

*The content of this article was prepared by the [University of Maryland](#).*

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- Citrus plants grow naturally in tropical and subtropical regions of the world where they thrive with warm temperatures, high humidity, and sandy, slightly acidic soil.
- In Maryland, citrus plants need to be in containers that can be moved easily indoors during the winter to a room with a minimum of 6 hours of bright light.
- Many dwarf citrus varieties ranging from lemons and limes to mandarins and kumquats are available to home growers. Dwarf citrus plants are grafted onto cold-hardy rootstock and can be maintained as 3-to-6-foot tall houseplants.
- Adequate light, moisture, fertilizer, and hand-pollination (indoors) are essential for successful fruit production.

## Conditions for growing potted citrus

To grow dwarf citrus successfully year-round, follow these general guidelines.

**Light:** Place your citrus plant where it will receive at least 6 hours of direct sunlight or preferably more (8-12 hours) each day. During the winter, a position near a South-facing window will provide the strongest light. Supplemental indoor lighting with a fluorescent or LED grow light will be necessary if ambient light is insufficient.

In the spring after the danger of frost has passed, place your citrus tree outdoors to receive the maximum amount of sunlight - 8-12 hours of direct sun exposure - and move it back indoors in the fall, prior to the first frost. Acclimate your plant gradually when you move it outdoors/indoors. For example, move your plant to a partially shaded area outdoors after the last frost in spring, and gradually move it into more light over a period of two weeks.

**Water:** Citrus plants like consistent moisture but not waterlogged soil. Choose a lightweight container that has a drainage hole in the bottom to allow excess water to drain out.

Citrus plants in containers outdoors in the summer may need daily watering, depending on the weather conditions and the moisture-holding ability of your planting medium. When indoors, take care not to overwater your citrus plant. Check your plant's soil moisture once or twice each week. Press a finger down 2" into the soil. If it feels dry, it is time to water.

Thoroughly add water until it drains out from the bottom of the pot. Remove any excess water from the saucer or tray underneath; plants should not sit in standing water.

Allow the surface of the soil to dry out between waterings. [Fungus gnats](#) can become a problem if the surface of the soil remains wet.

Leaf drop is an indicator of overwatering. Flower drop is an indicator that the soil is too dry.

**Temperature & Humidity:** Citrus plants naturally come from warm, humid environments. They do not like the dry air that is typical indoors in the wintertime. Set up an automatic humidifier near your plant to increase the humidity level (~50%). Outdoors in Maryland's summers, your citrus plant will receive adequate humidity naturally.

In general, citrus prefers a daytime temperature between 65F-75F+ and a nighttime temperature of 55-65F. Cooler temperatures initiate flower development. Most types of citrus will be damaged when the temperature drops below 32F, so winter protection is essential.

**Soil & Fertilizer:** Use a general potting medium or a "cactus and citrus" potting medium that provides good drainage. Repot into fresh potting medium once every three years.

Container-grown citrus plants need fertilization. They are heavy nitrogen feeders. Look for a fertilizer that has nitrogen in a 2-1-1 or 3-1-1 nitrogen-phosphorus-potassium (NPK) ratio. You can use an organic granular or slow-release fertilizer or a product labeled "citrus fertilizer." Another option is a liquid fertilizer (such as fish emulsion) applied when you water.

Fertilize your plant only when it is actively growing (spring to late summer). The frequency of application will depend on the type of fertilizer you choose (read the product label). As a general guideline, fertilize citrus at least three times in the growing season: spring, early summer, and late summer. Stop fertilizing by early fall. This will prompt your plant to harden off rather than develop new foliage. You do not need to fertilize in the winter.

**Flowers & Fruits:** Citrus trees produce fragrant white flowers in the spring. Some types (lemons, limes) will continue to produce flowers from spring to fall. The majority of dwarf

citrus plants are self-fertile, so you do not need a second plant for [pollination](#).

Flowers produced when your plant is outdoors will be pollinated by a variety of insects. When your plant is indoors for the winter, you will have to hand pollinate the flowers in order to initiate fruit development. Use a small dry paintbrush to pick up pollen from one flower and brush it from flower to flower.

Citrus fruits ripen at different times of the year, depending on the type and variety. For example, mandarins ripen from late winter to spring; Meyer lemons ripen primarily from fall to winter but may produce fruits throughout the year.

Citrus plants naturally shed some of their excess immature fruits. Potted plants typically set more fruit than they can support. The shedding of excess fruit is normal. The amount of fruit drop may be alarming (up to 75% of fruits may fall off). Fruit drop also occurs as a response to a sudden change in temperature.

Be patient when it comes to fruiting. A young citrus plant may not bear fruit until after a few years of growth. Also, fruits on some varieties may take six to nine months to ripen fully. Adequate lighting (see above) is essential for good fruit development.



*Meyer lemon after pruning*

*Photo: Ria Malloy, University of Maryland Extension*

**Pruning:** Prune dwarf citrus to maintain a desired height and form. Pruning may be done from the time you bring your plant indoors in the fall up until new growth develops in the spring. Keep in mind that the timing of pruning will affect flowering and fruiting. Broken or dead branches can be pruned out at any time.

Prune out branches that are damaged, crossing, or growing straight upwards. Pruning the central leader branch(es) will encourage the development of side branches. Prune off suckers growing from below the graft line.

Some types of citrus (e.g., Meyer lemon, kaffir lime) produce thorns, which can be pruned off at any time without harm to the plant. Other varieties (e.g., kumquats, thornless key limes) are thornless.

A citrus plant that is crowded in its pot and declining in overall vigor can benefit from root pruning. Root pruning also can be done periodically to maintain your plant in a pot that is sized for easy maneuverability. Carefully tip the root ball out of the container. Slice the root ball vertically from top to bottom in several places using pruners or a knife, removing the outer 1-2 inches of the root mass. Use a hand tool to tease apart the remaining roots and repot the plant into fresh potting media. Root pruning will stimulate new growth. [[Watch a video demonstration of root pruning.](#)]