

THE Natural GARDENER

Tomatoes

(and other summer vegetables)

Tomatoes are the most popular vegetable grown by the home gardener. Producing an abundant crop of tomatoes is such a reward – and a challenge. It is worth it, however, to harvest our own delicious, organic, non-genetically-modified tomatoes fresh off the vine. The following recommendations should help. These same recommendations will help *peppers* too, and other warm season vegetables such as squash and cucumbers.

Location - Tomatoes need full sun, so choose a spot that gets *at least* 6 hours of direct, unimpeded sunlight. Morning sun is better than afternoon sun. In addition, avoid planting members of the tomato family – tomatoes, potatoes, peppers, and eggplant – in the same area for two to three years. Plants in the same family often share the same diseases and pests, and these problems build up if these plants are not rotated from year to year.

Soil - Creating the richest soil possible is the greatest key to success. Whether your soil is sandy, clayey, or somewhere in between, add a good quality compost. Mix in enough **Lady Bug Revitalizer, Farm Style, or All-American Turkey Compost** so that your garden is approximately half compost and half soil. If you have no soil, make a raised bed using our **Hill Country Garden Soil**. In either case, also mix in a good organic fertilizer such as **Lady Bug brand Garden Pep Cottonseed Meal**. If a soil test indicates a need for phosphorus, use **Lady Bug brand Flower Power** instead. Every 4 – 6 weeks add more fertilizer.

Judge Harley Clark is a tomato farmer who has generously shared with us his recommendations for growing the best tomatoes in the Austin area. He uses a fertilizer recipe from Steve Solomon via *Mother Earth News*. Measure by volume, not by weight. Here's the recipe. The ingredients have been adjusted based on their availability in our area.

ORGANIC FERTILIZER RECIPE

4 parts **Lady Bug brand Cottonseed Meal**

1/4 part **Hoe-Down Gypsum**

1/2 part **Espoma Garden Lime**

Plus, for best results:

1 part **Hi-Yield Bone Meal** or **Earthsafe Organics Rock Phosphate**

1/2 to 1 part **Rabbit Hill Farm Kelp Meal**

Apply 4 to 6 quarts of this fertilizer mix for every 100 square feet and reapply every 4 – 6 weeks.

In the past, lime was only recommended on acidic soils. However, we're learning that in soils containing plenty of high quality manure compost that are maintained organically, pH may not be important. The beneficial microorganisms in a healthy organic soil ameliorate the problems formerly associated with a pH that is too high or low. Judge Clark has great success, and has reported that the calcium supplied by the lime prevents all Blossom End Rot on his tomatoes.

Varieties - The Natural Gardener only carries tomato varieties that are well adapted here. It is important to grow varieties that are fairly quick to mature. Skip Richter, director of the Travis County Texas AgriLife Extension Service recommends varieties that ripen in 73 days or less. Also, some varieties have been bred to be resistant to common diseases; there are code letters on their label that indicate their resistance. Here is the guide to disease resistance codes: **A**=*Alternaria*; **F**=*Fusarium*; **N**=*Nematodes*; **T**=*Tobacco Mosaic Virus*; **V**=*Verticillium*. Especially if your tomatoes have suffered in the past, choose varieties with the most resistance. Finally, choose *determinate* varieties if you want all of your tomatoes to ripen at the same time and be done. This is useful if you are canning. Choose *indeterminate* varieties if you want your plants to keep producing more and more tomatoes as long as possible.

Timing - Tomatoes are harmed by temperatures below 40-45° Fahrenheit, and won't set fruit above 90°, so timing is crucial. Spring tomatoes can be planted in the ground after the danger of frost has passed. The *average* last frost date at Austin Bergstrom is March 3. It may freeze after that date, and the nights may get too cool. Use **Row Cover**, a sheet, blanket, or plastic for frost protection. Do not allow the plastic to touch the plant, or that part will freeze. Be sure to cover the plant completely, bringing the cover all the way to the ground. If it gets warm &/or sunny the next day, remove the plastic or the plants will fry. To get a head start on the season, tomatoes can be planted in a container first and brought indoors when cool temperatures threaten. For containers, use **Lady Bug Vortex** or **Square Foot Garden Blend** and add one of the fertilizers above.

In July, if spring-planted, indeterminate tomatoes still look good, cut off 1/3 of the plant and they will be rejuvenated for the fall season. If not, acquire fresh tomato starts and plant again for a fall crop of tomatoes, using the same soil preparation methods described above. Now, it's a race against time to get ripe tomatoes before the first frost. At Austin Bergstrom, the average first frost is November 28. Some folks add Christmas lights or utility lights under their frost protection at this point. If you don't want to go to that trouble, harvest all green tomatoes before the first frost. Put two or three in a paper bag with an apple to get them to ripen, or make fried green tomatoes!

Tomatoes

(continued)

Planting – You can bury the tomato rootball *and* stem, leaving 4 – 6” of the plant above ground. (Remove the leaves from the buried part first). Because the tomato is a vine, it can grow roots out of its stem. Be sure to give the tomato the correct spacing, based on the variety. Apply mulch, about 3” deep. Almost any mulch will do. **Mulch** holds in moisture, keeps out weeds, moderates soil temperature, keeps soil softer, and can help prevent diseases. Water the plant thoroughly right away, and follow with a solution of **Lady Bug John’s Recipe**. It is a great stimulator for new transplants. Most varieties, except ‘Patio,’ will need a **tomato cage** or **plant stakes** – the sooner, the better.

Maintenance – Keep the soil deeply and evenly moist throughout the growing season. Avoid drought or overwatering stress, which can lead to Fruit Cracking or Blossom End Rot. Spray **Maxicrop Seaweed** or **Lady Bug John’s Recipe** (which contains seaweed) on tomato foliage once a month or more to really boost tomato growth and production. Regular foliar feeding strengthens the plant, builds its resistance to diseases and pests, and provides essential trace minerals. Seaweed also contains growth stimulants that can help boost all plant functions, including flowering and fruiting. Foliar feed *only* in early morning or late evening, after watering. Also, avoid pruning tomatoes, since an abundance of leaf cover protects tomato fruits from sunburn. In summer, **40% shade cloth** suspended over tomatoes, or on the west side, can also help.

Problems – Tomatoes are susceptible to a host of insect and disease pests, but don’t let that discourage you. Follow the recommendations listed above and stress is minimized, reducing tomatoes’ vulnerability to such problems. Also learn to recognize beneficial insects, too, so you can enjoy their help in the garden. If problems begin to occur, get an accurate diagnosis as soon as possible. You may research on your own using reliable sources online or in books. Some suggested resources are as follows:

Websites – <http://aggie-horticulture.tamu.edu/publications/tomatoproblemsolver/>
– <http://vegipm.tamu.edu/>

Books – *The Vegetable Book* by Sam Cotner; *A Field Guide to Common Texas Insects* by Bastiaan Drees and John Jackman; *Identifying Diseases of Vegetables* by MacNab, Sherf, and Springer, published by The Penn. State University; and *Texas Bug Book* by M. Beck and J. H. Garrett.

If you would like for our horticultural staff to diagnose the problem, put a sample of the problem plant (and any insect found, if applicable) in a sealed bag or jar. For best results get a sample that is just beginning to show symptoms – not a dead plant. Bring your sample to our information desk, and we’ll be glad to help.

Many soil-borne diseases, such as Fusarium and Phytophthora, can be prevented by mixing in **Actino-Iron** at planting time. This is especially crucial if tomatoes must be planted in the same place as last year. If these diseases – and even air-borne diseases – show up on plants after planting, a water-soluble version of this product – **Actinovate** – can be used as a curative. **Serenade** is another disease control product that is effective.

If tomato plants get Spider Mites, they need to be treated right away. Spider Mites are tiny critters that live on the bottom surface of the leaves, sucking juices and leaving yellow or pale freckles on the upper surface of the leaves. In advanced stages, they will develop webbing under the leaves and along the stem. Spray **Organicide** or **All Seasons Spray Oil**, according to package directions, two or three weeks in a row. Aphids are small, soft-bodied, sucking insects that cluster on leaves and stems. They may be black, white, green, yellow, or red. To control, start with a strong blast of water every 3 days. For a more serious case, spray plants with **Safer’s Insecticidal Soap** every 5 days until controlled. If leaves seem to disappear overnight, it may be the Tomato Hornworm or another caterpillar. Spray leaves in the evening with **B.t. (Bacillus thuringiensis)** and that should take care of them. Likewise, if there is a small, neat hole in the fruit, it may be a tomato fruit worm, and **B.t.** will help prevent further damage. As the season progresses, two more problems may crop up: Birds and Stink Bugs. Both are very difficult to thwart. Leaf-footed Bugs and other Stink Bugs may be picked off by hand and dropped into a bucket of soapy water. You may also use a shop vacuum to suck them up. You may want to dust **Diatomaceous Earth** over the whole plant – this may help reduce numbers. If tomato fruits have messy, rough holes in them, it is probably Bird damage. Many people hang red Christmas ornaments to fool and frustrate birds *before* the first fruit ripens. You may hang shiny objects, such as old CDs, **Holographic Scare Tape**, or the **Guard’n Eyes Bird-Scaring Balloon**.

A condition known as Blossom-End Rot is not caused by a disease or an insect. This dry, brown/black lesion on the bottom of the fruit is a calcium deficiency triggered by uneven watering – too much or too little, or planting in cool soil, or excessive nitrogen fertilizer. Future Blossom-End Rot can be prevented by watering regularly and mulching.

Homegrown tomatoes have such a legacy, there is even a song named after them written by Texan Guy Clark. Join in this tradition and grow your own today!