

COMPARISON OF THE BEST TWO-PASS WEED CONTROL OPTIONS IN CORN. David A. Thomas, Michael J. Urwiler , Brett R. Miller and Michael D. Johnson, Research and Development Scientists and Technical Manager, Syngenta Crop Protection, Greensboro, NC 27419.

Many weed control options exist for the control of grass and broadleaf weeds in field corn. One very effective option for the control of weeds in difficult sites is a planned two-pass herbicide program, i.e. pre-emergence application followed by a post-emergence application. In 2001, mesotrione (2-[4-methylsulfonyl-2-nitrobenzoyl]-1,3-cyclohexanedione) was introduced as CallistoTM by Syngenta Crop Protection and has proven to be an effective post-emergence product for the control of many troublesome broadleaf weeds in corn. The objective of this study was to utilize mesotrione in a planned two-pass weed control program and compare this program to other two-pass weed control programs. The mesotrione based programs included the use of *S*-metolachlor or *S*-metolachlor plus atrazine applied pre-emergence followed by mesotrione plus atrazine applied post-emergence. The rates of the pre-emergence herbicides were adjusted depending upon the allowable atrazine use rate for a particular site and by soil type. The results from 30 University studies from across the US corn growing regions indicate that a planned two-pass weed control program utilizing mesotrione is very effective for the control of troublesome grass and broadleaf weeds and compares very favorably against other two-pass programs available in corn.