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Have You Heard?

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February 9, 2018

THREE TIMES AND OUT

The new dicamba labels XtendiMax®, FeXapan™ and Engenia® call for applicators to triple rinse sprayers with the tried-and-true triple-rinse methods. If these products are used before spraying non-dicamba tolerant soybeans or Liberty soybeans there can be issues, and worse yet, yield losses unless the sprayer is cleaned out completely.

Remember, only one drop of active ingredient dicamba can cause visual injury symptoms on 2.7 acres of soybeans. Kevin Bradley, at Missouri, has shown that leaving just 1 to 2 gallons of dicamba spray solution in a 1,200-gallon tank can result in significant yield loss if the next application is done in a non-dicamba-tolerant field.

The new labels warn against letting the sprayer sit overnight before beginning the cleanout process. Dicamba can settle and dry into porous hose surfaces, dry into poly tank pores and other hard-to-reach areas. Cleaning out dried compounds is much harder than cleaning out dicamba still in the liquid phase. It is well known that glyphosate (Roundup) and Glufosinate-ammonium (Liberty) are really good tank cleaners. If the sprayer isn't rinsed correctly, you could have tank contamination on the next sprayer load.

In the first flush, clean water is the only required ingredient and the recommendation is to fill the tank half full. The new dicamba labels include rinsing the second time with a good commercial cleaning agent and circulating it in the tank for at least 15 minutes. There are a lot of hiding places, not only for the active ingredient but also for sediment or residue which the active ingredient can bind to. Places that can cause issues are strainers, screens, end caps and drip check valves. Don't rely on ammonia as a cleaner for dicamba. The final rinse is with water alone. Basically read and follow the label guidelines on these new labels for the exact instructions.

Dan Reynolds, from MSU, gave a talk at the Southeast Nebraska Corn Growers tour last summer who shared his research with different kinds of hoses found on sprayers. He compared five types of hoses. Dicamba and glyphosate were added to each hose. The hoses were drained and cleaned with either water or an ammonia solution or not cleaned at all for comparison. The researchers found that the type of hose mattered more than whether ammonia or water was used for cleaning.

The black, Goodyear hose retained the most dicamba regardless of the cleanout procedure used. Amounts of dicamba in the Goodyear hoses were similar between the ammonia rinse and no cleanout and only slightly less with water. The John Deere blue, low-density polyethylene hose, held the least amount of dicamba at less than 1 ppm when washed with either water or ammonia. Detectable dicamba in the other three hoses fell in between the Goodyear and John Deere polyethylene blend.

Reynolds revealed small tears and/or holes on the interior of the hoses when under a powerful microscope. The blue hose (which also is more expensive) had smooth surface on the inside which made for easier cleanout. You can see what this blue hose looks like at: <https://goo.gl/9Eny7T> John Deere, Kuriyama in Canada.

I made a YouTube video of his presentation at <http://goo.gl/C2ChYR> that has 217 views. The discussion of sprayer hose types was 24 minutes into the presentation. More information on sprayer cleanout procedures will be in a future UNL CropWatch newsletter.

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