

Feed Hungry Tomatoes

Leimone Waite, Master Gardener, April 27, 2018

Q: We have received several questions about tomato plants. Multiple symptoms have been described but the common ones have been yellow or brown leaves on different parts of the plant. One gardener asked if their tomato plant's yellowing leaves were due to a lack of fertilizer, while another gardener asked if their tomato plant's yellow leaves were due to too much fertilizer.

A: My answer is, it depends. The symptom of yellowing, chlorotic, leaves can indicate many different issues with the plant. If the lower leaves are yellowing but the newer leaves are still green this could indicate the plant is lacking in nitrogen. If the newer leaves are yellow with dark green leaves, this could mean a lack of iron or a soil pH that is off. If the plant is yellowing from the top down this could indicate that it was given too much fertilizer, was damaged by cold temperatures or the soil was allowed to get too dry. So you can see why my answer is that it depends. In order to give a proper diagnosis for what might be the cause of the yellowing plant our Master Gardeners need information on the care and conditions that plant has been growing in for the past couple of weeks.



(Photo: Vickie King, AP)

As a rule, few gardeners get fertilizing right, they either over or under fertilize. In tomatoes, too little fertilizer produces poor plant growth, yellowing older leaves, purple stems and a lack of flowering and fruit. On the other hand, too much fertilizer can burn the new leaves of seedlings, causes an abundance of green growth and little fruit and can potentially run off and pollute our waterways.

The easiest way to determine if you need to fertilize it to do a visual evaluation of your plant. Nitrogen-poor plants will have yellowing of older leaves, a slower growth rate and leaf density. Most soils have a lack of nitrogen as it a highly mobile nutrient that is easily leached from the soil. Iron deficiency can also produce yellowing of new leaves, but initially does not cause slower growth.

Phosphorus is also usually low in our local soils, especially the red clay soils with a hardpan or claypan layers. Symptoms of phosphorus deficiency are stunted growth with a purplish cast to the leaves or stems. Because phosphorus is not mobile in the soil, bone meal or phosphate should be dug in at planting time to be effective.

Improper watering will cause the same symptoms as lack of nutrients because the plants either do not have the water needed to take up nutrients from the soil or are getting too wet and drowning. Before adding fertilizer, confirm the soil contains the proper moisture. Contact the Master Gardener Office if you do not know how to tell.

If you suspect that you have had nutrient problems in your garden in the past it is a good idea to have a nutrient test done. Send off a sample to a lab and have your soil evaluated. This will allow you to make informed decisions about fertilizing your garden.

Each year you should be adding compost or mulches to the garden area as soil organic matter is used up rapidly in our climate. By adding organic matter to the soil you will be adding nutrients to the soil as

well as improving the soil structure. However, you may still need to fertilize as some nutrients are used up rapidly by growing plants.

The Shasta Master Gardeners Program can be reached by phone at 242-2219 or email mastergardener@shastacollege.edu. The gardener office is staffed by volunteers trained by the University of California to answer gardeners' questions using information based on scientific research.