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Weed Science Update: Herbicide Drift Samples

The Office of the Indiana State Chemist and the Purdue Plant and Pest Diagnostic Laboratory have received a large number of woody ornamental samples that have potential drift injury from nearby agronomic fields. In the last two weeks at least 20 samples of woody ornamentals from residences and landscape nurseries have been submitted that had symptoms of herbicide drift from agronomic fields. There are a couple of reasons why we have seen the large number of drift samples in the last couple of weeks.

This spring has been much less than ideal for timely burndown treatments and planting, placing increased pressure on producers to plant as much as possible while conditions allow and the calendar still says "May". No-till producers who apply burndown treatments to fields are making herbicide applications in less than ideal conditions in order to get fields ready for planting. This means burndown herbicides are likely being applied in windy conditions that are less than ideal and are more likely to drift onto non-target plants. The large rural population of Indiana and number of residences in rural areas near agronomic fields only increases the number of non-target plants that drift will affect.

While we are still receiving a few drift samples with injury from growth regulator herbicides (2,4-D and Dicamba), the larger number of samples this spring has been from tank mixes containing saflufenacil. Saflufenacil is an active ingredient in the herbicides Sharpen, Verdict, Optill, and Optill PRO. This active ingredient has been on the market for the last couple of years and is becoming a popular replacement for 2,4-D in no-till burndowns and as a component of residual herbicides used in both corn and soybean production. When applied as a burndown treatment to no-till fields, it is almost always tank mixed with glyphosate. So why is it that this particular active ingredient showing up in the majority of drift samples and not glyphosate? The biggest reason is because it is easy for most homeowners to see the injury from saflufenacil. Unlike glyphosate, which is suspected only rarely in drift cases because of its indiscernible drift injury, saflufenacil causes obvious necrotic spotting on leaves where the drift occurs. Homeowners can easily observe this necrotic spotting, caused by this PPO-inhibiting contact herbicide, and know that the injury is due to off-site movement of a contact herbicide.



Images of woody ornamentals exhibiting the necrotic spotting caused by a PPO-inhibiting herbicide. Courtesy of Scott Farris, Indiana Office of the State Chemist.

Burndown Drift

May 22, 2013

The purpose of this article is not to pick on one herbicide, but to raise awareness of drift issues that are more common when we have wet springs and field work is compressed into short periods of time. The reality of the situation is that all of the herbicides that are applied in windy conditions are drifting off-site. However, some herbicides are more likely to cause obvious injury symptoms. When plants show injury symptoms to one herbicide, whether it is saflufenacil or 2,4-D, we have to realize that since these herbicides are tankmixed with other herbicides like glyphosate, that these herbicides have drifted off-site as well and we just do not notice the injury symptoms. However, they are likely causing stress to non-target vegetation and exacerbating the injury caused by herbicides which elicit more obvious responses.

While we understand the pressure on producers to plant everything as soon as possible and prepare no-till fields for planting. It is important that producers who are still completing burndown applications to be aware of wind speeds and their surrounding residential neighbors who likely have many susceptible trees, shrubs, and garden plants.



Images of woody ornamentals exhibiting the necrotic spotting caused by a PPO-inhibiting herbicide. Courtesy of Scott Farris, Indiana Office of the State Chemist.

Information listed here is based on research and outreach extension programming at Purdue University and elsewhere.

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