

Lawn Herbicide Damage to Ornamentals

SYMPTOMS: Herbicide damage is usually noted in leaf tissue. Some plants, such as redbud, lilac, magnolia or petunias are especially sensitive to certain herbicides.

Herbicide exposure in the spring. Developing leaves and shoots of the plant will appear twisted, distorted, or cupped downward. The leaves usually remain green and attached to the plant, but may not fully develop. They are often narrow and thickened with veins that are close together (almost parallel rather than spreading out through the leaf blade). Blistering and dark green as well as yellowish areas may be noticed.

Herbicide exposure in the summer. Plants exposed to damaging herbicide quantities after leaf expansion will not show the same symptoms associated with leaf development. Twisting of the stalk that connects the leaf to the stem (petioles) may be the only symptom. However, leaf damage may appear the following spring if the herbicide material is long-lasting, such as dicamba.

On needle-bearing plants (conifers), symptoms of herbicide damage are also noticed in the new growth. Shoots become twisted and if the damage is severe, needles (young and old) may fall off the shoots. Dicamba may also cause new growth to turn brown and die.

Other Plant Disorders That Look Like Herbicide Damage:

Frost. Frost injury on needled plants (especially Taxus and spruce) can cause new growth to turn brown and die. On deciduous plants, cold can damage leaves as they are beginning to develop. Side effects are not noticed until the leaf enlarges and appears distorted and twisted or crumpled. This will not be noticed on younger leaves that developed after bud break and frost.

Viruses. Many viruses cause leaf distortion in plants. Virus symptoms are rare in woody ornamentals, but are often seen in herbaceous flowers as streaking and mottling of foliage and flowers.

Insect and Disease. Aphids and other sucking insects feed on the underside of leaves causing the leaf tissue to distort and become discolored. Both high and low temperatures can cause similar injury by killing newly expanding cells in leaves. Diseases which attack the leaves may also distort and discolor the new growth by injuring tissue during leaf expansion.

Nutrient deficiencies, air pollution, and excess salts should be taken into consideration in order to properly diagnose a plant problem.

CAUSES: Herbicides applied for control of broadleaf weeds in a lawn are similar to naturally occurring plant hormones that regulate growth. When applied at recommended rates, these growth regulators have a herbicidal effect by overstimulating young, rapidly expanding plant tissue, causing the weed to use up its food reserves and literally "grow itself to death." This rapid growth is responsible for the twisting and cupping characteristics of treated leaves. When carelessly or improperly applied, broadleaf herbicides also cause distortions in the new growth of sensitive ornamental plants although the effect is usually temporary.

SOLUTION: If herbicide damage is confirmed, the degree of injury should be assessed before damaged plants are treated. Most woody ornamentals resist the movement of broadleaf herbicides within the plant tissues and chemicals are normally broken down for the following season. Even severely affected plants may recover if care is taken to prevent further herbicide exposure. In general, most plants recover in time and replacement is unnecessary.

Activated charcoal will absorb certain herbicides and prevent further uptake from the soil. Pruning to remove the distorted plant tissue followed by judicious fertilization to promote new growth may help the plant recover more quickly. Other standard cultural practices such as supplemental watering and insect disease management will help maintain plant vigor and minimize the severity of herbicide damage.