



## Citrus: Guidelines for Growing at Home

The history of citrus is both fascinating and captivating, as are these lovely plants which will enchant you with their glossy, deep green foliage, delightfully scented blooms and harvests of full-sized fruit even on dwarf plants grown in containers. Although there are now many varieties available for your indoor citrus orchard, they share some commonalities in terms of care and cultivation.

### Light and Temperature

- All citrus will need 8 to 10 hours of direct sun and will appreciate afternoon shade outdoors in the heat of summer.
- Indoors, an unobstructed south or southwest facing window is ideal. Supplement with LED grow-lights if less than six hours of natural full sun is provided.
- Rapid changes in light exposure will cause leaf drop, so gradually increase full-sun exposure over 2 to 4 weeks before moving outside for the summer. In a similar way, gradually decrease the light when bringing back indoors.
- Citrus plants grow best when outdoor temperatures range from 55° at night to 85° during the day. They can tolerate higher temperatures as long as they are well watered.
- Do not move plants outside until nighttime temperatures are consistently above 55°.
- Maintain a minimum of 40° indoors – above 60° is preferred to promote active growth and aid nutrient absorption.

### Moisture and Humidity

- Keep the soil evenly moist but never soggy. Wait until the top two inches are dry before watering, then water slowly and deeply to fill the container and drain out. Deep watering promotes root growth and tree strength.
- Water more often when the weather is hot and dry and less frequently during cool weather when growth slows.
- Boost the humidity to 45-50% when growing citrus indoors. Hot, dry air may bring debilitating spider mites.
- Allow plants to dry out before bringing them indoors for the winter so they can better adjust to indoor conditions.

### Fertilization

- If you choose a slow-release, granular organic fertilizer such as *Espoma Citrus-tone 5-2-6* be sure to follow the guidelines for potted plants: one teaspoon per 4” of pot diameter, doubling the rate for pots over 12” diameter.
- With frequent watering of potted plants, nutrients may be lost and more frequent application may be required, so Espoma recommends feeding every 60 days from late winter to fall. Simply sprinkle it over the surface of the soil.
- You may wish to supplement slow-release fertilization with foliar sprays of fish emulsion or kelp during the active growing period to provide trace minerals such as iron, zinc, and manganese.
- If you choose a water-soluble plant food such as *Jack's Classic Citrus FeED 20-10-20* we recommend a constant feed program at 1 teaspoon per gallon every time you water. *Citrus FeED* includes iron and trace minerals.
- Taper off fertilization when plants are moved indoors for the winter and enter a period of less active growth, resuming once new growth starts in early spring.

## Pollination, Fruitfulness and Heat Requirements

- Citrus are generally self-fruitful and do not require a pollinator whether kept indoors or outside. Pollination may be done by hand with a small, soft brush or cotton swab to transfer the pollen among the flowers.
- Fruitfulness is largely dependent on time, good care and adequate size and age. Remember that yields will be proportional to tree size which is limited by the size of the container in which it is grown.
- On the other hand, thinning fruit each spring ensures tree health, fruit size and prevents plant stress that leads to alternate-year bearing. As an example, a lemon tree in a five-gallon container should set only 4-6 fruit the first year.
- If your tree has been growing rapidly over several years and produced no fruit, it is possible that a rootstock sucker has taken over. Check if branches come from below the graft point or from the soil surrounding the original plant.
- Fruit color is a poor indication of ripeness. For lemons and limes, bloom to edible fruit will be 6 to 9 months. For oranges and other citrus it is usually 12 months.
- Lemons and limes require the least heat to ripen and will ripen even with a cool summer. Grapefruits require intense, prolonged heat to ripen, while kumquats and tangerines need high heat for best flavor.

## Pruning

- Pinch new growth when the tree is small to keep it within bounds for optimal container growing.
- Prune for shape and balance as the tree matures and it will look fuller, have higher fruit yields and be less prone to branch breakage. Any growth above the graft point will eventually bear desirable fruit.
- Make a slanted cut just above a leaf, leaving no stub behind. Multiple branches will form at the cut. To avoid spreading disease, always use a 10% bleach solution to clean pruners when pruning multiple plants.
- If the lower light indoors in winter causes legginess, cut back the entire top by about a third. February is a good time to do this so that flowering and fruiting are least affected. Supplement with plant lights to avoid this problem.
- Water sprouts are branches that shoot straight up beyond the canopy, often with thorns and larger leaves. They may be pruned somewhat to increase branching. They will bear fruit, however, whose weight will eventually bend and shape the branch into a more desirable form. Thorns may be pruned off without harming productivity.

## Repotting

- Citrus should *only* be repotted when a tree outgrows its container and roots push out of the drainage holes. Signs of root-bound stress may mimic over- or under-watering such as dropping or browning leaves and twig dieback.
- Move to a pot which is 25% larger, or root-prune about 2"-3" off and repot to the same pot. In either case, use fresh potting soil, add *Turface* to improve soil structure and slow-release *Espoma Citrus-tone* 5-2-6. Water in thoroughly. If you decide to root-prune, you must also prune at least a third of the foliage as well.

## Being Proactive: Stress, Deficiency, Disease, or Pest

- Yellowed foliage and cupped leaves indicate stress, usually over-watering to the point where root tips are rotting and unable to take up nutrients. Roots should be whitish and succulent; if not, treat with *Superthrive* to rejuvenate.
- Discoloration, puckering and spots on foliage may be due to nutrient deficiencies or fungal diseases. Take a proactive stance to diagnose the problem and then apply the proper treatment before it spreads. A first step could be this useful guide: <https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1492.pdf>
- In spring and fall, watch for leaf miners on new growth. Discontinue high nitrogen fertilizer; treat with *Neem Oil*.
- Aphids, mealybugs and scale may appear in winter on already stressed citrus. Insecticidal soap and horticultural oil will smother these chewing insects, *Neem Oil* will kill them. These remedies have no toxic effect on leaves or fruit.