PROSPECTIVE HERBICIDES FOR VEGETABLE CROPS: RESEARCH UPDATE

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Research was conducted in the 2006 growing season to evaluate potential herbicides in cabbage, table beets, carrots, and snap bean. The intent of this paper is to provide an update on these research projects. *However, keep in mind, the majority of the herbicide products mentioned are NOT labeled on these crops.* As always, check and read the label prior to any herbicide use. A summary of these projects is included below.

Cabbage. Research was conducted to evaluate experimental applications of Chateau (flumioxazin) applied 1, 3, and 7 days pre-transplant and 7 days post-transplant. Rates included 1.0 and 2.0 ounces of product per acre. Slight cabbage injury was observed when Chateau was applied at the higher rate 1 or 3 days prior to transplanting. Common lambsquarters, redroot pigweed, velvetleaf, and giant foxtail control were greatest when Chateau was applied 7 days after transplanting and least when the herbicide was applied 7 days prior to transplanting. Weed control was greater than 90% when Chateau was applied at either rate 1 or 3 days pre-transplant or 7 days post-transplant. Cabbage yield was greatest when Chateau was applied 7 days after transplanting.

Table beets. Twenty-three potential herbicide programs were evaluated. Crop injury was excessive where Define (flufenacet), Prowl H_2O (pendimethalin), or Everest (flucarbazone) were applied. Early post-emergence Betanex (desmedipham) applications also injured beets up to 23%. Injury was minimal where Dual Magnum (s-metolachlor) was applied pre-emergence. Yield of beets larger than 2 inches in diameter was greatest in programs that included Roneet (cycloate) plus Pyramin (pyrazon) pre-emergence or Dual Magnum plus Pyramin. Note: Outlook (dimethenamid) is no longer registered on table beet.

Carrots. Research was conducted to evaluate herbicides specifically for control of swamp dodder in carrot production. Swamp dodder is a parasitic weed that draws water and nutrients from the host plant. It is not a new pest in Wisconsin, but has recently spread to new production areas. Swamp dodder control was greatest where Matrix (rimsulfuron) or Everest were applied, however, injury from Matrix was substantial. Carrot injury was least where Prowl H_2O, Lorox (linuron), Goal (oxyfluorfen), or Define were applied. Carrot yield was greatest where Prowl H_2O or Everest were applied. Several of the evaluated herbicides injured carrots; however, this injury may be outweighed in some cases by the subsequent dodder control and reduced carrot parasitism that can severely reduce crop yield and quality.

Snap bean. Thirty potential herbicide programs were evaluated in 2006 primarily for crop safety and yield. Visual evaluations of crop injury were less than 10% in all treatments. Sandea (halosulfuron) applied to 1-trifoliate snap beans 18 days after planting slightly injured the crop, however, Sandea applied pre-emergence caused no visual injury. Post-emergence applications of Raptor (imazamox) + Basagran (bentazon) and non-ionic surfactant were compared with and without ammonium sulfate (AMS; 8.7 lb/100 gal). Dual II Magnum (s-metolachlor) was applied pre-emergence in these treatments. While crop injury was similar when Raptor + Basagran were applied both with and without AMS, crop yield tended to be lower when AMS was added.

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