

# May 29, 2016

## Tomatoes

It's difficult to think anything but pleasant thoughts while eating a homegrown tomato. - Lewis Gizzard

Nothing is better than a tomato you grow in your own garden. Usually, far more flavorful than any machine-harvested fruit bought from the store. Rub the surface of a tomato leaf and inhale that characteristic odor, unique to tomatoes. A kind of spicy botanical aroma. It's the smell of summer.

No plant is more iconic to a Minnesota gardener than tomatoes. Are tomatoes a fruit or a vegetable? Botanically speaking, tomatoes are a fruit, but are classified as a vegetable for no good reason. Most gardeners in the northland have their favorite varieties and know they shouldn't plant until Memorial Day; hopefully when all danger from frost is past. However as one anticipates the first fruits of the season, there is time for reflection and questions. Has the best tomato variety been chosen and what kind of information is the most useful in growing a good tomato?

What, for example, is the difference between determinate and indeterminate plants? Determinate tomatoes are the "bush-types" that grow to about three to four feet and stop growing when fruit sets on the top bud. All the tomatoes ripen at about the same time, usually within one to two weeks, and require little staking making them ideal for container planting. Indeterminate plants grow up to six feet or more and produce fruit until killed by frost.

Never prune a determinate tomato but pruning indeterminates varies with the variety and planting site. Some gardeners like to remove most of the suckers at the bottom ten inches or so to increase air flow and reduce the risk of fruit touching the ground. Some horticulturalists state that all suckers be removed up to the one just below the first flower cluster. This promotes the formation of new flower buds for better fruiting.

What is the difference between regular and heirloom tomatoes? Several sources differ on the traits of both types. Heirloom

tomatoes are open pollinated tomatoes whose seeds have been handed down from generation to generation. They are generally thin skinned and flavorful. However, some sources erroneously state they are resistant to all diseases. They are not. Many heirloom tomatoes are susceptible to different diseases.

Regular tomatoes, the ones mainly sold in plant nurseries, are hybrid tomatoes that have been bred for the consumer market. And depending upon your favorite variety, these too can have good flavor but thicker skin than heirlooms. Some are resistant to “some” diseases. In northern Minnesota, both heirlooms and regular tomatoes are susceptible to certain leaf blights such as Septoria leaf blight and Verticillium wilt. However, if a regular tomato variety has a tag with the initials “V,F,N” this means that variety is resistant to Verticillium wilt, Fusarium wilt, and nematodes.

If you save the seeds from a hybrid tomato you will not get a plant like the parent because the parent is a combination of two or more different varieties or inbreds, like hybrid corn. However, you can save the seed from an open pollinated heirloom variety which accounts for their popularity. However, heirlooms come in many “strange” shapes, colors, and sizes; an appealing feature to many heirloom connoisseurs.

If you grow tomatoes in a container, almost any variety will do well as long as the container is large enough for adequate root growth and placed in sunlight. However, determinates are much easier to grow than indeterminates in a pot or planter. And the bigger the container the happier the tomato.

If you plant tomatoes in a garden, choose a sunny spot. Tomatoes need sunshine. If tomatoes are placed in a shady or “semi-sunny” spot, the result will be less blossoms and consequently less fruit. Also there are allegorical stories about bees and other pollinating insects preferring plants growing in sunshine rather than shade. However, I cannot find any references to verify this.

Space indeterminate plants at least three feet apart. The reason for the wide spacing is to allow drying air movement to pass through the foliage thus reducing the severity of foliar diseases. Less space is needed for determinants because their growth pattern is more compact.

Tomatoes are heavy users of nutrients. However, do not overuse nitrogen (the first number on a fertilizer bag) as plants will produce excess vegetative growth and not form flowers. An ideal fertilizer would

be something like a 5-10-10 or 5-10-5. Fertilize when tomatoes are first planted by mixing the fertilizer with the soil at the bottom of the hole; once again when they first set fruit; then apply small quantities ever two weeks until frost. Be careful that fertilizer does not touch roots when planting as the roots may burn. Later, as the fruit is setting, place the fertilizer a few inches from the base of the plant, lightly incorporate it into the soil and make sure the plants are well watered.

Tomatoes require an even supply of water throughout the season; an irregular water supply will cause wilt and blossom end rot. Tomatoes need at least one inch of water per week for steady growth. In hotter, drier weather, tomatoes need up to two inches of water per week. When watering, soak the soil to a depth of at least six to eight inches. Conversely, overwatering is harmful as soggy soil will prevent roots from getting the air they need. Normally, plants may wilt on hot, summer afternoons, but they'll usually perk up overnight. However, if plants are wilted in the morning, water them immediately! A thorough soaking every four to five days on light, sandy soils and every seven to ten days on heavier soils is a good general guide for watering, if it doesn't rain.

Water early in the day to cut down on evaporation losses and also to give your plants plenty of time to dry out. Wet foliage overnight may help trigger some diseases. Furrow irrigation, drip irrigation, and soaker hoses deliver water at the soil surface and not on the leaves; therefore, you can water almost anytime except at midday when evaporation losses are highest. Use a mulch to retain and reduce the fluctuation of soil moisture. However, don't apply mulch until after the transplants have been growing for five to six weeks.

Happy eating!

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