Zero in on precise spray application

By **J.T. SMITH**

Key Points

- A correct nozzle is critical for application of herbicides.
- Spray rigs, including hoses, should be rinsed regularly.
- Drift complaints can make for poor neighbor relations.

WHEN it comes to weed control, you need the right tools to do the job — from herbicides to the plow, if needed.

With the increasing amount of no-till or reduced-till acres, a wide array of chemicals are doing nearly all the weed combat on farms. When producers depend mostly on herbicides, they need to do a whole lot of things right, notes Billy Warrick, veteran Texas A&M Extension agronomist. However, no matter what you use of the multitudes of herbicides available, you want to hit your intended target — not your neighbor's place or an unintended crop of your own.

In his own case, Warrick must strive for accurate data in his test plots, so he must be extremely meticulous about the nozzles he uses. Personally, and from many years of experience in the field, the researcher likes to see spray droplets averaging at least 200 microns.

Warrick says perhaps as small as 150 microns for spray jobs might work, if the farmer is extra careful. He says 150 microns amount to about the measurement of a piece of sewing thread. A dab larger than that would be similar to a typical toothbrush bristle.

It can be difficult for extremely fine droplets to reach their target, and so are much more likely to drift. For example, at 20 microns, a spray droplet would slow down before it had even moved 1 inch.

What's the right tip for you?

Warrick notes that using insecticide nozzles to apply herbicides can cause all sorts of drift problems. You may be in a real big hurry, but don't do it, he cautions.

Besides nozzle size, consider the variety of nozzle types: thermoplastic, hard stainless, kemetal and others. Nozzles that start with "XR" in their letter and number sequence mean they can maintain a uniform flow pattern, even at different pressures. This means the same spray results can be achieved at a lower pressure, for example.

Jeff Boos, territory manager for RHS/Bestway Sprayers in Kansas, agrees with Warrick on nozzles. "Yearly, calibrate your tips. Test them," he urges.

Before any spray job, thoroughly rinse the tank first, then put the plugs back in, he advises. You don't need to overdo your hydraulic pressure at the start — maybe no more than 120 psi. After opening the agitation valves, you can back off to about 80 psi and still get the maintenance done.

"Rinse hoses daily," Boos emphasizes. "People don't rinse enough, especially using the big [spray] rigs." If not rinsed regularly, the inside of hoses can corrode from a common herbicide like 2,4-D. Boos points out that flow meters and butterfly valves are mighty expensive if not maintained.

"You've got to be careful," Warrick cautions. "Many have less tolerant neighbors nowadays; some of them seem to have speed-dial to their lawyers." He notes drift complaints just add fuel to the fire of controversy and public pessimism toward pesticides.

Warrick cautions not to fall into the trap of thinking "I've got to spray right now!" But even if you have the proper spray equipment and wait until field conditions are right, you can still mess up badly through turning the job over to an unqualified laborer.

"There are just some people who shouldn't be allowed on a sprayer. Ever. Period."

Smith is a Farm Progress editor.

Spraying guidelines checklist

- ✔ Select spray nozzles to increase droplet size.
- ✔ Increase flow rates for higher application volumes.
- ✔ Use lower pressures.
- ✔ Lower your spray height on booms.
- ✔ Make sure field conditions (i.e. wind, humidity, etc.) are acceptable.
- ✔ Use the correct spray equipment.

SOURCE: BILLY WARRICK, TEXAS A&M