

Problem: Herbicide Damage to Trees, Shrubs, Turf and Garden Plants



Herbicide Damage on Tomato

Plants Affected: Trees, shrubs, turf and garden plants

Description: Every year we see damage caused by exposure to herbicides. Symptoms vary with herbicide applied, plants exposed, concentration of product and environmental factors, especially hot temperatures.

Here is a list of the types of damage commonly seen.

Broadleaf herbicide drift. A number of herbicides used on farms and on home lawns are essentially plant growth hormones. These include 2,4-D, triclopyr, and dicamba and are commonly used to control broadleaf weeds in lawns, pastures, or grassy crops. These products may become a gas (volatilize) at high temperatures, causing them to drift and damage nontarget plants such as trees and shrubs. Symptoms may include twisting and distortion of plant foliage, leaf yellowing, and, in severe cases, branch dieback. One of the trademark signs of this damage is the curly-Q twisting of leaf petioles or stems. Though tomatoes, redbud trees, and grapes are sensitive to these herbicides, a number of species will show some damage if drift has occurred. If you see twisting on more than one species, chances are that herbicide drift has occurred.

Damage to vegetable gardens. Though drift is the most common cause of herbicide damage on vegetables, other potential problems exist as well. Cattle fed prairie hay from pasture treated with picloram (Tordon) can have manure tainted with the herbicide. If this manure is used on a vegetable garden, plants may sicken and die. Also, lawn clippings treated with quinclorac (a crabgrass killer) and used as mulch can have the same effect. Both products can remain active for up to 24 months.

Damage from stump or sprout treatments. Tree stumps often are treated to prevent resprouting. Two commonly used products are picloram (Tordon) and triclopyr (Remedy, Stump Killer, Brush-B-Gon, etc.). Be careful when applying these herbicides to prevent

contamination of the soil. Nearby trees may be damaged if they pick up enough herbicide. Affected trees may suffer leaf loss, leaf browning, branch dieback for death of the entire plants.

Liquid Weed Edgers. Herbicides are often used along fences, on sidewalks or gravel drives to prevent plant growth. Some of these, including glyphosate (Roundup) and glufosinate (Finale) rarely cause damage unless sprayed directly on the foliage of a shrub or tree. Other liquid weed edger products are soil sterilants and have a long residual (months to years) in soil and are highly toxic to trees and shrubs. Symptoms may include yellowing, marginal leaf scorching, branch dieback and tree mortality. Once the tree takes up these products through their roots, they suffer permanent damage.

Recommendations:

Broadleaf herbicide drift. Often, plants recover from drift due to volatilization. Water when needed to prevent any further stress to the plant.

Damage to vegetable gardens. To reduce the chances of herbicide injury, avoid applying herbicides near the vegetable garden. Apply products during calm mornings and cool temperatures. If you use clippings or manure as mulches or amendments, make sure they are free of herbicide residues. Composting these materials for a couple of months is usually sufficient to reduce any potential residue problems. However, lawns treated with quinclorac (commonly used crabgrass killer), can be affected up to 18 months after application. Severely stunted or distorted plants may not die, but they often don't produce well. If you find badly damaged plants when they are young, it may be best to replace them. Tomatoes showing only mild twisting will usually grow out of herbicide damage without seriously reducing yield or fruit quality.

Damage from stump or sprout treatments. Be very careful about using these products near valuable trees and shrubs so that no excess material is allowed to soak into the ground. Do not use picloram (Tordon) near desirable broadleaf plants.

Never use a herbicide to treat sprouts coming from a root system of a tree you want to keep. A number of tree species including honey locust, black locust, hackberry, western soapberry, persimmon, and occasionally, maples may send up sprouts from their roots.

Treating these sprouts will effectively treat the tree to which they are attached. This may ultimately kill the tree. Also remember that trees of the same species growing next to one another may share a root system as a result of root grafting. Treating one tree in the group is like treating all of the trees.

If treating volunteer sprouts, use a product such as Monterey Sucker Stopper or Fertilome Prune Smart Sprout Inhibitor RTU. Neither will harm the plant to which the sprouts are attached.

Liquid Weed Edgers. Never use these soil sterilants in areas where tree roots may be exposed. Remember that tree roots extend well beyond the drip line. It is almost impossible to use liquid weed edgers in the landscape without coming in contact with tree roots. Also remember that some of these products, such as prometon, will move with water until they become affixed to the soil.

References:

1. [Herbicide Drift](#), In the Backyard Blog, June 11, 2009, University of Illinois
2. [Herbicide Drift Injury](#), Iowa State University, Horticulture & Home Pest News, 6/13/2012
3. [Disorders of Tomatoes](#), University of Minnesota, M1274

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