

The Phytotoxicity and Efficacy of Several Experimental Herbicides in Cranberries

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The cranberry weed control program at Rutgers has been active since the mid 1990's. Weeds, particularly perennials, are difficult to control in cranberry bogs. Efforts have focused on identifying and developing new herbicides for use in cranberries that do not injure the crop, control troublesome weeds, and are environmentally and toxicologically safe. To accomplish this goal, cooperation with IR-4, the herbicide manufacturers, and state and federal agencies to obtain registration for herbicides is essential. Effective herbicides must be integrated into the current cranberry practices to improve weed control, prevent crop phytotoxicity, and maintain or improve yield and quality. Herbicides registered on other crops and experimental herbicides are first screened for phytotoxicity to cranberries. Three herbicides with potential crop safety in cranberries have been identified, and are being evaluated for the control specific weeds that are troublesome in cranberries. Research continues with these herbicides on the potential for crop phytotoxicity and impact on yield and quality in the cranberry production system.

DPX 6025 has been identified as safe for use in cranberries is under evaluation for the control of cranberry weeds. Good control of sedges *Cyperus* species, and a variety of annual broadleaf weeds have been controlled by late spring applications of DPX 6025. Screening to identify additional herbicides with the potential to control weeds in cranberries will continue.

BAS 514, has been identified as another herbicide safe for use in cranberries, and has controlled yellow loosestrife *Lysimachia terrestris*. Data developed to date indicates that the optimum time to apply quinclorac for the control of yellow loosestrife is during late bloom or immediately after bloom. Yellow loosestrife bloom occurs in or near early July in New Jersey cranberry bogs and the optimum treatment time is the month of July. In addition, quinclorac has demonstrated potential for controlling additional weeds in cranberries when applied preemergence, including fireweed and sedges. Additional research and concurrence of the manufacturer is needed on the time of application, rate, and other weeds controlled by quinclorac in cranberries, and to integrate the optimum time of application for yellow loosestrife control with applications to control other susceptible weeds.

Za 1296 is the most recent herbicide that has been identified to have excellent safety when applied to cranberries. Research indicates ZA 1296 controlled sedges and rushes, *Juncus* species, and redroot, *Lachnanthes tinctoria*, in cranberries. The manufacturer has interest in supporting an IR-4 project on mesotrione in cranberries, and has confirmed that environmental data on file at the EPA will support a label for up to 0.25 lb ai/A per application, and two applications per year and up to 0.5 lb ai/A per year with fourteen days between applications. Additional research is needed on the time of application, rate, and other weeds controlled.