

February 2, 2018

CORN APPLICATIONS WITH DICAMBA

Co-worker Jenny Reese in York recently wrote in her blog about the one topic that needs further discussion and that is dicamba applications in corn. Last year when sensitive soybeans started to show cupping symptoms in a wide spread area from York to Clay Center, she knew that from UNL research from Dr. Jim Specht, a soybean will produce a new node every 3.75 days. Research on dicamba shows that it takes 7-14 days for leaf damage to occur from off target drift whether that be physical drift or vapor drift (fumes) on susceptible plants.

She counted how many total nodes were on the plant and multiplied by 3.75 to figure out how many days old the plant was. Next she figured out about the date of the trifoliolate with the leaf cupping damage and counted back on the calendar 7-14 days. This correlated over 90% of the time to a corn dicamba product application time line but hard to pin down to a single particular field in many instances.

There's a number of ways that pesticides can move off-target including particle drift, through tank contamination, temperature inversions, and volatility in the case of dicamba and 2,4-D esters. New research is also looking into movement on dust particles. If we just look at the potential for volatility, we know the three RUP products do not have ammonium sulfate (AMS) in them and it is off-label to add AMS. Research has also shown these three RUP dicamba formulations to be 50-70% less volatile than other dicamba formulations. There's over 30 corn dicamba formulations registered for use in Nebraska; some have AMS in them or most allow AMS to be added to them.

So what do we recommend for best management practices for corn dicamba applications? I and Jenny have been asking to get further information in our CropWatch newsletter about best management guidelines with corn applications of dicamba. We do know if we apply dicamba in the same field every year, greenhouse tests are showing resistance occurred in three generations with palmar amaranth.

We also know there is no question that AMS will increase the volatility of any formulation of dicamba, labeled for corn or soybeans (off label for the three new products in soybeans) and there is other data that suggests the type of salt of glyphosate used does matter also. Other factors that interact with dicamba volatility are temperature, humidity, rate of application, if AMS or UAN is used such as with corn dicamba applications, the amount of plant leaf area, type of formulation, air inversions, the number of days after application and rainfall and/or irrigation. More information will be coming in our CropWatch newsletter on this.

UNL research has found it only takes three generations of spraying palmer amaranth in greenhouse settings before resistance occurred. One best management practice would be to not use dicamba in both corn and soybean fields each year as it's a tool too critical to lose for broadleaf weed control to glyphosate resistant weeds. We cannot have another year like last year with great off-target pesticide movement that could potentially impact future pesticide applications in large ways. Jenny's blog where I added to the discussion is at:

<https://jenresources.com/2018/>



WILBER CROP CLINIC UPDATE: We have an excellent line-up of speakers for Friday, February 16 at Sokol Hall in Wilber with the first talk scheduled for 9:00 a.m. Steve Wellman, the new director of the Nebraska Department of Agriculture, will be attending and speaking this year. New this year we are asking for attendees to call us at 402-821-2151 or email Lou Hajek at lou.hajek@unl.edu for meal count purposes by February 12. For more information go to our website at <https://saline.unl.edu> and the program information is on the front page.

Randy Pryor, Extension Educator
University of Nebraska-Lincoln Extension in Saline County • 306 West 3rd Street, Wilber, NE
68465
Phone (402) 821-2151 • Fax (402) 821-3398 • e-mail: randy.pryor@unl.edu