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Take Time for Sprayer Cleanup

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Abstract

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Keywords

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Take Time for Sprayer Cleanup

By Kristine Schaefer, Department of Entomology

Thoroughly cleaning spray equipment between different pesticide applications is an important part of responsible pesticide use. It can be difficult to find the time when weather limits opportunities to spray, but failing to clean equipment may result in contamination and crop injury.

The risk of injury is greatest when: crops highly sensitive to the contaminating herbicide (or other pesticide) are being sprayed; the product is very active in small amounts; and residues from non-selective herbicides like glyphosate and glufosinate remain in the spraying system.

Herbicide residues are more likely to cause visual crop injury but contamination can occur with all pesticides. Spray equipment should be cleaned between different applications whether the products are herbicides, fungicides or insecticides.

Injury risks can linger

Crops can be injured for up to several weeks after being treated with contaminated equipment, including after several separate applications. Water alone is generally not adequate to remove all pesticides, and injury can occur when residues that adhered to sprayer surfaces are brought back into solution. Some herbicides – such as plant growth regulator (dicamba, 2, 4-D, Status, NorthStar etc.) or HPPD inhibitor (Callisto, Impact, Laudis) herbicides – may be particularly difficult to clean from a sprayer and can cause very visual symptoms on soybeans.

Several herbicides (glyphosate in particular) make very effective tank cleaners and do an excellent job of removing any pesticide residues that were not removed by rinsing, thus increasing the risk of injury from residue remaining in the spraying system. Leaving a sprayer load standing for a few hours or overnight can also increase the risk of contamination. For some products, very small amounts remaining in the sprayer system can result in crop injury. This is especially important to note when switching from one crop to another or from herbicide-tolerant to non-tolerant hybrids or varieties.

Follow good cleaning practices

To reduce the risk of crop injury or contamination from previous applications, keep these clean-up guidelines in mind:

- **Don't wait to clean.** Clean sprayer as soon as possible after use. Sprayers can retain significant amounts of pesticide solution even after they are considered "empty." Leaving the spray solution in the sprayer for long periods of time increases the risk of contamination. Dried pesticides are harder to remove than pesticides still in solution.
- **Determine where to clean.** Clean spray equipment where the rinsate can be safely disposed of and will not contaminate water

supplies or other sensitive areas. The best place for rinsate disposal is usually in the field, consistent with the product's label.

- **Use the right cleaner.** Cleaning agents should be selected based on the pesticide and formulation to be cleaned. Refer to the label for specific cleaning products to use. Some product labels recommend the cleaning solution stand in the sprayer for several hours or overnight.

- **Clean all equipment parts.** Focus on more than just the tank. Pesticide residues on hoses, sumps, strainers, pump surfaces and other sprayer components can also cause contamination.

- **Clean strainers daily.** Check and clean strainers daily as these can be a source of contamination. Most sprayers have up to three different strainers. In addition, partly plugged strainers may create a pressure drop and reduce the nozzle flow rate.

- **Handle safely.** When cleaning sprayer equipment, wear the same personal protective equipment (PPE) required by the pesticide label for making the application. It is also a good idea to wear a chemical-resistant apron and eye protection.

Remember that cleaning practices will vary depending on equipment and products used. Always refer to the pesticide label for specific cleaning instructions.

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