

COCKLEBUR CONTROL IN CORN. Peter H. Sikkema, Christy Shropshire and Nader Soltani. Department of Plant Agriculture, University of Guelph Ridgetown Campus, Ridgetown, ON N0P 2C0.

Nine field trials (5 with PRE- and 4 with POST-emergence herbicides) were conducted in 2006 to 2009 on various Ontario farms with heavy infestations of cocklebur to determine the effectiveness of PRE- and POST-emergence herbicides for the control of cocklebur in corn. There was no commercially significant injury in corn from the PRE herbicides evaluated. Saflufenacil, saflufenacil/dimethenamid-p, isoxaflutole + atrazine and mesotrione + atrazine, applied PRE provided 85, 85, 76 and 73% control of cocklebur in corn, respectively. Cocklebur shoot dry weight was reduced 84, 80, 79, 75 and 68% with saflufenacil/dimethenamid-p, isoxaflutole + atrazine, mesotrione + atrazine, saflufenacil and dicamba/atrazine, respectively. There was no effect on yield with the PRE herbicides evaluated.

The application of 2,4-D/atrazine resulted in unacceptable injury (28%) in corn. Dicamba/atrazine, dicamba/diflufenzopyr, dicamba and mesotrione + atrazine all proved 90% or greater control of cocklebur. Dicamba, dicamba/atrazine, dicamba/diflufenzopyr and primisulfuron/dicamba reduced cocklebur dry weight to zero in these experiments. All POST herbicide treatments increased corn yield compared to the non-treated check. Saflufenacil and saflufenacil/dimethenamid-p applied PRE and dicamba, dicamba/diflufenzopyr, dicamba/atrazine and mesotrione + atrazine applied POST have potential to provide good to excellent control of cocklebur in corn under Ontario environmental conditions.