

June 24, 2020

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TANK CLEANOUT PROCEDURES

June is the month when crops and weeds are actively growing. For private and commercial applicators, the month of June involves controlling weeds in multiple crops, often at the same time. Furthermore, applicators accomplish their task while juggling applications around weather events including rainfall, high temperatures and wind events that may compromise the spray job and /or violate the pesticide label. In recent years, weed control treatments are mixtures of multiple herbicides for broad spectrum weed control and herbicides delivering multiple sites of action for effective weed control to manage weed resistance.

Herbicides are crop and weed species selective. Thus, it is highly likely herbicides used in a crop in the first spray job are toxic to the crop in the second spray job. And application may likely be accomplished with the same equipment. What is the proper procedure to clean spray equipment between spray jobs? I recommend developing best management practices for cleanout that are firmly adhered to by all operators. The goal of tank cleanout is to dilute and remove the previous chemical formulation completely to prevent carryover of residues which can damage the crop in the next job.

•Empty the sprayer in the field. Spray all the product on the field and return from the field with an empty sprayer. I recommend 'picture-framing' the perimeter of the field if there is extra product since field edges usually have the most weeds. Spraying the edges is a sequential application of labeled sprays that will not damage the crop. Never, NEVER, allow product to remain in the tank overnight before beginning cleanout procedure as time allows the product to solidify and / or adhere to the tank and plumbing components in your spray equipment. Open valve ends to remove product from the tank and boom. Remove the in-line strainers, endcaps and nozzle screens and tips for thorough cleaning.

•Rinsing is key to successful cleaning. Rinsing is a process that is more complicated than simply pushing high volumes of clean water through the sprayer. I often learn about thousands of gallons water used to clean the sprayer when I am investigating crop damage attributed to tank cleanout. I recommend multiple aliquots (I prefer four) of smaller water amounts as compared to one or two aliquots of high-water volumes. For example, use four aliquots of 300 G water instead of a single aliquot of 1200 G. The first aliquot is to dilute the spray solution in the bottom of the tank or in the lines. I recommend tank-cleaner for the second and third rinse. If possible, allow the cleaning solution to remain in the tank overnight or for multiple hours.

•Use the correct tank cleaner. Cleaning products need to be pesticide specific (check the label) and usually are a combination of detergents and either bleach or ammonia. Reassemble the sprayer with strainers, end caps and screen and tips before your fourth and final rinse. Check the plumbing for leaks and make sure the spray pattern is acceptable.

•Learn how physical properties of the pesticides interact with your equipment. EC formulation often leave a slime on the tank walls or hoses that must be removed by pressure washing or tank cleaners. Dry formulations often accumulate in sprayer crevices, strainers, ends of booms or in screens. Glyphosate and glufosinate are well known 'tank cleaners' with a reputation of dissolving or desorbing pesticide residues from herbicides used in the previous load.



Tom Peters

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<https://www.nd.gov/ndda/pesticide-program/project-safe-send>

2020 PROJECT SAFE SEND SITES

8 am - 12 pm (local time) at North Dakota Department of Transportation (NDDOT) facilities

July 14	Ashley	520 7th St SW
July 15	Bismarck	218 S Airport Rd
July 16	Dickinson	1700 3rd Ave W Ste 101
July 17	Tioga	425 2nd St SE
July 20	Minot	1305 Hwy 2 Bypass E
July 21	Devils Lake	1905 Schwan Ave NW
July 22	Larimore	1524 Towner Ave
July 23	Valley City	1524 8th Ave SW