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PRACTICES TO MINIMIZE HERBICIDE RESISTANT WEEDS

One farmer, this winter, was frustrated about a population of marehail and other weeds that scattered across his farm from a neighbor that was not using best management practices and multiple modes of actions against his weeds. The Glyphosate era of using that product alone was now starting to “blow up” in his neighbor’s fields. You can’t control your neighbor, but the best farmers in Southeast Nebraska have been implementing strategies to reduce herbicide resistant weeds in their fields.

The 2017 Guide for Weed, Disease and Insect Management in Nebraska clearly points out ways to reduce the risk of selecting for herbicide resistant weeds. The main methods are: 1) Rotating crops; 2) Practices that allow crops to out compete weeds such as narrow rows, proper fertilization and controlling weeds when they are small; 3) Do not use the same herbicide every year; 4) Use herbicides with different sites of action in successive years and where possible within a year. This approach will reduce the selection pressure and slow the development of resistance to a given site of action; 5) Use herbicides with different modes of action within a given year. This can be done effectively by including a pre-emergence herbicide as a part of your weed management strategy, or by tank mixing two or more herbicides for post applications; 6) Use short residual rather than long residual products and last on the list.

Pre-emerge herbicide treatments keep the field clean and provide weed control while the crop is getting started. This gives a running start on the six weeks of weed control which is most critical. Herbicides with different modes of action are now coded by group number and further divided by site of action. This system helps weed control specialists more easily check to make sure we are using diverse herbicides rather than diverse trade names. Different crops have different growing seasons, plant structure and herbicide families which can be used on them. Rotating crops rotates the weed control systems which we can use. Long residual herbicides increase the odds of selection exposure and the possibility of surviving plants producing resistant off-spring.

I cannot over emphasize the need for timely spraying operations. Weeds are much easier to kill when they are small. Weeds can grow quickly, particularly Palmer Amaranth. There are lots of time and weather conditions to cope with in getting spraying done. Being able to manage that job effectively is increasing in importance with you and/or your custom applicator.

Complete weed management plans involve paying attention to detail. Hand pull or use a corn knife on those first Palmer Amaranth plants or other known herbicide resistant weeds that enter your fence line or field. Hand spray field edges and mow your road ditches twice a year to prevent seed production.

Tillage is a trade-off of soil health loss and soil cover loss for weed control. Select small area tillage for scouring rush (what I call the dinosaur weed) and for volunteer trees in a field. We saw the negative effects of tillage the last couple years on erodible land so that is not the total answer either to get rid of resistant weeds.



It takes a lot of time and effort to go the extra mile for weed control, but we have to collectively do a better job now and in the future. Having a diverse weed-management plan is so important these days to keep weed resistance issues down. I was amazed to observe how clean cereal ryegrass cover crop fields were this spring, you didn't see the henbit or marestail in these fields. We can now add that to the list of strategies. Document with your crop herbicide supplier the strategy you used this year or use the UNL guide to document mode and site of actions and fool Mother Nature by utilizing diversity.

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