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MANAGING RESISTANT WEEDS

Plants are adaptable to the environment and the conditions they grow up with. I remember when I first moved to Nebraska my prowess in identifying trees had to be adjusted. The bark and general appearance of many tree species is different in Nebraska than in my home state of Michigan. The champion Nebraska Sugar maple tree is located in Auburn, Nebraska. It is 56 feet tall. There are 7 sugar maples in our front yard on the farm in Michigan which are 56 feet to the first limb. Any of those trees would make the Nebraska champion look minute.

Whenever we try to fool Mother Nature, she has a way of having the last word. The glyphosate resistant weeds we are encountering are just the latest examples. Roundup Ready corn and soybeans were the first glyphosate resistant weeds. Marehail or horseweed was the first to get our attention. That has been followed by giant ragweed, common ragweed, kochia, common waterhemp and palmer amaranth. Seed collected from Gage County fields that have been part of the University of Nebraska resistance testing program include Marehail, giant ragweed, common ragweed and common waterhemp. The results of these studies make it very clear that glyphosate (Roundup) used as high as 32 times the normal application rate do not achieve adequate control of these weed species. You cannot expect control from glyphosate regardless of the rate of application.

Resistance develops when we apply the same herbicide, with the same mode of action, repeatedly in a given field. Planting glyphosate resistant soybeans and glyphosate resistant corn in rotation gives a huge advantage to any resistant biotype to be successful in producing resistant seed. Even if the genetic resistant event is one in a million plants, the weeds can rapidly bury the crop in weeds.

Weed control in glyphosate tolerant crops was so easy we over used reliance on the method. Now we have to move forward to management systems which will cover the gaps. Crop rotation is very positive. Wheat grows in another season and has a quite different weed complex. We could also consider non-Round-up Ready corn and soybeans. Some weeds will quickly reduce resistance levels because the resistant types are at a distinct disadvantage in vigor and seed production.

A new Mode of Action numbering system helps farmers and consulting agronomists mix and match herbicide programs to reduce and control resistant weeds. At the same time match selections to crop rotation needs. Combining use of fall applications for winter annual weeds, like Marehail, with spring burndown, early pre-plant and post planting applications of herbicides helps add to diversity.

One thing is very clear in looking at the results of herbicide applications in research plots. The timing of applications is critical to control. We have gotten a bit soft, because glyphosate covered up a lot of our poor timing applications, that is a thing of the past.

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