

ARIZONA RARE FRUIT GROWERS

A CULTIVAR OF THE CALIFORNIA RARE FRUIT GROWERS, INC.

THE APPLES and ORANGES of AVOCADOS

The following guidelines for growing Avocados were **paraphrased** from a presentation by Julie Frink at the California Rare Fruit Growers, Inc. Festival of Fruit in September 1998 at Balboa Park in San Diego, California. My own observations are in Italics. Her title, "Avocado, Cultivars and Care" reflects a long association with the industry in Southern California. The data presented are germane to avocados of any variety in any locale where the fruit can be grown. A small number of healthy avocado trees presently growing and producing in the Salt River Basin are evidence that avocados, while probably not a commercial viability, can survive in home landscapes in the Phoenix area.

AVOCADO: CULTIVARS AND CARE.

The many cultivars of avocado have been divided into three "horticultural" races, West Indian, Guatemalan and Mexican. Numerous other varieties are hybrids of the three. Mexican fruit is smallish, smooth skin, large "tight" seed with leaves and flesh that have an anise odor and taste. Seeds generally do not run true but the Mexican variety has a better chance of doing so.

- • Mexican is the hardiest rootstock to use to graft other varieties. *We don't yet know if that is true for this area; we believe it is.*
- • Avocados require good drainage. Standing water is always fatal.
- • The tree likes full sun but exposed boles on young trees should be protected from sunburn. Paint with white latex. Adult tree trunks are usually fully shaded with their own foliage. *If defoliation occurs at any time for any reason, immediately paint all exposed bark with white latex.*
- • Trees may be heavily pruned for height. Pruning doesn't hurt them *unless new or previously protected stems or trunk are exposed to direct sun.*
- • Avocados are subject to severe salt burn. *(A critical fact in the Salt River Valley with saline irrigation water and alkaline soil.)* When planting, Julie sets the pot on level ground then builds a compost mound around it. After the mound has settled in, she removes the container and replaces the tree in the hole. *One could plant in a raised-bed over gravel for the same effect.* Avocado roots are relatively shallow. *Basin chimneys aid drainage where it is bad. If leaf tips turn brown from salt, The root zone should be flushed to reduce salt concentration. A layer of mulch will reduce the concentration of salt by evaporation in the root zone but may also keep the soil too wet. Do not mulch in the winter.*
- • Avocado sex is unusual. Well, kinky? There are types A and B and an oddball or two that may fall somewhere in the nether. A typical A or B alone will set enough fruit for an average family. A scion from a B may be grafted to an A or visa versa for cross-pollination. Planted in close proximity, either type is more productive. Most common varieties are distinctly an A or B. All Avocado flowers have both male and female paraphernalia. "A" flowers open in the morning,

receive pollen and close. They open again the afternoon of the following day and release their pollen. "B" flowers are receptive to pollen in the afternoon but don't release pollen until the morning of the next day. Julie said the female pistil is a prominent feature and male parts are the little "fluffies" in the middle. Pollination requires insects.

- • Young trees require shading to avoid sun damage.

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MISC. NOTES ON AVOCADO

AB: The germination percentage of avocado seeds, mainly the Mexican race Indio (Desert), was significantly higher when the seed coats were removed or the seed tips were sliced off, as compared with sowing intact seeds. Peeling plus tip slicing gave better seed germination than peeling alone. Removing slices from the sides of the seeds also improved germination. The optimum stage for carrying out germination counts to assess treatment differences was 33 days after sowing.

VARIOUS RESPONSES TO EMAIL INQUIRIES:

AVOCADOS IN THE SALT RIVER BASIN?

We know of 5 full-grown, healthy, fruiting avocado trees started from seed in the Phoenix area. They are 20 to 30 years old and 15 to 20 feet tall. The homeowners say the fruit is good although I haven't yet had a chance to sink my teeth into one. We know, however, that seedlings don't run true and quality would vary. There are undoubtedly others we have not located. If you know of any, please let us know. We theorize that a good way to find out what will survive here is to look in front and back yards to see what is already growing.

All avocado flowers, classified as A and B (with a whole bunch falling in between) have both male and female parts. A difugalty is that an A flower will open as a female that can receive pollen but its own male parts refuse to give it up. The B flower at that time won't receive pollen but its male component generously yields pollen to an insect that makes it available to the A flower. The next day, they reverse the role.

Having said all that, I suggest you forget it. There is enough overlap to supply the needs of an average family. If you have both an A and B, all other things being equal, you could get a heavier but not guaranteed fruit set.

If a given tree is defoliated, scratch the bark lightly just above the ground level. If there is green, assume some life remains but don't bet too heavily on it surviving. If a shoot shows up below the graft union, the resulting tree will not be the one you bought. Its fruit is likely to be edible, nonetheless, if you nurture the shoot from the base stock to adulthood. That shoot can be used to graft again.

Avocados are sensitive to salt and wet feet will kill them readily. They must have good drainage, controlled flood irrigation to flush salt from the root zone and well managed mulching to prevent evaporation from accumulating salt in the root zone. If drainage is questionable, they can be planted on a mound or in a raised bed. Drainage vents filled with rounded river rock can be drilled in the outer edges of the

planting hole. Roots are relatively shallow.

Established trees, those with a strong, healthy, root system do best in full sun and most varieties will survive our mild frosts with minimal damage but if the weatherman threatens a hard freeze, protect them. The bark on avocados is sensitive to sun burn. A well foliated tree is adequate protection but exposed bark should be painted with white latex paint even in the winter. Young, tender trees should be sheltered from both direct sun and frost. Filtered light is ideal. An exposure with full sun in the cool morning and some hot afternoon shade is also adequate. Remember that the tree thrives on light and will do its best with the most it can tolerate.

Browning leave tips are usually the result of salt burn. Both soil and water have about an 8.5 pH. The salt can't evaporate and the high concentration is toxic to the leaf cells.