

A8. SPRAYER CLEANOUT

The risk crop injury from a contaminated sprayer is greatest when spraying highly susceptible crops, when the previous herbicide is very active in small amounts, or when the entire plumbing system of the sprayer is not cleaned after application. Rinsing with just water may not remove the residue and the herbicide may remain tightly adsorbed in sprayers through water rinsing and even through several tank-loads of other herbicides. Then, an added tank-load of mixture including an oil adjuvant, nitrogen solution, or basic pH blend adjuvant may cause the herbicide to desorb, disperse into the spray solution, and damage susceptible crops. Highly active herbicide residues that persist in sprayers and cause crop injury include dicamba and ALS herbicides.

Herbicides attached to all tank and sprayer components must be desorbed and the residue removed in a cleaning process. Sprayer cleanout procedures are given on herbicide labels and should be followed. The following procedure illustrating a thorough sprayer cleanout procedure is effective for most herbicides:

- Step 1.** Drain tank and thoroughly rinse interior surfaces of tank with clean water. Spray rinse water through the spray boom for at least 5 minutes.
- Step 2.** Fill the sprayer tank with clean water and add a cleaning solution (many labels provide recommended cleaning solutions). Fill the boom, hoses, and nozzles and allow the agitator to operate for 15 minutes.
- Step 3.** Allow 8 hours for the cleaning solution to fully desorb the residues inside the sprayer.
- Step 4.** Spray the cleaning solution through the booms.
- Step 5.** Clean nozzles, screens, and filters. Rinse the sprayer to remove cleaning solution and spray rinsate through the booms.

Common types of cleaning solutions are chlorine bleach, ammonia, and commercially formulated tank cleaners. Chlorine lowers the pH of the solution which speeds the degradation of some herbicides. Ammonia increases the pH of the solution which increases the solubility of some herbicides. Commercially formulated tank cleaners generally raise pH and act as detergents to remove herbicides. Read herbicide label for recommended tank cleaning solutions and procedures.

WARNING: Never mix chlorine bleach and ammonia as a dangerous and irritating gas will be released.

Sprayers should be cleaned soon after use to prevent deposit of dried spray residues. A sprayer should not remain empty overnight without cleaning; fill the tank with water to prevent dried spray deposits from forming. A clean sprayer is essential to prevent damage to susceptible crops from herbicide contamination.

SPRAYER CLEANING SOLUTIONS FOR HERBICIDES:

Water: Command, Extreme, Roundup*, Lightning, Raptor, Dupont TotalSol SU formulations.

Bleach: Laudis.

Ammonia or commercial tank cleaner + water:

2,4-D, Accent, Ally*, Amber, Assure II, Banvel*, Basagran*, Beacon, Buctril*, Cadet, Callisto, Cimarron Xtra*, Classic, Cobra, Dual*, Extreme, FirstRate, Fusilade DX, Fusion, Glean*, Gramoxone*, Harmony DF*, Harness/Surpass*, Hornet, IntRRRO*, Lightning, Option, paraquat*, Peak, Permit, Prowl*, Pursuit, Python, Raptor, Reflex, rimsulfuron DF*, Resource, Select*, Stinger*, Steadfast*, Surpass*, Targa*, thifensulfuron DF, tribenuron DF*, Treflan*, and Ultra Blazer.

Detergent or commercial tank cleaner + water:

Aim, atrazine*, Clarity*, Flexstar, Liberty 280, Marksman, Metribuzin*, Poast/Plus, Status, and Yukon.

*Or generic equivalent.