plants but also to treat a range of human and animal ailments. Who hasn't soaked sore feet in it at least once?

Chemically, Epsom salts is hydrated magnesium sulfate (about 10 percent magnesium and 13 percent sulfur). Magnesium is critical for seed germination and the production of chlorophyll, fruit, and nuts. Magnesium helps strengthen cell walls and improves plants' uptake of nitrogen, phosphorus, and sulfur.

Sulfur, a key element in plant growth, is critical to production of vitamins, amino acids (therefore protein), and enzymes. It's also the compound that gives vegetables such as broccoli and onions their flavors. Sulfur is seldom deficient in garden soils in North America because acid rain and commonly used animal manures contain sulfur, as do chemical fertilizers such as ammonium sulfate.

The causes and effects of magnesium deficiencies vary. Vegetables such as beans, peas, lettuce, and spinach can grow and produce good yields in soils with low magnesium levels, but plants such as tomatoes, peppers, and roses need high levels of magnesium for optimal growth. However, plants may not show the effects of magnesium deficiency until it's severe. Some common deficiency symptoms are yellowing of the leaves between the veins, leaf curling, stunted growth, and lack of sweetness in the fruit.

Magnesium tends to be lacking in old, weathered soils with low pH, notably in the Southeast and Pacific Northwest. Soils with a pH above 7 and soils high in calcium and potassium also generally have low magnesium levels. Calcium and potassium compete with magnesium for uptake by plant roots, and magnesium often loses. Sometimes, a soil test will show adequate magnesium levels in soil, but a plant grown in that soil may still be deficient because of that competition.

Gardeners add magnesium when they apply dolomitic lime to raise the soil's pH. However, this product (46 percent calcium carbonate, 38 percent magnesium carbonate) breaks down slowly, and the calcium can interfere with magnesium uptake. For soils with a pH above 7, many gardeners use Sul-Po-Mag (22 percent sulfur, 22 percent potassium, 11 percent magnesium) to increase magnesium. Although dolomitic lime and Sul-Po-Mag are inexpensive ways to add magnesium, Epsom salts' advantage over them is its high solubility.

When diluted with water, and especially when applied as a foliar spray, Epsom salts can be taken up quickly by plants. Epsom salts' magnesium content, high solubility, and ease of application as a foliar spray are the main reasons for the positive results many gardeners see in their plants.



### What Our Testers Found

To get a first-hand look at the effectiveness of Epsom salts in the garden, we asked six of our testers (in California, Colorado, Iowa, Pennsylvania, and Tennessee) to try Epsom salts on peppers and roses.

- Testers each grew six 'Gypsy' peppers.
- They applied 1 tablespoon of Epsom salts mixed with a gallon of water as a foliar spray to three plants at bloom time and again 10 days later.
- They also selected two established rose bushes of the same variety and sprayed the same amount of Epsom salts mixed with water to one bush every 6 weeks, starting when leaves came out and continuing through the summer (about 4 applications).
- We asked them to record the number of pepper fruits and rose blooms, and to note any differences they saw.
- Four out of the six testers reported that the Epsom salts-treated pepper plants and fruits were larger than the controls. For the treated roses, testers reported greener foliage, bushier plants, and more roses than on the control plants.
- Kathy Stone Downie of Alameda, California, noticed many differences in her treated 'Gypsy' peppers. "The fruits were much bigger, almost twice the size. They were juicier, sweeter, and triple the thickness of the untreated peppers."
- Tommy Owen, in Rogersville, Tennessee, said that his treated roses had greener foliage and bigger flowers with deeper colors.

*Article Continues on Page 12*

**Fertilizing With Epsom Salts (Continued From Page 11)****Recent Studies of Epsom Salts**

Scientists are beginning to test its use. Although many studies confirm that magnesium sulfate is a good way to supply magnesium and sulfur to soils deficient in those elements, little research has been done on the use of Epsom salts as a supplemental fertilizer on soils with adequate levels of these nutrients.

...Renee Schlupt, horticulturist at Delaware Valley College in Doylestown, PA, is testing peppers and tomatoes grown in a greenhouse environment under drought and non-drought conditions. She's comparing control plants with those watered with applications of 1, 2, and 3 tablespoons of Epsom salts mixed with 1 gallon of water and applied at planting, flowering, and fruit set. So far, she has not seen any measurable evidence of growth or yield differences in the treated tomatoes or peppers. "The peppers have greener leaves, and it seems the 1- and 2-tablespoon doses yield a better result than the 3-tablespoon dose, but I haven't seen any dramatic effects on yields so far," she says. "The magnesium in the Epsom salts applied to the soil could be getting tied up with other nutrients. We might see better results when we apply Epsom salts directly to the leaves."

...At Auburn University in Alabama, plant pathologist Kira Bowen and soil scientist Beth Guertal see similar results when they apply Epsom salts directly on the soil. They are conducting a 3-year study of roses in field plots that includes applying 1 cup of Epsom salts per plant per month as one of the treatments to increase plant vigor and control black spot. "The first year, we saw reduced defoliation in the Epsom salts-treated plants, but the second year the differences weren't there," Bowen reports. "It's hard to find a direct link between a specific nutrient such as magnesium sulfate and increased yield or plant growth because of all the other variables in the soil, such as pH, calcium and potassium content, and weather, that may affect the plants."

**Is Using Epsom Salts Worth a Try?**

In their studies, researchers applied Epsom salts directly to the soil. Foliar applications, such as those our test gardeners used, appear to be a better way to guarantee that the plants get the benefits of the added magnesium.

...Before you try Epsom salts, test the soil to determine its magnesium content. Don't rely on Epsom salts to correct large soil magnesium deficiencies, but rather use it as a supplement to soils with adequate or slightly low magnesium levels to boost plant growth, flowering, and fruiting. For severely magnesium-deficient soils, use dolomitic lime or Sul-Po-Mag.

Foliar applications of Epsom salts seem work better than adding it, dry or mixed with water, directly to the soil. Plants may not efficiently take up magnesium sulfate in granular form, especially in alkaline soils or soils that already test high in potassium, calcium, or magnesium. If you have tested your soil and know it has those qualities, a foliar application is a faster way to get the nutrients to the plant.

**Roses**

Many Rosarians agree that Epsom salts-treated plants produce more new canes at the bottom of the plant (bottom breaks) and darker green foliage.

- Recommendations on how much to use vary, but generally you can apply 1/2 cup of granules in spring before buds first begin to open, and
- 1/2 cup in fall before leaves drop. Apply a foliar spray (1 tbsp. per gallon of water per foot of shrub height) after the leaves open in spring and again at flowering.

**Tomato and Peppers**

Magnesium deficiency in the soil may be one reason your tomato leaves yellow between the leaf veins late in the season and fruit production slows down. Test your soil every 3 years or so to check on nutrient levels.

Epsom salts can keep plants greener and bushier, enhance production of healthier fruit later in the season, and potentially help reduce blossom-end rot.

- Apply 1 tablespoon of granules around each transplant, or spray a solution of 1 tablespoon Epsom salts per gallon of water at transplanting, first flowering, and fruit set.
- Epsom salts is available in drug and grocery stores.
- Epsom salts works best on soils that are
  - ... Slightly deficient in magnesium
  - ... Alkaline (show high pH) as in Western areas
  - ... Old, "weathered," and acidic (with low pH) soils of the Southeast and Pacific Northwest
  - ... High in calcium and potassium (Western soils)



## GARDENING WITH ORGANICS

**Looking for an organic fertilizer, soil amendment or insecticide? Here's an At-A-Glance Guide to Six Products**

**Jennifer Howell | Garden Gate | Dec. 2015**

Garden centers are to gardeners as toy stores are to kids—full of everything you ever wanted and stuff you didn't know you needed. I can make the rounds of local stores and page through gardening catalogs multiple times a season and still find something I haven't seen before. Often it's a fertilizer to use as a supplement because it has extra nutrients that give specific results.

**What's NPK?** An NPK analysis lets you know how much nitrogen (N), phosphorus (P), and potassium (K) a fertilizer contains. These are three key elements necessary for plant growth.

**Here are six organic products that you may come across and how they can help your garden.**



**ALFALFA PELLETS**

**An organic fertilizer made from dried and ground alfalfa—a common livestock feed found at farm stores.**

**What To Do With It?** While available at garden centers as a fertilizer, this product is cheaper as feed. Just get a brand without additives.

- Alfalfa pellets have an average **NPK analysis of 2-1-2** and also contain calcium, iron, magnesium and zinc, which are slowly released over a few months.
- The high nitrogen content can damage tender roots, so scratch pellets into the soil's surface at a rate of 2 to 5 lb. per 100 sq. ft.
- Don't put alfalfa pellets in the planting hole.
- Alfalfa contains the natural growth stimulant *triacontanol*, so it can be useful to encourage new growth in spring.
- Try feeding roses alfalfa tea—steep 1 cup of pellets in 5 gal. of water overnight, then sprinkle the liquid around plants once a month. Sludge left in the bottom of the bucket can be poured around plants or on the compost pile.



### KELP

**An organic fertilizer made of dried seaweed found in meal (shown above), powder or liquid form.**

**What To Do With It?** Kelp has a low NPK analysis, usually around 1-0-8. However, it does contain lots of micro-nutrients, so use if in addition to other organic fertilizers to give your plants extra nutrition.

- Till dry forms into new gardens or scratch them into the soil's surface of established beds for a slow release of nutrients.
- A foliar spray is absorbed more quickly, which can give struggling or chlorotic plants a boost.
- Kelp contains naturally occurring plant growth hormones, which are beneficial for rooting and promoting flowering, make it especially good for the vegetable garden and containers.



### WORM CASTINGS

**An organic soil amendment made of worm excrement collected from vermiculture bins.**

**What To Do With It?** Worm castings are mixed in with soil to improve aeration and water retentions.

- While the NPK formula is negligible, many trace minerals and nutrients are readily available to plant roots.
- In addition, worm castings contain good bacteria and micro-organisms that improve soil healthy by breaking down organic matter.
- This product can be pricy considering the amount you need to use (3 to 5 lbs per 100 sq. ft. in outdoor beds). So unless you have really poor soil with little worm activity already, it might be better used for containers or as a top dressing to individual plants.

*Article Continues on Page 14*

**Gardening With Organics—Continued From Page 13****GREENSAND**

This organic fertilizer is also used as a soil amendment. It's made of *glauconite*, a mineral derived from ocean floor deposits, which has a sandy texture.

**What To Do With It?** With its high potassium content (0-0-6), Greensand is a slow-release way to increase the potash in your garden.

- It also contains up to 30 trace minerals that plants need, so sprinkle it on the compost pile to add micronutrients to your finished product.
- It is often used as a soil-improvement agent because it is porous and will hold water, which is useful for containers and raised beds.
- Mix it into garden soil at a rate of 2 to 4 lb. per 100 sq. ft. or top dress in established beds.

**GUANO**

This organic fertilizer is made from bat or bird droppings collected in caves and roosting sites. It's available as pellets or powder.

**What To Do With It?** Nutrient formulations for Guano vary tremendously, depending on where it is collected.

- Some are high in nitrogen and are great for greening up gardens. In the spring and fall, use 1 as topdressing on the soil at a rate of 2 to 3 cups per 10 sq. ft. for established plantings.
- Don't use it on new seedling or young plants—it can burn tender roots.
- Other Guano products are high in phosphorus and can be used to boost flowering in annual beds.
- Though organic, there is some concern about how it is collected in caves and whether that is disruptive to bird and bat habitats.

**DIATOMACEOUS EARTH**

This sharp edges of this fine powdered organic insecticide scratch insects' bodies, causing dehydration and death. It's made of diatoms, fossilized remains of microscopic plants.

**What To Do With It?** Diatomaceous Earth can be sprinkled on soil, dusted on foliage or mixed with water and sprayed on leaves.

- It will kill any insect it comes in contact with. Spread it in a line 1-inch wide on the soil just outside the drip line of vulnerable plants to deter slugs.
- Dust a light layer on the soil surface of houseplants to kill fungus gnats.
- Reapply after a rain or watering.
- Use only food grade Diatomaceous Earth, as it is non-toxic to humans and pets, but be sure to wear a mask when applying the powdered form because breathing the dust can aggravate your lungs.■





## **Biggest Pruning Mistakes**

Here are a few of the biggest pruning mistakes that can be made, and how to avoid making them.

**HGTV @**

**Link:** <http://www.hgtv.com/outdoors/gardens/planting-and-maintenance/biggest-pruning-mistakes>

### **Pruning is a necessary choice to keep plants healthy.**

The myth of the “maintenance free” landscape is easily debunked when DIY landscapers realize that plants never stop growing. Pruning, if only of the rare, occasional variety, is essential for every functioning landscape. While incidents of permanent pruning damage seldom occur, there are right and wrong ways to go about the business of pruning.



### **Results of the Choice Not To Prune**

One major pruning mistake that flies under the radar for a long time is failure to prune. Not pruning at all can cause its own set of problems. Look for plants that have outgrown their allotted space or become “leggy.” Some blooming plants will harbor old flower heads or seedpods that may be undesirable. Neglected plants can be reshaped, but often they will require a rather extended time, and in some instances several follow-up prunings, to grow back into a desirable shape again.



### **Cutting Off the Flowers**

Ever wonder why your hydrangea doesn’t bloom? It could be that you pruned the buds off. This is an example of another big pruning mistake: pruning at the wrong time of year. Most spring and early summer bloomers set their flower buds on the previous year’s growth. If they are pruned too late in the summer or before bloom time in the spring, it is likely that they will not bloom well, or at all. Limit pruning of these early bloomers to a window of time within a month of the end of their bloom cycle.



### **Excessive Shearing**

Hedges, foundation plants and topiaries are normally sheared to maintain a tightly groomed appearance. Problems can arise, however, when shearing is the only approach used to attend these plants. A thin layer of dense leaves with little thickness will leave them looking like hollow green shells. The best way to both prevent and correct this pruning mistake is with occasional thinning. Use handheld pruners or loppers to remove up to ten percent of the branches bearing the surface foliage in order to allow sunlight to penetrate deeply into the plant. Thinning will promote deep branching and greater sunlight penetration will stimulate lush, deep foliage.

**Article Continues on Page 16**

**Biggest Pruning Mistakes**—Continued From Page 15**Out of Shape Plants**

When hedges are cut inward toward the bottom, it becomes increasingly more difficult for them to regenerate foliage at the base. Ultimately the bottom of the plant will be bare. For the consistently best look and long-term health, hedges and other groomed plants must be wider at the bottom and taper slightly toward the top. This shape will provide good sunlight exposure for the whole foliage surface, leading to good leaf production throughout.

**Topping**

Tree and shrub varieties should be researched before planting to ensure that they will grow to an appropriate size for their allotted space. Removing the top of a tree stimulates one or more secondary leaders that will naturally grow in the same way as the original but with weaker structure, resulting in a net negative effect.

A tree that has outgrown its space should be removed. A large, well-established shrub may be “renewal” pruned in late winter or early spring. Simply cut the shrub to the ground (or within a foot or so of the ground), allowing it to regenerate from the suckers that will form in spring. Ultimately, it is best to replace too-large landscape plants with right-sized ones.

**Junky Tools**

Dull blades, stiff, loose or rusty moving parts can lead to all sorts of problems from ugly, ragged cut edges to spread of disease, and possibly to injury of the user. Keep pruning tools sharp, clean, well oiled and in overall good working order. Properly repair or replace them if they become damaged.

**Poor Technique**

Simply cutting branches off of trees and shrubs will not necessarily give the desired effect. Doing it the wrong way may result in unsightly cut ends showing for a long time, heavy production of water sprouts producing an unbalanced look, oversized scars, etc.

When removing branches, always make the final cut at the top of a branch collar (the swollen area where the branch meets the main stem) or at a node (where leaves or lateral branches generate from the branch you are cutting).

Conifers take a long time to regenerate new growth when cut beyond the growing tips. Hard cutbacks should be avoided if possible, but when necessary these cuts should be made where the cut will be carefully hidden within surrounding foliage.

Large, heavy branches should be slightly undercut before removing to prevent the bark from tearing when the wood breaks midway through cutting.

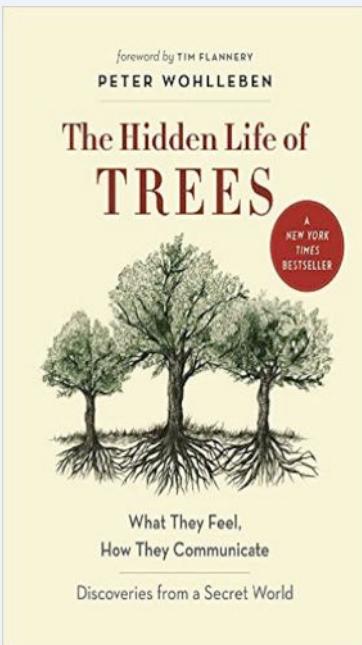


**CT Scan of Elderly Man Who Impaled Himself with Pruning Shears**

**Attention to Detail**

The difference between a well pruned landscape and one riddled with big pruning mistakes is often a matter of detail. The effort and expense involved is comparable in the short term, and far less in the long run when good pruning practices are employed over questionable ones. Always work patiently and methodically. When in doubt, take a little time to research the specific plant or issue in question before proceeding.

Remember, after it's cut, you can't put it back. With forethought and practice, pruning mistakes will become a thing of the past. Also, remember to always work safely with your pruning tools! ■



## The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries from A Secret World

Peter Wohlleben | Sept. 13, 2016 | Greystone Books  
Book suggested by Dael Goodman, Certified MG

"A paradigm-smashing chronicle of joyous entanglement that will make you acknowledge your own entanglement in the ancient and ever-new web of being."—Charles Foster, author of "Being a Beast".

Are trees social beings? In this international bestseller, forester and author Peter Wohlleben convincingly makes the case that, yes, the forest is a social network. He draws on groundbreaking scientific discoveries to describe how trees are like human families: tree parents live together with their children, communicate with them, support them as they grow, share nutrients with those who are sick or struggling, and even warn each other of impending dangers. Wohlleben also shares his deep love of woods and forests, explaining the amazing processes of life, death, and regeneration he has observed in his woodland.

After learning about the complex life of trees, a walk in the woods will never be the same again.

Sources: Amazon.com & Greystone Books  
Hardcover, Summary & Kindle Available

## SUMMARY

### of The Hidden Life of Trees

From Peter Wohlleben

#### SUMMARY STATION

## Summary of The Hidden Life of Trees

Author, Summary Station | Sept. 12, 2016 |  
CreateSpace Independent Publishing Platform

Book suggested by Dael Goodman, Certified MG

*The Hidden Life of Trees: What They Feel, How They Communicate—Discoveries from a Secret World | Summary*

Most of us know that trees are living beings, but do many of us actually think of what that life entails? Forests are full of mysteries, even for those who have studied them their whole lives. German forester Peter Wooleen paints a vivid picture about the fascinating world that lies just outside our doors. As we learn more about trees, it becomes abundantly clear that we have more in common with this fixed, steady plant life than we think. Trees are capable of forming relationships and communities. They are capable of making mistakes, and equally capable of adapting and changing to suit their environment.

*This is a summary and analysis of the book and NOT the original book This Book Contains: • Summary Of The Entire Book • Chapter By Chapter Breakdown • Analysis Of The Reading Experience*  
*Download Your Copy Today*

Source: Amazon.com

Hardcover & Kindle Available



## The 7 Best Apps To Get Your Garden Greener Than Ever This Spring

Link:

<http://articles.mercola.com/sites/articles/archive/2015/05/09/7-best-gardening-apps.aspx>

Three out of four Americans garden, according to the National Garden Association and if you live in the US, spring has sprung. It's time to dust off your gardening gloves and head outdoors. New York gardener Michele Owens told USA Today:

"The combination of light, a little bit of warmth from the exercise, and dirt — those are powerful things. Those are things that we've evolved to need, I think."

Whether your passion is planting a vegetable garden, flowers, trees, or everything in between, gardening offers seemingly limitless benefits, both for the gardener and the garden. Just a sampling of those benefits includes stress relief, improved brain health, relief from depression, better nutrition and, of course, exercise.

Planting a garden is also one of the best ways to connect with nature, and in so doing you'll attract a variety of wildlife into your environment. Bees, butterflies, deer and songbirds, earthworms, and other beneficial insects... all of these creatures benefit when you decide to add flowers, bushes, trees, fruits, and vegetables to your surroundings.

Not everyone is born with a green thumb, but virtually everyone can garden successfully with a bit of elbow grease and perseverance. TIME also compiled a list of the best gardening apps to help you every step of the way, from selecting seeds to knowing when to harvest.

### Story At A Glance

Planting a garden is easy with the help of these seven apps, which include detailed plant guides, planting instruction, watering reminders, and much more.

Get inspiration for virtually any type of garden, along with the knowhow to make it come to fruition. ■

■ **Eden Garden Designer (\$1.99)** This app (available for iPhones only) lets you take a picture of your yard then experiment with the look of different plants and trees. You simply drag and drop plants from a choice of about 20 into different places, and the app even lets you see how your yard will appear in different seasons. [Link: http://www.edengardendesigner.com/](http://www.edengardendesigner.com/)

■ **Essential Garden Guide (\$1.99)** If you want to plant fruits and vegetables, sort through this database of more than 30 vegetables and ten fruits. The app includes all the details you'll need to plant, tend to, and harvest your crops, including how deep to plant seeds and how much light to plant seeds and how much light each crop needs. If you're sure of which seeds to choose, check out my Heirloom Seed Kits for wonderful selections of vegetables, fruits, herbs, and flowers that are non-hybrid, non-GMO, non-treated, and non-patented, in selections for both Northern and Southern climates.

[Link: https://itunes.apple.com/us/app/essential-garden-guide-comprehensive-guide-to-gardening/id389473481?mt=8](https://itunes.apple.com/us/app/essential-garden-guide-comprehensive-guide-to-gardening/id389473481?mt=8)

■ **Foolproof Plants For Small Gardens (\$0.99)**

This app has detailed information on more than 90 plants perfect for small spaces. You'll be able to pick the perfect plants for your climate zone and get step-by-step guides on planting and even much more (like how to lay down mulch).

[Link: http://www.blueplanetgardenblog.com/2013/02/gardening-app-foolproof-plants-for-small-gardens.html](http://www.blueplanetgardenblog.com/2013/02/gardening-app-foolproof-plants-for-small-gardens.html)

■ **Leaf snap (free)**

Have you ever looked at a tree and wondered what kind it is? This "electronic field guide" includes high-resolution images of trees' leaves, fruit, flower, and bark so you can discern one from another. It currently only contains trees from the east coast of the US, but it's still growing.

[Link: https://itunes.apple.com/us/app/leafsnap/id430649829?mt=8](https://itunes.apple.com/us/app/leafsnap/id430649829?mt=8)

■ **Organic Gardening Magazine (free)**

If you subscribe to 'Organic Gardening Magazine', you can download issues for free on your phone or tablet. Each issue includes gardening tips, photos, recipes, and more.

[Link: https://organic-gardening.com](https://organic-gardening.com)

■ **Perennial Match (\$4.99)**

Picking perennials to make your yard bloom with color throughout the year can be overwhelming, but this app makes it a cinch. You can sort plants by height, spacing, colors, and more, and even find out what types of animals and insects different perennials attract. The app also lets you create combinations of perennials and see side-by-side photos of what they'll look like in your garden.

[Link: https://itunes.apple.com/us/app/perennial-match/id670735275?mt=8](https://itunes.apple.com/us/app/perennial-match/id670735275?mt=8)

■ **Sprout It (free)**

Sprout It has it all... plant guides to help you pick what to grow, step-by-step growing instructions, cooking and recipe ideas for your crops, and ideas for different types of garden projects. It even works with your local weather information and sends you reminders about planting and watering.

[Link: https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=sprout+it+app&](https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=sprout+it+app&)



## Honey-Do List for March 2017

Much of our suggested garden task information comes directly from *Month-by-Month Gardening in the Desert Southwest* by Mary Irish (2002). We wanted you to know that this is an outstanding gardening resource book. Also, some of our recommendations come from *Southwest Planting Tips by the Month* and the *Tucson Gardening Calendar* both of which are produced by the Tucson Botanical Gardens. Another resource used in our Honey-Do Lists is *The Desert Gardener's Calendar: Your Month-by-Month Guide* by George Brookbank (1999.) Recommendations from Sunset Magazine's monthly *Southwest Garden Guides* may also be included.

**GENERAL:** We are all eager to get outside and start planting but remember our average last freeze date is between April 1 and April 20! Be prepared to protect young plants from the desiccating winds and cold nights of March. Row covers, old blankets, and walls of water come to mind. Check your irrigation systems and add more drip emitters if needed to water under the drip line of plants. Irrigate established shrubs and trees, preferably to a depth of 2 feet. Use a soil probe to determine depth.

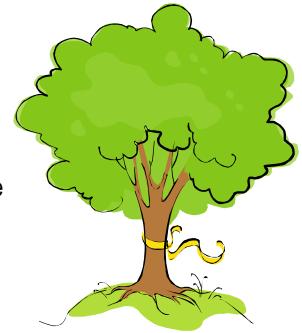


### ORNAMENTALS

- Plant cannas, crinum, dahlia transplants, verbena, gaillardia, gazania, marigold seeds, Mexican and Maximilian sunflower, aster, coreopsis, statice, petunia and zinnia.
- Plant hollyhocks now through May.
- Divide and replant perennials such as chrysanthemum, daylily, and Shasta daisy.
- Seed of warm-season annuals that were planted in February should be germinated, and the small seedlings will be growing quickly. This regularly to keep the plants from crowding each other.
- Plant Carolina Jessamine, Virginia creeper, trumpet vines, silver lace vine, and Lady Banks roses.

### FRUIT, NUT, CITRUS & SHADE TREES

- Begin mid-month to fertilize established fruit and nut trees. Be careful not to fertilize fruit while it's blooming; this can shock the plant, causing blossom drop and subsequent loss of fruit.
- Be careful about spraying fruit trees and other blooming edible plants. Bees and other insects are working hard to pollinate flowers so there will be a good fruit set.
- As soon as fruit has set on deciduous fruit trees, especially apples, peaches, pears and apricots, and is about the size of a walnut, begin to thin the fruit.
- Finish planting bareroot material before mid-month.
- Irrigate established shrubs and trees, preferably to a depth of 2 feet. Use a soil probe to determine depth.



### VEGETABLES, FRUIT & HERBS

- Finish planting Cole crops, radishes, parsley, lettuces, kohlrabi, and leafy greens.
- Plant garlic, beets, Brussels sprouts, and Chinese cabbage.
- Late March, plant tomatoes, eggplant, peppers, summer squash, sweet corn, and 'New Zealand' summer spinach.
- Cut back frost-damaged perennials herbs such as mint and sage, then fertilize and water.
- Plant strawberries and grape vines. Grapes begin to grow rapidly at this time of year. Thin out extra shoots and tendrils to continue to train the vine to the arbor or trellis.

### LAWNS / TURF / ORNAMENTAL GRASSES

- Finish planting Cole crops, radishes, parsley, lettuces, kohlrabi, and leafy greens.
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## Honey-Do List for March 2017—Continued

### CACTI & SUCCULENTS

- Begin to plant warm-season succulents now through May.
- Watch newly planted succulents like agaves and cactus to be sure they are not being sunburned. Protect the south or west side of these plants with a sunscreen a shade cloth or a light-colored cloth. Protection can be draped directly on the plant or laid over a frame. Pale-skin or yellowed patches that appear suddenly on the plant are the first signs of sunburn.
- Remove dead Ocotillo canes. Bend cane gently; if it snaps off, it's dead. Then make a clean cut with loppers.
- Increase watering of warm-season succulents to twice a month. As with most plants, it is better to water deeply but infrequently.
- Water winter-dormant succulents only when leaves first show, then begin to water regularly.
- Prune any frost damage from succulents with a clean cut, dusting the cut with sulfur when complete. Cut back Chollas and prickly pears if they have become too large as they will begin to grow quickly by the end of the month.



*Some of the above recommendations came from the Tucson Botanical Garden's monthly "Calendar of Care" for cacti and succulents.*



### ROSES

- To encourage larger flowers, remove any side buds that arise out of Hybrid teas. On shrub roses, Floribunda or Grandiflora roses, remove the center bud of the cluster to increase flower size.
- Renew a regular fertilization schedule for established roses. Many gardeners fertilize once a month, but discontinue it during the hottest part of the summer. Roses are heavy feeders, and those grown in containers or in soils that have not been heavily amended when the roses were planted, may need more frequent fertilization.
- In late March, fertilize newly planted roses with a mild fertilizer of fish emulsion. Do not use granular-formulated fertilizers, even if they are geared for roses, until mid-April when the red-colored new budding begins as it could burn your roses and stunt blooming.
- Organic fertilizers like alfalfa meal, compost or other formulations for roses that blend many ingredients, work more slowly and can be applied more frequently.
- Finish up any roses that still need some pruning. Remove all leaves and weak crossing, diseased or damaged canes, and cut back the entire rose plant to approximately 24 inches tall. Leave three to five healthy canes.
- Every 5-7 days, water established roses to a depth of 16"-18". Remember, it is more important to water deeply than to water often.
- Continue to monitor for aphids and powdery mildew on your roses. Keep the area around your roses free of debris, and mulch heavily to prevent splashing from any overhead watering.

It's always important to correctly identify any pest or insect you suspect may have caused damage to your plants. If you do not know what the culprit is, collect one in a plastic bag or small jar and take it to the Doña Ana County (DAC) Cooperative Extension Office that is now located at 1170 North Solano Street, Suite M, in Las Cruces (at the corner of Spruce & Solano Streets.)

***Our new Hotline Office is located in Room 1833 in Suite M. Our Hotline number remains the same. (575) 525.6649***

### PESTS

- Keep an eye out for aphids on the new succulent growth of roses, lilacs, and others. Hose them off with a strong jet of water.
- To reduce problems with powdery mildew, water susceptible plants in the early morning. Also, clean leaf litter from under plants. This will reduce pathogens.
- Flea beetles attack Mexican evening primrose foliage and tender spring vegetables.

### MISCELLANEOUS

- Rake up fallen leaves and clean up perennial beds to discourage disease and insect problems later in the year.
- Continue to weed regularly to keep beds tidy and plants properly spaced.
- Add leaves and grass clippings to the compost pile.
- Begin removing extra mulch applied to insulate delicate plants but be prepared with a sheet or towel in case temperatures dip too low.
- Keep everything well watered. Spring winds are brutal. Foundation plants, turf, and ornamentals all need extra care.

## REMINDER!

Next MG Monthly Meeting scheduled for:  
Wednesday, March 8, 2017

Location: Branigan Library, Roadrunner Room  
 Our meeting time is 9:15am to 11:30am

It is with great sadness, that we report the unexpected passing of Master Gardener, Karen Padgett, on February 11, 2017. Karen's eldest daughter, Paige, stated that Karen had had a stroke that evening.

Paige also spoke of her mother's fondness for her fellow MGs and for the MG Program. Please contact Ann Shine-Ring if you would like Paige's contact information.

### MARCH 2017 MG BIRTHDAYS

As of this Month, we will no longer list the birthday month of our Certified MGs and MG Interns. In 2009, when we published our MG Newsletter, this practice was in place. However, with the educational focus of our current MG Magazine, it is time to eliminate it.

Please see Page 32 for information about the NMSU Plant Diagnostics Clinic

**GOT IDEAS?** If you have a gardening-related article or a suggestion about a Plant-of-the-Month, a vegetable or fruit, tree, invasive plant or weed to share for our MG Magazine, please send me a link or email your idea to me.

**MG CONTACT INFORMATION** Be sure your email address is current so that you will be able to receive important information throughout the month from the MG Program. I regularly update our MG Contact List. If you need a copy of this file, let me know.

**MG MAGAZINE DEADLINE** The deadline for submitting articles and information for inclusion in our April 2017 MG Monthly Magazine will be Friday, March 31 2017

**Contact Info:** Ann Shine-Ring, Editor  
[asring@powerc.net](mailto:asring@powerc.net)  
 (575) 640-7177

### 2017 Special Event Notices

Home & Garden Show (Las Cruces) March 3-5

Pecan Food Fantasy (Las Cruces) March 5

High Desert Gardening & Landscaping Conf. March 8-10  
 (Sierra Vista, AZ) Registration due by Feb. 21  
 Link: <https://cals.arizona.edu/cochise/mg/high-desert-conference>  
 ... \$75 for one day; \$110 for both days

NMSU Course on Wells & Pumps March 11  
 \$100 General & \$30 for students, Hernandez Hall, Room 103  
 9:00am to 4:00pm

SunSCAPE: Gardening the Sensible Way (El Paso) March 11  
 \$35 registration – due by March 10th

Landscape Maintenance Workshop (Las Cruces) March 30

Mesilla Valley Plant Sale (Las Cruces) April 8  
 @ La Academia Dolores Huerta at 1480 N. Main Street, LC  
 (Contact Sherm Levenson if you can donate plants) [nmaggie64@gmail.com](mailto:nmaggie64@gmail.com)

Children's Water Festival (Las Cruces) April 13  
 Young Park 9:00am to 2:00pm

FloraFest (2017) April 29 & April 30  
 Centennial Museum, El Paso 9:00am to 4:00pm

International Master Gardener Conf. (Portland, OR) July 10-14

**For more info, contact DAC Cooperative Ext. Office: (575) 525.6649**

### “Growing Successfully with the Seasons”



The advertisement features a large image of a rainbow arching over a green field. Below the image is a calendar showing months from Jan to Dec. To the left, there's a presentation slide with the title "Presentation" and the subtitle "How to grow food in Las Cruces". To the right, there's a photo of several ripe red tomatoes. Text on the right side includes "Home & Garden Show", "Las Cruces Convention Center", "680 University Avenue", "March 5, 2017 12:00-12:50", and "Doña Ana County Extension Master Gardeners".

Num	Variety	Numbers	Date	Germination	Pot up	Transplant	Blossom	Fruit	First Harvest	Last Harvest	Observations	Source	
1	Bulgarian Giant Leeks	50 seeds 1- 4" pot	12/23/16	12/30	2/14						Vigorous germination continue to light 12-30 Moved outside 1/30	Baker Greek Heirloom Seeds	
2	Juane Gros Du Poitou Leeks	50 seeds 1 4" pot	12/23/16	12/30	2/14						Moved outside 1/30	Paris France	
3	Tango Celery	25 seeds 1 - 4" pot	12/23/16	1/8	2/14						Germinated in heater closet - 75F Sprouts are leggy - left in dark closet too long	Seeds of Change	
4	Moss Curled Parsley	1 - 6 pack	12/23/16	1/4	1/22 2-6pks 13 plants						Good germination Moved outside 1/30	Wild Garden Seeds	
5	Italian Curly Lettuce	1 - 6 pack	12/23/16	1/20 1- week							Slow to germinate, poor germination Seed starting too cold?	Nutman Seeds 2017	
6	Rad Buttercrunch Lettuce	1 - 6 pack	12/23/16	1/seed small							2000 seed	Cook's Garden	
7	Brassica Calabrese 1 pt.	1/5/17	1/7/17	1/19 1 - spds	2/17						Vigorous germination Moved outside 1/30	Baker Greek Heirloom	
8	Chocolate Lightning Radish	8 seeds 1 4" pot	2/2	2/10 1 radish								Vigorous	Victory Seeds
9	Spring Radish Turnip	8 seeds 1 4" pot	2/2										Self Sown

## GARDEN ACTIVITY TRACKER

### Tracking Your Garden Activities

- Keeping a record of your garden activities is essential to managing a food garden throughout the year and in planning for the future seasons. You may prefer a written dialogue or just a data record of activities with room for notes and observations.
- Either way, the information shown below should be the foundation of your records and observations.
- Sometimes you just cannot capture all of the data, but the commitment to make and record observation will keep you paying close attention to happenings in the garden.
- One observation that is missing from this form is a space for tracking the arrival, damage and treatment of garden insects. Having a record of who showed up when and how that was managed will instill vigilance in the gardener and reduce the element of surprise.
- My preference is to keep insect pest information on in separate document.

### What to include in you tracking document

<b>Variety Name</b>	Be specific
<b>Numbers planted</b>	May be the number of seeds or plants or sq. ft. or lineal row feet
<b>Planting Date</b>	Essential
<b>Germination Date</b>	Essential and often includes note on the span of time for germination. If the number of seeds is indicated the number of sprouts are also noted and the germination percentage recorded. That will give an indication of the seed condition
<b>Pot-up</b>	Often includes notes on number of plants potted up from the seed batch, should always include calendar dates
<b>Transplant</b>	Include date and number transplanted often includes transplant location (s)
<b>Blossom</b>	Includes date and relevant conditions
<b>Fruit</b>	Includes date of first fruit formation and sometimes information about condition and continuing fruit formation
<b>First Harvest</b>	Important date to record - will be used on following year crop plans
<b>Last Harvest</b>	Important date to record - will be used to determine future harvest date ranges (see Crop Planning)
<b>Observation</b>	Include whatever you think is meaningful
<b>Source</b>	Knowing where your seeds and plants come from is important to improving your gardening success.

The form below was made up as a word processor table, but you could easily create it in a spreadsheet application of on paper.

Num	Variety	Numbers	Date	Germination	Pot up	Transplant	Blossom	Fruit
1	Bulgarian Giant Leeks	50 seeds 1- 4" pot	12/23/16	12/30	2/14			
First Harvest	Last Harvest	Observations				Source		
		Vigorous germination remove to light 12/30 Moved outside - 1/30				Baker Greek Heirloom Seeds		
		Remove to light 12/30 Moved outside 1/30				Paris France		
		Germinated in heater closet - 75F Sprouts are leggy - left in dark closet too long				Seeds of Change		
		Good germination Moved outside 1/30				Wild Garden Seeds		

### Tracking form - sample

So, in this busy planting month, start out right with the formats and forms that assist you in keeping track and documenting the activities in your garden.

Good gardening and good eating,

Darrol Shillingburg, Doña Ana Extension Master Gardener

March 2017



# New Beginnings

## Proposal to Create a Food Growing Focus Group

### Doña Ana County Master Gardeners

Darrol Shillingburg, Master Gardener

February 24, 2017

#### Introduction

Since the stated focus of Dona Ana Master Gardeners this year (2017) is on food growing aspects of horticulture, it could be beneficial to the Master Gardener organization and the communities that we serve to create a group of participants focused on growing food (urban agriculture) at a noncommercial level. There are some Master Gardeners and Master Gardener Interns who are either involved in or interested in growing food for themselves and their families who may be interested in supporting each other and community members in food growing endeavors.

I have set out what I think could be some stated purposes of the Food Growing Focus Group in order to better communicate my thinking and intent. My proposed purposes should in no way be considered a formal definition of or limitation to the groups' scope. The functioning of the group needs to be defined and refined by the group as it coalesces and grows. However, we need some place to begin.

If there is a consensus to support each other and the community at large in growing food locally, I will assume responsibility for initiating and organizing the group and assisting in developing educational vehicles and events that are appropriate for the group and community.

#### Purposes:

1. To identify interested persons - to communicate and meet as desired
2. To share food growing knowledge and activities within the Master Gardener organization and to support each other and the community at large in efforts to expand urban food growing
3. To create and expand urban agriculture information and education in Las Cruces and Doña Ana county, in part by developing "food growing" information to be posted on the MG website in the Gardening FAQs section.
4. To develop and present food growing events at Munson Community Garden and/or other community gardens and community organizations as promoted
5. To develop and present food growing focused Community Events at Munson Senior Center and be available to assist the Munson Garden Education Committee in their educational endeavors.
6. To work with and support the City of Las Cruces, Doña Ana County agencies and NMSU in its programs to expand urban agriculture.
7. To collaborate with other agencies and groups interested in expanding urban agriculture in the county and region
8. To support school gardening programs engaged in food growing and food education

#### Potential Participants

Current and future Master Gardeners, Interns and Trainees who are growing food or are interested in supporting other community members in food growing endeavors.

The Food Growing Group Proposal will be discussed at the March monthly meeting. Please bring your thoughts and interests to share. If you are interested in participating, contact me by email or in person.

Darrol Shillingburg  
Doña Ana Master Gardener  
February 2017  
[darrols@comcast.net](mailto:darrols@comcast.net)

If you have comments or questions, please feel free to contact me at: [darrols@comcast.com](mailto:darrols@comcast.com)

#### Note:

This proposal has been discussed with and approved by Jeff Anderson  
Agriculture Extension Agent - Agronomy & Horticulture



## ROCK SQUIRRELS

*Spermophilus variegatus*

Desert USA @ Link:

[http://www.desertusa.com/animals/rock\\_squirrel.html](http://www.desertusa.com/animals/rock_squirrel.html)

### Physical Characteristics and Habitat

Rock squirrels are one of the largest members of the Scuridae family, growing to nearly a foot in length, not including their long, bushy tails which are nearly as long as their bodies. In front and on top, their coat is a speckled grayish-brown; in the back, and on the bottom the gray becomes a more mottled brownish black tone. They have a marked light colored ring around their eyes, and pointy ears that project well above their heads. When alarmed they whistle a short, sharp oscillating call.



In front and on top, a rock squirrel's coat is a speckled grayish-brown; in the back, and on the bottom the gray becomes a more mottled brownish black tone.

They are found in the Sonoran Desert, and from Southern Nevada, Utah, Colorado, Oklahoma, and south through Arizona, New Mexico and into Mexico. Rock squirrels live in arid canyons, rocky cliff areas, and boulder piles, but have also been known to burrow in urban or suburban areas under lumber piles or junk cars. They avoid open flats and mountain forest areas.

### Burrows and Behavior

Burrows dug with their sharp claws and muscular legs shelter them, providing safety, living space and food storage. Burrow systems can be complex and lengthy, enlarged over years. Entrances are usually hidden beneath rocks and can be greater than 3 inches in width. Rock squirrels in the northern reach of their habitat hibernate in their burrows during the colder months of the year. In southern areas, rock squirrels may not hibernate at all. They are active in the early morning and late afternoons when it is warm - when very hot, they may estivate. They are social, and live in colonies with several females and one dominant male that will fight other mature males to protect the group. There may be subordinate males at the outer boundaries of the group.



Rock squirrels are omnivorous - they eat seeds, insects, mesquite beans, fruits, carrion, small birds and eggs.

In some areas Rock Squirrels are considered a pest, because they eat crops. At Tonto National Monument in southeastern Arizona, their burrows have damaged some archaeological artifacts. Rock Squirrel bones have been found in the earliest Salado ruins there though, so perhaps this squirrel was there before the people arrived.



### Rock Squirrel Vital Stats

<b>Weight:</b>	Up to 1.5 lbs
<b>Length:</b>	Body 10-12"; Tail 8"
<b>No. of Young:</b>	3-9 young
<b>Mating Season:</b>	Early spring
<b>Gestation:</b>	30 days
<b>Birth Interval:</b>	Sometimes two litters per year, first from March-June, second Aug-Sept
<b>Lifespan:</b>	1-2 years; report of 10 years in captivity
<b>Typical Diet:</b>	Omnivorous: seeds, insects, mesquite beans, fruits, carrion, small birds and eggs
<b>Predators:</b>	Hawks, roadrunners, coyotes, snakes, golden eagles, gray foxes
<b>Range:</b>	Southern Nevada, Utah, Colorado, Oklahoma, and south through Arizona, New Mexico and much of Mexico
<b>Hibernation Period</b>	6-8 months/Aug-Feb. though known to awaken on warm winter days; southern rock squirrels may not hibernate at all.

Be sure to check out another important article entitled: Controlling Rock Squirrels in New Mexico, NMSU Circular #574, by Jon Boren and Bryon Wright.

This Circular is available in our Hotline Library files and at link:

[http://aces.nmsu.edu/pubs/\\_circulars/CR574.pdf](http://aces.nmsu.edu/pubs/_circulars/CR574.pdf)



## ROADRUNNERS

*Geococcyx californianus*

Wildlife Notes | New Mexico Game & Fish

Link:

<http://www.wildlife.state.nm.us/download/education/conservation/wildlife-notes/birds/roadrunner.pdf>

Star of folk legends and cartoons, the Roadrunner is probably the best known and most distinctive bird in the state. It was adopted as the New Mexico state bird in 1949 under the name "Chaparral Bird". In Mexico it is called "El Correcaminos" (roadrunner) or "Paisano" (countryman or fellow traveler).

**RANGE** Greater Roadrunners are found throughout the Southwest in the Mojave, Sonoran, Chihuahuan and southern Great Basin deserts. In addition to New Mexico, look for them in Texas, Oklahoma, Kansas, Arizona, Colorado, California, Nevada, southern Utah and Mexico. During the 20th century, their range expanded all the way to southern Missouri, Arkansas and western Louisiana. Their range continues into southern Mexico, where their closest relative the Lesser Roadrunner (*Geococcyx velox*) becomes the dominant species. Roadrunners are non-migratory birds.

**HABITAT** The Greater Roadrunner inhabits open, flat, or rolling terrain with scattered cover of mesquite, cactus and desert scrub. Roadrunners are most common in southern New Mexico and in the river valleys of the Pecos and Rio Grande, usually below 7,000 feet.

**DESCRIPTION** Roadrunners grow to the size of a scrawny chicken, 20 to 24 inches from tail to beak. The upper parts are conspicuously streaked in black, brown, olive and white. The birds are buffy white below with some dark streaking. The foot-long tail is bronze on top and white tipped. Underneath, the tail sports the cuckoo family characteristic of white crescent-shaped spots. Roadrunner wings are short and round, revealing ragged crest of blue-black feathers can be raised at will. Behind the yellow eyes are bare patches of bluish skin that become vivid blue grading into orange in courting males.



Roadrunner feet have the cuckoo characteristic of two toes pointed forward and two toes pointed backward. Roadrunners are easy to track since their footprints look exactly like an X. With coarse plumage topped with a bad hair day crest, wings too short, tail too long, a decurved bill too big for its head, Greater Roadrunners appear just a little bit disheveled.

**BEHAVIOR** An early naturalist described their demeanor as half magpie, half chicken. They are known for their curiosity and the juveniles' play. During the cold desert night Roadrunners lower their body temperature, going into a slight torpor to conserve energy, then warm by solar heating each morning. They often can be seen sunbathing with their feathers raised so that their black skin can absorb heat.

Roadrunners are able to sprint 15-20 miles per hour and generally prefer running to flying. Unlike their cartoon counterpart, however, real Roadrunners tire quickly and generally use these sprints only for catching speedy prey like lizards or for escape.

Although Greater Roadrunners are generally quiet birds, they do have a range of vocalizations. A common song is a series of 6 to 8 low, dove-like coos, dropping in pitch. During the mating season, males will also make a whirring call. The alarm call is a clattering "perrrrrrr" noise produced by rapid bill clicking. No beep-beeps.



**DIET/FEEDING** The Greater Roadrunners' principal diet is lizards and grasshoppers but they are opportunists and take what is abundant and/or easy to catch. Other common items include caterpillars, crickets, snakes, mice, eggs, carrion, prickly pear fruits, and young quail. They eat many venomous prey items including scorpions, spiders, tarantulas, wasps and, occasionally, rattlesnakes. Two birds may cooperate to kill a large snake.

*Article Continues on Page 26*

**Roadrunner—Continued From Page 25****DIET/FEEDING (Continued)**

Usually Roadrunners forage on the ground, scanning for prey, and then dashing forward to make the catch. To kill and tenderize larger prey, Roadrunners hold it in their bill and whack it repeatedly against a rock.

Since Roadrunners have efficient kidneys and nasal glands to excrete excess salts, they can get along without drinking water if their food has a high enough water content, but they will drink readily if water is available. Roadrunners avoid overheating and water loss by reducing their activity by 50% in the heat of midday.

**REPRODUCTION**

Roadrunners are sexually mature at 2 to 3 years. These monogamous birds have an interesting courtship behavior. The male will tempt the female with a morsel such as a lizard or snake dangling from its beak and will dance about in front of her, bowing, wagging and fanning his tail, raising and dropping his wings and making whirring or cooing sounds. If the female accepts the offered food, he then jumps into the air and onto his mate.

The pair will stay together for their entire life that can encompass 7–10 years. Pairs defend their territories year-round. Both parents help build a shallow platform nest hidden in a mesquite, shrub, yucca, or cactus 3–15 feet above the ground. It is a rude pile of sticks lined with grass, feathers, bark, dry dung, or snakeskin.

The female lays 2 to 8 white eggs over a period of several days, which results in staggered hatching. It's not uncommon to see fairly large chicks and eggs in the nest at the same time. Both parents incubate the eggs, with the male taking the night shift and keeping his body temperature high. The young are born black-skinned and featherless but they develop rapidly; they can run and catch their own prey at 3 weeks. Meanwhile, the parents must bring in food items to the nest every 20 minutes. If a breeding year is favorable, the Roadrunners might rear two sets of young.

Coyotes, snakes, and hawks target the nests and will prey on the eggs and young. If a predator comes too close to the nest, the male will run in a crouch until he is a short distance away from the nest. He then will call and perform a broken leg display to lure the predator away.

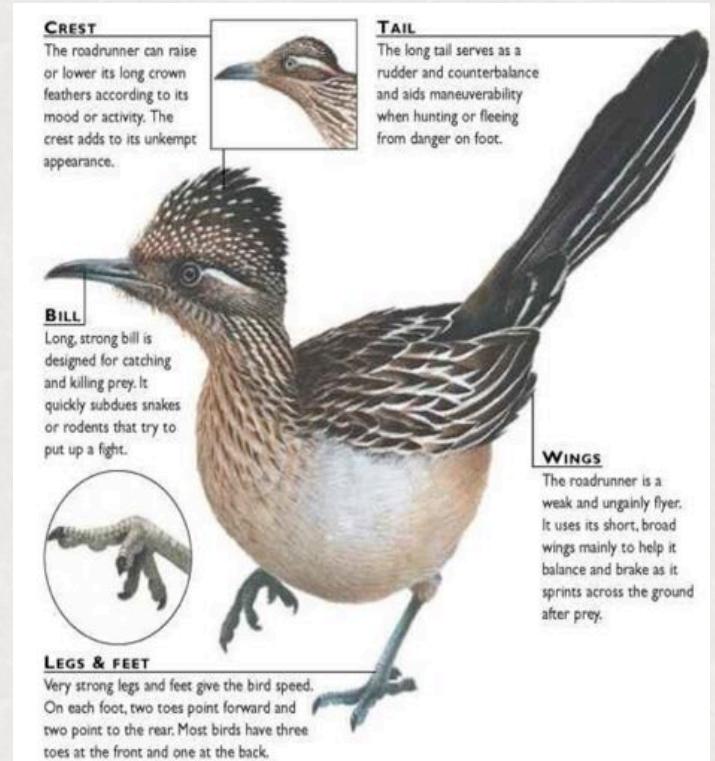
Greater Roadrunners occasionally engage in brood parasitism; their eggs have been found in the nests of ravens and mockingbirds.



**CONSERVATION** Habitat loss and urban sprawl are the major threats to Greater Roadrunners. The construction of roads causes fragmentation of habitat as well as mortality from cars. Pesticides that may accumulate in their insect prey are also a threat.

In Southern California, Roadrunners are being extirpated locally due to development reducing their habitat and to predation by domestic cats and dogs, as well as by coyotes drawn in by urban garbage.

Greater Roadrunners are beneficial in that they help balance the insect and rodent populations. Since we are often captivated by their antics, they also help make New Mexico more enchanting. ■





## Feather-Legged Flies

At all stages of life, these unique-looking flies help garden plants

*Bill Johnson | Horticulture Magazine | May/June 2015*

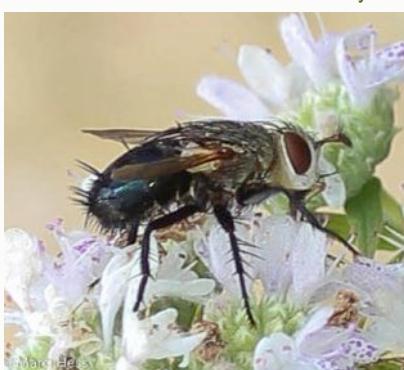
If you're a grower of vegetables, you might have occasionally seen a fly about the size of a housefly cruising around your plants. It very likely could have been a feather-legged fly. These insects have large eyes, short antennae and fuzzy legs. Nectar-eating adults help pollinate plants and their young fight pests.

Not to worry, these flies are beneficial insects, one of the good guys.

Taxonomically, they're found in the order *Diptera*, the family *Tachinidae* and the genus *Trichopoda*. The *Tachinidae* family is a large group of flies, many of which in their larval stages are parasites of other insects, and many of those insects being parasitized are pests to gardeners, especially vegetable growers.

*Tachinids* can also be observed in or near wooded areas and open meadows where flowers are abundant, because as adults they feed on nectar.

Most *Tachinid* flies are recognizable by their stout abdomens covered with spiky hairs. Of course, throughout the insect world we find lots of exception to lots of rules. The Feather-Legged Flies are one. Their bodies are relatively smooth, lacking any bristly hairs. If you can get up close, you'll see that their eyes are larger than those of most flies, while their antennae measure much smaller than most fly antennae.



Their wings are generally black and almost opaque. The most distinguishing features, however, is their pair of legs, or *tibiae*. These bear a distinctive fringe—thus the feather-leg name.

In most species, the main abdomens are orange and the female abdomens are black or partially orange with a black tip. The species shown below, *Trichopoda pennipes* and *T. lanipes*, shown below depict those characteristics.



*Trichopoda pennipes*



*T. lanipes*

In their role as a beneficial insect, Feather-Legged Flies attack the Squash Bug (*Anasa tristis*), Leaf footed bugs (*Leptoglossus spp.*) and the Green Stink bug (*Nezara viridula*). They can be found throughout the United States.

The female will lay an egg on the outside of the body of its prey. The egg will hatch into a larva that will burrow inside the prey to feed. When it's fully developed it will exit the prey (usually killing it) and travel nearby to pupate in the ground. Later, it will emerge as an adult fly and the cycle will begin again.

As adults, the Feather-Legged Flies will visit flowers for nectar and double as a needed pollinator, thus cementing its title of a well-rounded beneficial insect, in my view. ■



© Marci Hess

HEALING HERBS & PLANTS**Pot Marigold (*Calendula officinalis*)****"12 Healing Herbs You Need To Grow In Your Medicinal Garden"**

Sierra Bright | November 20, 2015

Pot Marigold with its yellow and orange flowers is a delightful addition to any garden. Not very finicky about soil fertility or pH, it can be grown easily from seeds and can be treated as an annual or perennial depending on your growing zone. These biennial plants flower only in the second season.

**USES:**

- The edible flowers can be used to treat almost any problem related to skin. Use a poultice of the petals to relieve sunburn and to clear up acne and blemishes on the skin.
- Use it as an antiseptic on cuts and bruises. It stops bleeding and reduces inflammation when applied on nicks and cuts. Many skin ointments contain Pot Marigold extract as the active ingredient.
- A tea made of the flowers is taken to get relief from varicose veins and to ease digestive problems.
- Native Americans used the roots to treat wounds, insect bites, burns and even snake bites.
- Now flower buds are more commonly used a cold and flu remedy. You can grow either of them in a sunny location in your garden.
- Use fresh flower buds to make an infusion to prevent and treat cold and flue. A tincture made with alcohol is considered more potent. It involves steeping the flower buds or roots, or both, in pure, concentrated alcohol for 4-6 weeks, and then filtering out the liquid.

**Pot Marigold (Jin Zhan Ju)****Latin Name:** *Calendula officinalis*

Pot Marigolds, also known by their Latin name, *Calendula*, can be used to treat wounds. It is like Arnica, only milder and gentler and therefore can even be used on open wounds. This beautiful flower has a long history in India and the West as being sacred and is used in religious ceremonies and rituals. It is a food, a medicine and a wonderful addition to your garden.

**POT MARIGOLDS:  
GROWING & USING THE FLOWERING HERB CALENDULA**

Marie Iannotti | The Spruce |

Link: <https://www.thespruce.com/growing-and-using-calendula-1402626>**Overview and Description:**

Although Calendula is commonly called "Pot Marigold", it is not in the same genus as the Common Marigold, *Tagetes*. (However they are part of the same family, Asteraceae, along with daisies and chrysanthemums. You can see the resemblance in their daisy-like flowers.) Pot Marigold refers to the gold flowers that bloomed during the festivals celebrating the Virgin Mary (marigold) and its use in cooking, or pots.

Many gardeners simply grow Pot Marigolds for their cheery bright flowers and profuse blooming. They are most commonly thought of as yellow and orange, but there are more subtle pink and cream varieties.

Pot Marigolds will bloom throughout the growing season. The leaves are slightly fussy and not the most attractive part of the plants. Although the petals have a slightly bitter flavor, they have no fragrance. They're used in all kinds of recipes, from butter to wine, but they are mostly favored for their intense color.

**Botanical Name:***Calendula officinalis***Common Names:**

Pot Marigold, Calendula

**Hardiness Zones:**

Pot Marigolds are short-lived perennials in USDA hardiness Zones 9 and higher. They are commonly grown as annuals.

**Exposure:**

All types of Calendula will bloom best if grown in full sun to partial shade.

**Mature Size:**

Most varieties of Pot Marigolds will grow about 8-18 inches high x 2-4 inches wide. Size depends on how much you cut and use them.

**Bloom Period:**

Most plants begin blooming within 2 months of seeding.

**Design Suggestions:** Pot Marigolds make nice edging plants and grow well in containers. If you'd like to use your Calendula blossoms in cooking, be sure to grow them organically. This is easy to do, if you grow them in the vegetable garden, but you should also keep that in mind if they are planted in flower border or pots.

**Problems:**

Virtually problem free.

**Harvesting:**

Collect Calendula flowers in late morning, after the dew has dried.

Pick flowers when they are fully open and check often, because they come and go quickly. Use the flowers fresh or you can dry and store the blossoms for later use. Cut the flower heads off and spread them out on a screen, in a shady, dry spot. Turn them occasionally until they are papery dry and store in canning jars until ready to use.

**Growing Tips for Pot Marigolds:**

- Pot Marigolds can be direct seeded in the spring, or even summer, or they can be started indoors as transplants. They're very easy maintenance and once established in your garden, they will self-seed, but they don't generally become a nuisance.
- Rich soil and a full sun location will keep your Calendula blooming, although they will adapt to most any soil conditions. Calendula will slow down in extreme heat and warmer climates (Zones 8 and up) will have more success growing them as fall or early spring flowers.
- In more temperate areas, watering regularly will help keep them going in the peak of summer and your pot marigold will bloom until frost.
- Don't be afraid to cut blooms from your Pot Marigold. It will only encourage more budding, which is a good thing. In addition to their culinary uses, Pot Marigolds are used in herbal medicine, as a dye plant and even as a cut flower. ■

## —U.S.D.A. INVASIVE / WEEDY PLANTS—



### **TEXAS BLUEWEED**

*(Helianthus ciliaris DC.) Aster Family: Asteraceae*

Source: USDA Invasive Plants and Weeds of the National Forests and Grasslands in the Southwest Region, Second Edition

<u>Description</u>	Erect perennial forb 1 to 2 feet tall, with bluish-green foliage and woody creeping roots; new shoots arising from root bud often create dense patches; plant has a strong pungent odor, especially when crushed.
<u>Origin</u>	Native to grasslands of south central United States.
<u>Habitat</u>	Cultivated and disturbed or degraded sites in meadows, grassland, woodland, forest, and riparian communities and roadsides; grows best on alkaline or saline soils within elevations that generally range from 3,000 to 8,500 feet.
<u>Leaves</u>	The sessile leaves are typically glabrous or hairy on the margins, sessile, bluish-green, covered with a whitish film, mostly opposite, oblong to lanceolate, 1-1 1/16 to 4 inches long; margins are wavy, entire to shallowly lobed; stems often sparsely covered with short stiff hairs.
<u>Flowers</u>	Flowers June to November; showy composite flower heads solitary on long peduncles; flower head receptacles 9/16 to 1 inch across; group of disk flowers rounded on top, yellowish; yellow ray flower corollas about 3/8 inches long; disk flower corollas about 3/16 inch long with red lobes; receptacle chaffy bracts hairy at the tips; entire or 3-lobed.
<u>Fruit</u>	Similar to those of commercial sunflower; however, achenes much smaller, about 1/8 inch long; pappus scales 2 to 4, about 1/16 inch long.
<u>Propagation</u>	Reproduces by vegetative clones from root buds and by seed; see viability is often low, about 1 percent.
<u>Problem</u>	Texas Blueweed is an aggressive perennial sunflower that is native to the grasslands of the south Central U.S. It naturally persists in low densities in native grasslands, but thrives in cultivated or heavily disturbed areas. This plant is an Arizona-prohibited/restricted noxious weed. ■



Found in King County, Texas



Found in Gila Wilderness

## **MASTER GARDENER MONTHLY MEETING**

Date: February 8, 2017 ◇ Notetaker: Rachel Gioannini, Certified MG

**Intro & Welcome:** Call to order at 9:27am by Jeff Anderson. Please pick up your certificates if you missed graduation. Jeff made a special presentation to Darrol Shillingburg, who is a former MG who recently came back and re-took the class over again. Darrol highly recommends that MGs re-take the course. Also, Jeff welcomed all the new MG Interns and Certified MG's! Two new Interns also attended our meeting.

### **Committee/Project Reports**

- **MG Hotline:** David and Gail Ross expressed their appreciation for all the volunteers who work the hotline. One day open on Feb. 21 that needs volunteers and please go ahead and sign up for March. Remember there are only 2 volunteers per day.
- **MG Magazine:** Ann expected to complete the Feb. magazine soon and was also working on March as well. John White will be having a SunScape training occurring March 11, 2017 on native plants and gardening in the desert. Registration is limited to 25 so please sign up soon. Ann thanked everyone for her gift of an outdoor clock/thermometer as a thank you from the Extension. Darrol is back and will be giving away free vegetable seed packs. He's regularly contributing articles in the MG Magazine.
- **Western Pecan Growers Association Conference,** March 5-7, 2017: Karim is looking for 4-5 volunteers each afternoon; please email her! Volunteers also needed 8:30am-12:30pm all days with lunch provided 12:30-1:30pm. Also needed 2-6pm on March 5 to slice and plate desserts. Contact Karim at [karmarti@nmsu.edu](mailto:karmarti@nmsu.edu)
- **MG Graduation report:** Sad to report that Juliette is sick and ended up at the hospital after graduation. Thanks to Dot Wyckoff for securing all the door prizes.
- **Community Gardens:** Dixie reported that community gardens are growing well. Celery was especially good and Dael reported that celery has lots of medicinal properties but those are bred out in the varieties available in the grocery store. 'Red Venture' celery is supposed to still have those medicinal properties, if you want to grow your own.
- **Luna County MGs:** Will be starting their Hotline on March 2nd. Hoping to be fighting the invasive African Rue soon, which can only be killed with chemical sprays. Luna County MG's are trying to come up with plants that could look good year-round in the Leyendecker Fountain Plaza in downtown Deming.
- **Pioneer Women's Park:** Jeff is moving ahead with plant the right trees in the right places, working with the City. This dovetails into Jeff's March 30th workshop to teach landscape maintenance workers to properly identify and maintain trees.
- **Home and Garden Show, March 3-5, 2017:** Good news is that we get the classrooms back for presentations but will probably only get a 10' x 10' booth and there will be no advertising available for our workshops. Ideas were brainstormed on how to advertise these workshops. Still need lots of volunteers, as well as decorations and plants. Jeff will be doing a hydroponics display there as well, in hopes of getting teachers interested in this idea.
- **Southern New Mexico State Fair:** Jeff wants to get some hydroponics units and then bring them to the fair. Would like volunteers to grow with these over the summer and use them as demonstrations at the fair. Jerry Noe, who did the LED system, will be doing a lighting system for the hydroponics at the office as well. (There was a lot of discussion on hydroponics and vegetable production and financing farming ventures.)

### **DAC News:**

- **New MG Volunteer Agreement Form:** Available at the office. No need to do a new one if you signed it last year.
- **AG Employers Conference, Farm and Ranch, Jan. 25, 2017:** 84 attendees. Good conference for those who employ people in Ag. Good presentation by Tom Dean.
- **STEAM night, Desert Hills Elementary School, Feb. 16, 2017, 6-7:30pm:** Two volunteers needed to do a display; please talk to Jeff.
- **Landscape Maintenance Workshop, March 30, 2017:** MG's can come. Space is limited. Jeff is hoping that City and County workers will sign up. Fee is \$15.
- **DAC MG Coordinator Volunteer:** New Coordinator needed! Donna moved to Missouri. Dot Wyckoff volunteered to take over this important role.
- **Organic Farming Conference, Feb. 17 & 18, 2017:** Jeff will be there so not in the office if you need him. This is reported to be a really great conference.
- **Ag Agent Professional Development, Feb. 20-21, 2017:** Jeff will be attending so he will be out of the office on those days.

Minutes Continued on Page 31

**MG Monthly Meeting Minutes – Continued From Page 30****Old/New/Continuing Business****• Other:**

- ... There was a lot of discussion about 1) educational presentations for our monthly meetings, 2) what it is we should be doing with our educational program component and 3) what we want to be committing to our education time at the monthly meetings and within the community.
- ... This also goes to what are the objectives of our group, who are we wanting to reach and what is important to us and our community.
- ... Then there was a lot of discussion about the Tour of Gardens and what our future involvement should be. Ann volunteered to collect questions about the Garden tour to help direct the presentation if we can get a representative to come and speak to us next month about how the Garden Tour was run in the past. Eileen Roberts will contact Linnea Egbert to see if she will come talk to us next month.
- ... A couple of folks volunteered to help out with the hydroponics in the school programs.
- ... There is a list in the Hotline office of MG's who have specialties; this list needs to be updated.
- ... In the future, MG's will be required to be on a Committee as part of their commitment to the MG Program. There will be more information on this in the future. Ann will find the old list of Committees and forward these lists to Dot as she volunteered to be our MG Program Coordinator.

**Educational Presentation**

There was no program, as we did not have a laptop to show slides.

**Next Meeting: Wednesday, March 8, 2017, Roadrunner Room, Branigan Library.**

**LUNA COUNTY MASTER GARDENER HOTLINES**

<b>Deming</b> (At Extension Office)	Thursdays 9:00-11:00am	(575) 546-8806 <b>Opens March 2, 2017</b>
<b>Columbus</b> (At Library)	Mondays 10:30-11:30am	(575) 531-2612 <b>Discontinued</b>

## MASTER GARDENER HOTLINE DUTY



**IMPORTANT:** Please remember to be present on your assigned date for the Hotline. If another MG volunteer forgets, please give him or her a "reminder" call. Be sure to get a copy of the Subs List, for your information.

**UPDATE:** As of Tuesday, December 20, 2016, the Hotline will now operate in its new office located at 1170 Solano, Suite M, Room 1833. The Hotline will still be open to the public on Tuesdays and Fridays, from 9:00am through 12:00 noon. However, Hotline volunteers will continue to be on duty through 1:00pm. For your information, the Extension Office is closed daily from 12 noon to 1:00pm for staff lunches.

**URGENT:** We need a maximum of only 2 volunteers on each Hotline Day, as there is not enough space for additional people in the new Hotline Office located in Room 1833.

Please consider volunteering for at least one, four-hour assignment to ensure we have adequate coverage for our Hotline during the year.

As of September 11, 2013, per MG request, Hotline duty signups will no longer be listed in this Magazine. As of 1/8/14, we now can sign up for Hotline Duty online at the same website location where we now record our Volunteer Service hours.

Connect to link: <http://aces.nmsu.edu/county/donaana/mastergardener/> and click on Volunteer Hours Logging and you can click on either:

["Go to my log sheets"](#) or ["Go to my Calendar"](#)

We are very grateful to Eric Graham, Certified MG, for donating many hours to creating this great new resource for MGs. Thank you!



Link: <http://aces.nmsu.edu/ces/plantclinic/index.html>

The Plant Diagnostic Clinic is designed to provide plant diagnostic services for the State of New Mexico. Its services include analysis of plant material for plant pathogens and environmental stresses as well as suggesting appropriate control measures when available.

The Clinic also facilitates insect and weed identification through referrals to other specialists. Its clients include extension personnel, crop consultants, growers, retailers, landscape professionals, golf courses, researchers, government agencies, and homeowners.

The Plant Diagnostic Clinic works very closely with the New Mexico Cooperative Extension County offices. For initial assistance with plant problems first contact the County Extension office near you. The County Extension staff will assist you with sample submission to the clinic if needed. No diagnostic service fees will be applied to samples submitted through Extension offices.

**Doña Ana County Cooperative Extension Office (575) 525-6649**  
**Luna County Cooperative Extension Office (575) 546-8806**