

Urgent Request to Help Save Illinois Trees From Off-target Herbicide Drift Damage

March 19, 2021

The Illinois Forestry Association (IFA) is sharing this information in an effort to bring awareness to a serious threat to our trees and forests.

Herbicides can be effective tools for controlling unwanted weeds in the landscape⁽¹⁾. However, in recent years, IFA members have seen an alarming increase in unintended damage to trees and other landscape plants in multiple counties throughout our state from off-target herbicide exposure.

Testing and analysis by Illinois Department of Agriculture (IDOA) and Illinois Department of Natural Resources (IDNR) representatives have confirmed the presence of chemicals including 2,4-D and dicamba in damaged foliage samples in multiple cases. This foliage damage appears to have contributed to a decline in health and increased mortality of many of our tree and plant species including, but not limited to oaks, elms, maples, redbud, honeylocust, hickories, flowering dogwood, and sycamores.

About Trees

Trees are essential to our ecosystem and as a renewable resource provide social, communal, environmental and economic benefits. We as humans could not survive without the process of photosynthesis during which trees convert carbon dioxide to oxygen. Photosynthesis is also essential in the life cycle of deciduous trees whereby leaves collect sunlight and turn it into nutrients that the tree uses for energy. It is safe to say that the health of a tree is directly dependent on the health of its foliage.

What Are the Primary Symptoms of Herbicide Exposure?

- Leaves that are cupped, curled, twisted, deformed, puckered or strapped (narrowly elongated).⁽¹⁾
- Clusters of stunted shoots or abnormally elongated and twisted shoots.⁽¹⁾
- A thinning canopy (loss of foliage).

Why is the Damage Occurring Now?

In recent years with the emergence of weeds resistant to the glyphosate herbicides, applicators have significantly increased utilization of other chemicals including 2,4-D and dicamba for pre-emergent and post-emergent weed control. Many formulations of dicamba and 2,4-D (including the "low volatile" ester formulations) are prone to volatilization and drifting. Multiple factors affect volatilization, but higher temperature and lower humidity tend to favor increased volatilization. Unfortunately, under certain atmospheric conditions these chemicals can vaporize and drift considerable distances for several days after application. These chemicals are toxic to many tree species and can cause severe disfigurement of the leaves, which compromises photosynthesis.

Toxicity combined with compromised photosynthesis can lead to reduced flowering, fruiting, nut production and growth, increased risk of disease and insect damage, and causes decline and even subsequent premature death of trees.



What is Being Done?

The Illinois Department of Natural Resources began studying and monitoring tree damage in 2018 and continues to gather facts and evidence to help resolve the problem. In the meantime, the IFA believes that through awareness and education additional damage to our forested lands and trees can be mitigated.

How Can Applicators Help Prevent Damage to Trees?

- Read and follow all regulations and herbicide label directions, particularly restrictions that help limit drift, vaporization, and runoff. Look for precautionary statements regarding trees.⁽¹⁾
- Be particularly careful with chemicals capable of volatilizing and drifting. ***Please note that in several cases involving herbicide damage, applicators were unaware of the damage that was caused by volatilizing chemicals due to the distance at which the damage occurred relative to the target application site (e.g., >1/3 mile).***
- Fortunately, there are effective alternative chemicals for weed control that are not prone to off-target damage. Chemical providers and agronomists can help determine suitable products for your needs.

Plant Symptoms of Herbicide Damage



Twisted, Cupped Foliage



Thin Canopy



Cupped Foliage

- Be aware of surrounding properties with sensitive vegetation including parks, gardens, windbreaks, landscape nurseries, orchards, vineyards, organic farms, native woodlands and other natural areas. Visit Driftwatch.org for locations of growing operations near you.⁽¹⁾ Careful consideration should also be given to residential areas.

- Most damage occurs in spring when trees and other plants are leafing out with susceptible new growth. If practical, shift weed control to autumn when many weeds are more easily controlled and damage to trees is reduced.⁽¹⁾

- When possible use alternate methods of weed control such as cultivation, mulching, use of cover crops, and mowing weedy tree sprouts.⁽¹⁾

How Can Property Owners and Concerned Citizens Help?

If you see something, say something. Pay particular attention to trees for foliage damage symptoms between mid-March through late May when they are developing leaves and are particularly vulnerable to herbicides. Once these symptoms develop, they are typically observable for the remainder of the growing season on

damaged trees. Please reference <https://prairierivers.org/resources/monitoring-tree-and-plant-health/#leaf> for a detailed photo library of herbicide symptoms on a variety of tree species.

Damage from weather, insects, and diseases can be confused with herbicide damage.⁽¹⁾ If you have trees exhibiting foliage damage, and want help in diagnosing the injury, please contact your county extension office <https://extension.illinois.edu> or local IDNR forester <https://www2.illinois.gov/dnr/conservation/Forestry>. Contacting IDNR may not always result in a site visit. However, district foresters are likely to provide a form that can be filled out and returned. District foresters will keep track of these forms and attempt to see some affected sites as time permits.

If you believe your property has been damaged by pesticide misuse, call the IDOA's Bureau of Environmental Programs at 1-800-641-3934 (voice and TDD) or 217-785-2427 for a complaint form or visit their website at <https://www2.illinois.gov/sites/agr>.

Individuals with specialty crops or timber property are encouraged to register with Fieldwatch <https://driftwatch.org> to alert applicators of their sensitive crops. FieldWatch is a non-profit company with a Google

Maps based registry built to enhance communications that promote awareness and stewardship activities between producers of specialty crops, bee keepers and pesticide applicators. Their mapping tools are FREE for use, and all areas mapped in their registries have oversight by each given state / province or area in which they are mapped.

Help IFA Monitor Tree Damage Across the State

This year, the Illinois Forestry Association will offer a reporting form on their website for property owners and concerned citizens to report off-target herbicide drift. The IFA is not a regulatory agency and cannot make a formal complaint for you. The IFA aims to capture the frequency and geographical spread of off-target herbicide damage to better understand the statewide magnitude of this issue. To help, simply go to <https://www.ilforestry.org/Off-Target-Herbicide-Drift> and follow the instructions provided.

Thank you for your interest in saving Illinois' valuable trees. To learn more about how you can get involved, please visit ilforestry.org.

⁽¹⁾ Nebraska Forest Service – Herbicide Damage to Trees.