

Citrus Tips for March & April

The first application of fertilizer should have been completed. If not, complete by mid-March. To determine fertilizer requirements for now and the rest of the year, use MC91 "Fertilizing Citrus Chart" (new release).



Spring is the best time to plant citrus trees after there is no chance of frost. This is their most vigorous growing time as the temperature warms. See MC87 "Low Desert Citrus Varieties" to select trees.

When buying trees, buy only trees that are properly tagged and identified. Do not buy untagged trees regardless of what the salesperson tells you they are. The tag should include the following information at a minimum:

- Fruit variety such as: Ruby Red Grapefruit or Valencia Orange, etc.
- Rootstock to which the variety is budded at the bud union. Recommended rootstocks: for a full size tree, select "Carriza" or "Troyer." For a dwarf tree, choose "Flying Dragon."
- Name of the original grower (nursery) who sold it to the retail nursery that you will buy the tree from.

Citrus begins to bloom and fruit set will take place during this time (March-April). Citrus fruit drop will also begin during this period. This is a natural thinning as trees shed themselves of excess fruit.

Thrips may cause the leaves to curl as well as some scarring of the fruit outer skin. The leaves may curl and deform, but as long as they stay green, they are healthy. The scarring of the fruit skin does no harm to the fruit externally or internally - it is perfectly edible.

Fruit which is on the tree and is now ripe may be damaged by birds - they create a small hole in the fruit. Once damaged, insects may invade the interior of the fruit and they often get blamed for the holes. Remove or pick up fallen fruit and discard it promptly. Hanging shining strips of aluminum foil on the tree will tend to discourage the birds.

Always DEEP WATER your citrus trees. Increase watering frequency as temperatures rise to every 3 weeks and then to every 2 weeks for trees 3 years or older.

George Chott
Master Gardener

Flower Bulb Grants for Schools

Educators & school volunteers interested in using flower bulbs to enrich learning and beautify school or community grounds can write for the Mail Order Gardening Association's "Kids Growing with Dutch Bulbs" awards this spring. Forty thousand flower bulbs will be awarded to 2000 schools. Just write to National Gardening Association, Dept. MP, 180 Flynn Ave, Burlington, VT 05401. Deadline is May 1, 1998.

Harvest Recipes



Arizona Carrot Cake

4 eggs	1 tbs. baking powder
1 c. vegetable oil	1 tsp. baking soda
2 c. sugar	1 tsp. salt
1 lb. carrots, peeled & grated	2 tsp. cinnamon
2 c. flour	½ c. nuts (optional)

1. Cream eggs, vegetable oil, and sugar until smooth.
2. Stir in carrots.
3. Add flour, baking powder, baking soda, salt and cinnamon (and nuts). Blend until the dry ingredients are thoroughly mixed in.
4. Pour batter into an oiled and floured 10-in. pan. Bake about 1 hour at 400°F.

Natural Egg Dyes (Continued from page 5)

Earth tones: Boston ferns, grasses, curry, paprika.

Lavender: purple petunias, grape juice.

Purple: Beetroot, blueberries.

Yellow: saffron, turmeric.

Pink: beets, cranberry juice, raspberries, rub cranberries on the shells of the hard-boiled eggs.

Pastel: blend blueberries and cranberries and rub on the shells.

Green: liquid chlorophyll (buy at pet store or drug store).

Violet blue: Add violet blossoms to hot water - soak hard boiled eggs overnight.

Red: skins from red onions - boil eggs from ½ to 1 hour. The more skins you use and the longer you soak them, the darker the color will be.

Val Carsey
Master Gardener and Communicator Editor

Meet the Natives

Arizona Native Shrubs (A-E)



Native shrubs have numerous uses in Arizona landscapes. Trees define the landscape vertically, shrubs define a garden horizontally. Numerous Arizona shrubs are effective for screening and privacy, provide seasonal color and wildlife habitat with their foliage, flowers and fruits. From a landscape design standpoint, proper placement of shrubs in the landscape is important expected mature size of the shrubs. Large Arizona shrubs like Desert Hackberry and Fourwing Saltbush require plenty of room to grow. Right shrub in the right place definitely applies to shrub placement. Over pruning of shrubs in Arizona landscapes has become a central issue in landscape maintenance. The natural form of a Fairy Duster or Brittlebush is not sphere or a cube. Pruning practices such as this leads to the slow gradual decline and eventual death of the shrub. Let shrubs grow! Know your Arizona shrubs from a dormancy standpoint and frost damage and whether they would be rejuvenated by selective pruning. In a landscape, shrubs like trees and groundcovers should be planted for maximum impact. Whether for contrasting red-yellow floral combinations or contrasting grey-green foliage combinations, we have numerous Arizona shrubs that can make significant seasonal impact in Arizona gardens. In this continuing series of articles, I will focus on the Arizona native shrubs suitable for cultivation in the Phoenix area.

Ambrosia deltoidea, Triangle Leaf Bur-sage is commonly seen across the Sonoran Desert and makes a dominant occurrence in the Arizona upland. It is commonly a nurse plant providing shade for cactus seedlings. This grey-green low growing shrub/ground-cover is excellent for a naturalistic effect in an Arizona garden. This bur-sage commonly grows to 2 feet in width and height and makes a good shrub for small spaces. Triangle Leaf Bur-sage is an active winter and spring grower and drought deciduous in the summer but with regular summer watering it is semi-evergreen in a landscape.



Ambrosia deltoidea
Triangle Leaf Bur-sage

Asclepias subulata, Desert Milkweed is a distinctive reedlike shrub with slender grey-green stems growing to 4 feet in height. Desert Milkweed is sporadically seen across central and western Arizona and into Sonora and Baja California below 2,500 feet. The unique cream flowers that typify this genus are borne from spring through fall and commonly attract tarantula hawks and butterflies. The horn shaped pods are also ornamental. A natural rubber has been

extracted from the milky sap of desert milkweed. This extremely drought tolerant shrub can be used as a living sculpture in a desert garden.

Anisacanthus thurberi, Desert Honeysuckle is an excellent hummingbird plant for this region. Desert Honeysuckle typically grows to 4 feet with light green deciduous foliage. Desert Honeysuckle is wide ranging across central and southern Arizona, Sonora, Chihuahua and into New Mexico and Texas from 2,000 to 5,000 feet. This shrub can easily be rejuvenated by cutting to the ground every other year. Desert Honeysuckle is highly variable as to flower color ranging from orange to brick red.

Atriplex canescens, Fourwing Saltbush is a useful shrub for urban wildlife habitat. This saltbush is widely distributed across the United States and grows to approximately 8 feet high and 5 feet wide. The Fourwing fruits are relished by a wide variety of birds and which also use the shrub for cover and nesting. Fourwing Saltbush is extremely drought tolerant and useful for erosion control and revegetation projects. This shrub would be excellent for dense screening and privacy in an Arizona garden.

Berberis trifoliata, Agarita is a useful Arizona native for urban wildlife habitat. Agarita grows to 6 feet tall and wide with distinctive blue-grey hollylike foliage. *Berberis trifoliata* grows across southern Arizona, New Mexico and into western Texas throughout the Chihuahuan Desert between 3,000 to 7,000 feet. Birds relish the red berries and dense foliage provides excellent cover. Agarita contrasts well with other deep green desert shrubs and leaf succulents.

Calliandra eriophylla, Fairy Duster is one of our toughest native shrubs with a wide range across the Sonoran Desert of Arizona and Sonora and into New Mexico and Texas and southern Mexico. Fairy Duster is typically a semi-evergreen shrub with medium-green dissected foliage ranging from 2-3 feet in height and 2-4 feet in width. The botanical name *Calliandra* is in reference to the beautiful stamens of fairy duster which characterize its flowers. Flower color is highly variable from deep pink to light pink to cream and nearly white. Occasionally, you see hybrids with *Calliandra californica*, Baja Red Fairy Duster crossed with *Calliandra eriophylla* which have stunning red pink flowers to nearly orange flowers. Fairy Duster is a prime attraction for hummingbirds.

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Meet the Natives (Continued from page 10)

Celtis pallida, Desert Hackberry is one of our best shrubs for urban wildlife habitat. Desert Hackberry is a spiny semi-evergreen shrub growing to 10 feet in height and width. It has a wide range across the Southwest and into Mexico. Desert Hackberry dense cover is a boon to desert birds who seeks its dense cover for nesting and protection. The distinctive orange edible fruit which are borne in late summer and fall are relished by birds and jam and jelly can be made from these tasty fruits. An exceptional desert Hackberry has been recorded from the Rincon Valley, Pima County that measured 22 feet in height and 24 feet in crown spread with a trunk circumference of 31 inches. Desert Hackberry would make an excellent screening shrub for privacy and wildlife habitat.

Coursetia glandulosa (microphylla), Baby Bonnets bears an exceptional spring display of pea shaped (baby-bonnet) white, yellow and pink flowers. This open shrub is uncommonly seen in central Arizona but is abundant throughout Sonora. It can be grown as a large shrub or a small tree to 8 feet in height and 12 feet wide.

Dalea pulchra, Bush Dalea is a worthwhile shrub for late winter and spring color in an Arizona garden. This small grey leaved shrub bears masses of purple flowers. Bush Dalea can grow to approximately 4 feet high and 5 feet wide. It is widely distributed in southeastern Arizona and Sonora between 2,500 and 5,000 feet. A worthwhile plant combination is *Dalea pulchra* planted with *Calliandra eriophylla* for outstanding late winter and spring color in an Arizona garden.

Dodonaea angustifolia (viscosa), Hopbush is a wide-ranging shrub found nearly worldwide throughout Africa, Australia and Arizona from 2,000 to 5,000 feet. Hopbush typically grows to 10 feet in height and 6 feet wide. This evergreen shrub bears tan to rose colored paper winged (hoplike) fruits in late summer. Tolerant of a wide range of soils, Hopbush makes an excellent screening shrub for privacy near a pool or patio area.

Encelia farinosa, Brittlebush is yet another desert shrub that delineates the Sonoran Desert. Brittlebush is commonly seen throughout central and southern Arizona, Sonora and Baja California. Brittlebush is characterized by silvery grey foliage and bright yellow winter and flowers. This desert shrub grows to 3 feet in height and 4 feet wide. Brittlebush naturalizes on rainfall in the Phoenix area. However, it can be rejuvenated periodically by cutting to

ground level. Incense can be made from the dried collected leaves. Brittlebush contrasts well with deep green desert shrubs, perennials, groundcovers and leaf succulents.



Ephedra trifurca
Mormon Tea

Ephedra trifurca, Mormon Tea is a low growing shrub with distinctive thin green reedlike stems. *Ephedra* bears male and female cones but not true flowers. *Ephedras* are wide ranging throughout the deserts of North America Mormon Tea is slow growing but once established is a trouble-free desert plant in the landscape. You might consider using *Ephedra* as a living garden sculpture.

Medicinal teas are commonly made from *Ephedra*.

Ericameria laricifolia, Turpentine Bush is characterized by bright green foliage, bright yellow fall flowers and turpentine scented foliage. This shrub is wide ranging throughout the Southwest and Mexico from 3,000 to 6,000 feet. It grows to 3 feet wide and high. Turpentine Bush's bright green foliage contrasts well with grey leaved desert shrubs such as Brittlebush and Texas Sage.

Eriogonum fasciculatum var. poliofolium, Flattop Buckwheat is commonly seen across southwestern Utah, southern Nevada, southeastern California, Arizona and Baja California from 1,000 to 5,000 feet. Flattop Buckwheat grows to 2 feet in height and width with fine foliage and characteristic dense flatten clusters of white to pale pink flowers borne in the spring. Once established, this buckwheat is extremely tough and trouble free in the landscape.

Erythrina flabelliformis, Southwestern Coral Bean is noted for its brilliant red tubular flowers borne in the spring that attract hummingbirds before bearing bright green cottonwood like foliage in the summer Southwestern Coral Bean. In some frost free regions of Sonora and Baja California this *Erythrina* grows to 20 feet in height. However in frost prone areas of the Southwest such as southwestern New Mexico and southeastern Arizona it is barely 5 feet in height. *Erythrina flabelliformis* is deciduous in the winter and would probably best be planted with evergreen desert shrubs.

Kent Newland

Former President, Arizona Native Plant Society, Phoenix Chapter

Healthy Gardening Allergies and Gardening in Arizona



Remember when our grandparents and families moved to Arizona to escape allergies and asthma from back east and the Midwest? As these people arrived, they brought their genetic tendency to allergies and their plants with them. This in combination with our year round growing season and ample water from the Central Arizona Project made Phoenix a true oasis in the desert. Now this “oasis” has become a huge pollen producing area.

Pollen = Allergies = Runny Noses

How can you tell if your runny nose is an allergy, a sinus infection, or just a bad cold? *Colds* are caused by viruses, with typical symptoms being congestion, runny nose, sneezing, sore throat, muscle aches, and a low grade or no fever. Colds last for 7-10 days and treatment is symptomatic (rest, liquids, over the counter [OTC] medicines). A *sinus infection* is often a bacterial infection. Classic symptoms are facial pain, thick yellow-green nasal discharge, headache, tooth or ear pain, and a possible fever. The duration depends on treatment. Usually you need to see a doctor for antibiotics. Oral decongestants may also help to relieve some of the symptoms. *Allergies* are caused by exposure to allergens. Typical symptoms include nasal congestion, watery runny nose, sneezing, itchy nose and throat, and itchy and watery eyes. There is no fever or muscle aches. The duration lasts from weeks to months with symptoms coming and going depending upon the season and allergy exposure. If symptoms are mild, you may respond to OTC medications, otherwise, see a doctor to determine if allergies are present and whether prescriptions medicines will help you. Remember to be cautious when self-medicating and check with a doctor first if you are on other prescribed medications.

Now you’ve determined your runny nose is caused by allergies, so what exactly is the problem? Normally, your *immune system* makes antibodies to fight harmful substances such as viruses, bacteria, etc. When you have allergies, your immune system makes an *allergy antibody* (IgE) in response to *allergens* (pollen, dust mites, etc). An *allergic reaction* occurs when your allergy antibodies cause mast cells in our bodies to “explode” and these cause irritation and inflammation (*allergy symptoms*).

Allergens + Immune System = Allergy Antibody
Allergens + Allergy Antibody = Allergic Reaction
Allergic Reaction = Allergy Symptoms

How does one become allergic? There are many factors involved such as: your geographic location, pollution, age, sex, race, infection, and the two most important, genetics and your exposure. You *must* inherit the ability to form allergic antibodies (IgE) to things like pollen, mites, animals, etc. Your risk can increase depending on your family history. If both of your parents are allergic, you have a 50-75% chance of developing allergies; if one parent is allergic, your chance is 25-50%. Remember:

Genetics = Exposure = Allergy

Allergies are produced by allergens. Allergens enter the body by:

- being inhaled (pollen, fungi, house dust, animal dander, etc).
- being swallowed (food and drugs).
- external contact (cosmetics, chemicals, poison ivy, etc).
- injection (penicillin, horse serum, etc).

Eighty percent of all allergies are caused by inhalants. The major symptom of an inhaled allergy is *rhinitis*. It is estimated that at any given time, 20% of the U.S. population suffers from *allergic rhinitis* (AR). Rhinitis is the medical term for a runny nose, or a disorder of the nose in which an inflammation of the lining of the nose occurs and symptoms such as runny nose, sneezing, and congestion result. Another name for allergic rhinitis(AR) is *hay fever* which has nothing to do with hay or fever. Each year AR result in 3 million days lost from school, 5 million days lost from work with \$200 million lost in wages and \$500 million spent on health care related to AR. AR occurs because of repeated or persistent exposure to allergens. AR can be occupational, perennial, or seasonal.

In occupational AR, agents which workers are exposed to cause allergic nasal symptoms. Because of daily exposure, the symptoms tend to occur chronically each day at work. In perennial AR, you are either allergic to a single agent to which you are exposed year round or to multiple agents whose collective exposure results in year round (perennial) symptoms. The symptoms are runny and itchy nose, sneezing, itchy watery eyes, and nasal congestion. The causes are usually environmental-house dust mites, molds, cats, dogs, etc. In seasonal AR, symptoms develop during exposure to a particular pollen or mold spore season. Pollen is that part of a plant that contains male genetic material (units in which this material is held are called pollen grains). Pollen grains are chemically stained and viewed under a microscope to determine pollen count.

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