

EFFECT OF ADJUVANTS ON THE EFFICACY OF AMINOPYRALID IN THE GREENHOUSE. David G. Ouse, F. Nelson Keeney and Keith Donley, Research Biologist Dow AgroSciences 9330 Zionsville Road Indianapolis IN, Advisor, Dow AgroSciences 9330 Zionsville Road Indianapolis IN and Technician, Dow AgroSciences 9330 Zionsville Road Indianapolis IN.

Greenhouse studies were conducted to determine if the addition of adjuvants to the spray mixture would significantly enhance the efficacy of aminopyralid. Treatments were evaluated on crested wheatgrass to determine if selectivity was affected, and five broadleaf weeds; field bindweed, Canada thistle, spotted knapweed, sicklepod and prickly sida, for activity enhancement. Adjuvants from several different categories; non-ionic surfactants, paraffinic oil, methyl or ethylated seed oil, organosilicone surfactant and ammonium sulfate fertilizer were tested with aminopyralid. A therapeutic index defined as the GR_{20} / average weed GR_{80} was used to identify treatments with good crop selectivity. An adjuvant index, defined as the average weed GR_{80} of aminopyralid alone / the average weed GR_{80} of aminopyralid + adjuvant, was utilized to identify adjuvants with the highest level of improvement in activity. A therapeutic index of ≥ 2 and an adjuvant index of ≥ 1.5 were identified as selection criteria for the best adjuvants for aminopyralid. Five adjuvants fit this criteria, Sun-it II, Joint Oil, Silwett L-77, Trend 90 and Emery 33208. The best adjuvants from this group were recommended for further testing in the field.