



The common garden tomato (*Lycopersicon esculentum* commune) is a member of the Solanaceae family (potato, nightshade, and eggplant hang out there as well) and while thought be poisonous in earlier times, is actually nontoxic and quite delicious. Originally from South America, the tomato moved with various cultures into Mexico, North America, and finally overseas to Europe during the 16th century. They are now enjoyed around the world, and there is no better place to get a great tomato than your own backyard on a sunny, late summer day. Whether starting from seed or buying healthy plants, tomatoes have some requirements for a productive life – a happy place to grow, food, sunlight, warmth, water, and a bit of extra care.

Tomatoes are sensitive to freezing temperatures so if planting from seed, they should be sown indoors about eight weeks before the last frost and when mature enough, allowed to acclimate to outdoor conditions before thrusting them into production. These home-raised, or purchased, plants should be placed into a well-prepared garden plot sometime around the last week of May – after the last frost. A well-drained, loose soil with a good organic composition and a relatively neutral pH of 6.5 – 7.0 is a happy environment for tomato plants. For those gardeners that have limited space, soil health issues, or no garden space at all - tomatoes do quite nicely in containers, especially when fed and watered religiously. To give container tomatoes a happy home – start with a quality, sterile growing medium in a sterilized container.

When feeding tomatoes, grown either in the garden or in containers, use a balanced fertilizer made for tomatoes to get the best results. You can begin to side dress the garden tomatoes after fruit set, continuing to feed every 4 – 6 weeks. For container grown tomatoes, begin the fertilization program after fruit set as well. The feeding frequency will need to increase to compensate for the lack of natural nutrition in the planting media and the runoff inherent in many container plantings. Be sure to check the fertilizer label for container application instructions. To begin any feeding regiment before the fruit has set will encourage vegetative (leaf) growth rather than fruit development. And while the leaves will look fantastic, the fruit will struggle to exist.

For maximum growth, tomato plants should receive full sun – six to eight hours per day – and be in a situation where the average daily temperature is above 60 degrees F. Temperatures below 55 degrees F slow plant growth and impede fruit development. When experiencing highs or lows in temperatures, flower drop often occurs, and although generally not fatal, it will push harvest back accordingly. Catfacing on the fruit is a common result of cool weather during blossom. Exceedingly high temperatures and direct sun can cause sunscald, affecting normal fruit development as much as low temperatures can. To moderate the effects of environmental extremes, planting covers can be used. It does increase the work load, requiring extra time to place and remove the covers, daily, as well as monitor for any additional, under-cover insect issues. If limited sun is an issue, containers may be perfect as you can mobilize them (think funky/garden artsy wheelie carts) to maximize exposure.

Water is so important to most living things and tomatoes are no exception. Each plant needs between two and four quarts of water daily – dependent of course on soil type, location, air humidity levels, rainfall, and all sorts of other factors. But – you get the idea – they need a lot of water to grow, do well, and produce fruit. Lack of a consistent water supply affects the ability of the plant to remain sufficiently hydrated to facilitate nutrient uptake. So even if you have a good fertility program, not providing the appropriate amount of water will definitely negate your efforts. When calcium uptake is affected, the result is blossom end rot. Too much direct sun and an inconsistent water supply will cause the fruit to crack.

A bit of extra care may be in order, depending on the type of plant(s) you have and your preference for care techniques. Generally, tomatoes will be early, mid-season, or late in development, and can be either bush or vine (cordon, if you're feeling European). The growth habit may be determinate, indeterminate or somewhere in between – what's the difference, right? Well, determinate are bred to grow to a certain height and stop. They flower, fruit and are done within a relatively specific time frame. Pruning should be done very carefully on these as you only get one crop flush per season. Indeterminate plants will grow, and

repeatedly flower and fruit throughout the entire season – as long as weather conditions permit. To control the size of the plant, the amount of side shoot growth, and the quality of the fruit, pinching back growth, frequently, may be necessary. To stake or not to stake? Staking encourages the development of larger fruits, caging tends to increase the production numbers over that of staking, while the greatest yields come from plants that are left to sprawl on the ground. The choice is up to the grower and is really dependent on many factors – soil, conditions, how many people are being fed, desired result... it can go on and on. A very general guideline is that between three and five plants will provide enough tomatoes to feed one person all the fresh fruit they can stand throughout the season. If the goal is to eat fresh and preserve some for the off-season, you will need between five and ten healthy tomato plants per person.

Often you will notice that the seed packets or plant labels will have letters displayed near or under the variety names. These do actually stand for something – (D) Determinate, (F) Fusarium wilt, (V) Verticillium wilt, (N) Nematodes, (T) Tobacco mosaic, (B) Bacterial speck. Growth habits, disease and pest resistance are all important qualities in the varieties you choose. When the seed and/or plant producers can determine a varietal resistance to any of these problems, the appropriate labeling is displayed to help the consumer make an informed choice.

There are so many great heirloom and hybrid tomato varieties to choose from. The size – teeny, tiny currant tomatoes to enormous slicers - shapes from perfectly round to pear to oddball, and colors – purple, yellow, green, striped, pink, even red ones. The flavors run from super sweet and mild to very acidic. There are enough choices to make even the pickiest of eaters look at a tomato in a whole new light.