6-24-2008

Dealing with Late Weed Escapes in Corn

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Abstract
While herbicide advertising often talks about full-season weed control, we really only need herbicides to control weeds until the canopy has developed sufficiently to suppress any late-emerging weeds. Iowa State University research found that less than 1 percent of the waterhemp emerging at the V8 corn stage survived. While there was higher survival at earlier emergence dates, biomass and seed production of waterhemp emerging at the V5 corn stage was suppressed more than 90 percent compared to plants emerging with corn.

Keywords
Agronomy

Disciplines
Agricultural Science | Agriculture | Agronomy and Crop Sciences
Dealing with Late Weed Escapes in Corn

by Bob Hartzler, Department of Agronomy

While herbicide advertising often talks about full-season weed control, we really only need herbicides to control weeds until the canopy has developed sufficiently to suppress any late-emerging weeds. Iowa State University research found that less than 1 percent of the waterhemp emerging at the V8 corn stage survived. While there was higher survival at earlier emergence dates, biomass and seed production of waterhemp emerging at the V5 corn stage was suppressed more than 90 percent compared to plants emerging with corn.

Many corn fields across the state are likely to have greater problems with late-emerging weeds than normal. There are two primary causes for these infestations: 1) the heavy rain in May and early June will reduce the length of control provided by residual herbicides, and 2) poor canopy development due to cool temperatures, saturated soils and reduced stands will provide a favorable environment for weed growth.

Fields should be carefully evaluated prior to spraying weeds in large corn. Weeds that emerge significantly later than the corn (anytime beyond the V3 stage) are at a tremendous competitive disadvantage with the crop due to the crop’s head start. While these weeds may survive and produce seed, their impact on the corn yield should be minimal unless they are thick enough to create a sod. Thus, if you have 3 to 4 inch weeds in 30 inch corn it probably does not warrant an additional weed control trip. Spraying corn beyond the V8 stage may cause more damage to the crop than would be gained by eliminating late-emerging weeds. Most importantly, the majority of herbicide labels prohibit application to larger corn due to problems with crop tolerance or efficacy. (See Corn Size Restriction for POST Herbicides) Glyphosate restricts applications to corn less than the V8 stage or 30 inches in height.

While everyone likes to see a weed-free field at harvest, sometimes it is best simply to live with the hand that has been dealt. While late-emerging weeds in most fields are unlikely to impact yield, the seed produced by these plants will increase weed densities the following year. This increase in weed populations should be taken into account when developing weed management plans for 2009.

Bob Hartzler is a professor of weed science with extension, teaching and research responsibilities.