

Herbicide Drift

By Kathleen Cue, Nebraska Extension Horticulture Educator

A tomato plant sample was brought in today with curled stems and cupped leaves. Under-watering and fungal diseases were a few of guesses as to the wonky foliage while truly the blame lies with herbicide drift. Drift occurs when desired plants receive an accidental dose of herbicide. Depending on the herbicide, damage to vegetable plants and trees can show different symptoms--bleaching or yellowing, twisting, curling, and cupping of leaves. The most common culprits that cause curling and cupping leaves include 2,4-D (used to kill broadleaf weeds in lawns and pastures), dicamba (lawn and crop broadleaf weeds) and picloram (pasture broadleaf weeds). These herbicides are plant growth regulators, killing weeds by stimulating excessive growth and using up plant fuel, carbohydrates.

There is nothing that can be done to counter the effects of herbicide drift. Intuitively, we know there is some plant stress because distorted leaves don't photosynthesize as well as normal ones. Here are the most common modes of herbicide movement.

Wind

The greater the wind speed, the higher the likelihood the herbicide's air-borne droplets will be carried onto desired plants. Spray when wind speed is 3-7 miles per hour and set the sprayer to a larger droplet size. Ask applicators in adjacent areas to be mindful of wind conditions and make applications when conditions are conducive for herbicides staying put.

Volatilization

A big word, a simple concept. When temperatures surpass 85° F, herbicides can vaporize and herbicide-laden vapors settle elsewhere, often where they are least desired. If temperatures are hot, spray in the cooler morning hours.

Sprayers

Separate sprayers—one for insecticides and one for herbicides—keep herbicide residues from becoming a problem. Mark the sprayers so you don't forget!

Lawn Clippings, Soil, Compost and Manure

Lawns or pastures treated with herbicides can be a problem when grass clippings, soil, compost, hay, and animal manure from these sites are used in gardens and around trees. Knowing the history of how these sites are managed will help determine if these materials can be used.

Herbicides moved via wind, volatilization and contaminated sprayers tend to be one-time incidences. As vegetable plants and trees put out new growth, the leaves and stems will most likely be their normal shape and size, indicating plants have outgrown the effects of the herbicide. The damage to vegetable plants via herbicide-laden lawn clippings, soil, compost, hay, and manure is ongoing, particularly if picloram was used on the lawn or pasture. Consequently, vegetable plants don't recover and should not be eaten.

The Extension Master Gardener horticulture helpline and open clinic hours are:

Mondays, 9:00 am to 12:00 noon, Washington County Extension, 402.426.9455

Tuesdays, 1:00 to 3:00 pm, Cuming County Extension, 402.372.6006

Wednesdays and Fridays, 9:00 am to 12:00 noon, Dodge County Extension, 402.727.2775