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Early Weed Control in Corn

Early season weed control is vital to both yields and nitrogen efficiency. Early weed flushed not only compete with corn for both nitrogen (N) and water but dense weeds also shade soils and keep them cooler so that corn grows more slowly. Assuming that you start with a clean field, the most competitive weeds in corn will be about 3-4 inches tall when corn reaches the V3-V4 growth stage. Those weeds can reduce yields by about 3 bu./ac for every day you don't remove them. Yield losses have been shown to be as high as 12-13 bu./acre within the first week and 27-29 bu./acre within the second week. Early season yield loss is largely due to weeds that sequester about 30-45 lbs of N/acre from planting time until about the end of June. You don't get that N back after your weeds are controlled. You may be unable to compensate for that nutrient loss by adding additional N later. Research has shown that N fertilizer is more efficiently used when weeds are controlled pre-emergence or at a 4-inch weed height.

According to research from Nebraska, when weeds and corn are at about 4-6 inches tall, that is when you typically pass the breakeven mark and start losing money to lost yields from weed pressure after factoring in the cost of the herbicide application. Weed scientists from Minnesota, Nebraska, and Illinois have compiled the following tips to help produce more profitable corn weed management:

1. Start with a clean field. A burndown with residual chemistry that is targeted to the specific weed spectrum for each field will help to both start the crop off clean and to manage the field for any potential glyphosate-resistant weeds or to reduce the potential development of these and other herbicide-resistant weed biotypes.
2. Manage your risk. A total postemergence program is the most risky weed-control system because the timing of a postemergence application is almost completely up to Mother Nature. Using a pre-emergence herbicide buys you more time to apply your postemergence herbicide for optimal weed control.
3. Pay attention to timing. Your main management focus should be on controlling those early weeds. Pre-emergent herbicide applications need to be timed close to when you plant, especially if you have a weed spectrum in the field that can emerge later in the season such as waterhemp. Watch for later weed flushes and control them while they are small.
4. Be careful with reduced rates. Using a full, or a nearly full rate based on soil type often provides an extended period of weed control that you don't always have with reduced rates. Using a reduced rate may be setting the herbicide up to fail earlier, depending on weather conditions and weed pressure.

5. Scout fields after spraying to evaluate how well the treatment worked and whether or not a remedial treatment might be needed.

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