

Expert offers tips to reduce nontarget injury when spraying noxious weeds

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Montanans who plan to spray noxious weeds this spring should take preliminary steps when spraying to reduce nontarget injury toward nearby sensitive crops, aquatic areas, trees and/or ornamentals, says Montana State University Pesticide Education Specialist Cecil Tharp.

That means – even before calibrating their sprayers—applicators should inspect their equipment for leaks, rust, plugged lines and ruptured seals. They should also select the appropriate [nozzles](#) for the job. Low-drift nozzles will minimize the amount of pesticide [droplets](#) that can be carried off-site by the wind.

Many herbicides target broadleaf weeds such as leafy spurge and spotted knapweed, but they can also damage alfalfa and other [pulse crops](#), such as peas and lentils, Tharp said. It isn't uncommon for herbicide drift to be implicated in the injury of nearby trees, vegetables and ornamentals.

Many people are still using standard or extended range flat fan nozzle technologies from the 1980s, which produce small droplets that drift easily, Tharp said. Small droplets drift farther than larger, heavier droplets. Nozzle technology from the 1990s – which includes turbulence chambers and air induction designs—produces larger droplets.

"These nozzles (turbulence chamber and air induction designs) reduce pesticide drift from 50 to 75 percent when compared to the extended range or older flat fans," Tharp said.

Wind can carry pesticides where they shouldn't be, but a 2009 poll showed that a large percentage of Montanans have sprayed even though they knew it was too windy, Tharp said. Approximately one in three private applicators surveyed indicated that drift had damaged nearby sensitive crops at some point in their career

If the wind is greater than 10 mph, Tharp suggests waiting to spray. Applicators may wish to buy an anemometer if they want a reliable way to tell how fast the wind is blowing. Tharp recommended, too, that applicators consider spraying the first hour or two after sunrise when the wind tends to be calmer. If they can't finish during those hours, they can continue the next morning.

Applicators should also calibrate their equipment every year to ensure that the amount of pesticide solution the sprayer delivers equals the output required on the pesticide product label, Tharp said. He noted that the sprayer output doesn't refer to the pesticide alone, but the total water/pesticide solution. By calibrating sprayer output, applicators can easily determine how much pesticide product to add to spray tanks.

The calibration process doesn't have to be overwhelming, Tharp said. For shortcuts that minimize the math involved, applicators can refer to MontGuides produced by MSU Extension or go online. One of his articles, titled "Calibrating Sprayers Using ShortCut Methods," is available at [www.pesticides.montana.edu/Ref ... /ShortcutMethods.pdf](http://www.pesticides.montana.edu/Ref.../ShortcutMethods.pdf)

For details on selecting drift-reducing nozzles, go to [www.pesticides.montana.edu/Ref ... SelectingNozzels.pdf](http://www.pesticides.montana.edu/Ref.../SelectingNozzels.pdf)

Provided by Montana State University

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