

WEED CONTROL IN TRANSPLANTED CABBAGE. Harlene M Hatterman-Valenti and Collin P Auwarter, Associate Professor, and Research Specialists, Plant Sciences Department, North Dakota State University, Fargo, Fargo, ND 58105.

Weed control in cabbage is necessary for high yields and quality. However, the number of herbicides for weed control in cabbage is rather limited. This is especially true for broadleaf weed control. Clomazone, napropamide, and oxyfluorfen are the only herbicides registered for pre-emergence broadleaf weed control in cabbage. All three have factors associated with their use (e.g. carryover, availability, and short residual) that makes them less than ideal choices. In addition, Pyridate (WP formulation), the only herbicide registered for general post-emergence broadleaf control in cabbage is no longer marketed in the United States and supplies are now exhausted. Thus, field trials have been conducted the past two years to identify alternative weed control methods.

All herbicides were applied after cabbage were transplanted. Cabbage injury was greater than 20% with oxyfluorfen (emulsifiable concentrate formulation). Injury was also observed with the water-based formulation of oxyfluorfen (10%). Symptoms remained on older leaves but did not slow plant growth or affect head formation. Weed control evaluations indicated that at 3 WAT all herbicides provided at least 85% except pendimethalin on redroot pigweed, oxyfluorfen (water-based formulation applied twice) on common lambsquarters, and DCPA on field pennycress. A single application of oxyfluorfen at 0.06 lb/A was insufficient for any of the broadleaf weeds. By 7 WAT, broadleaf weed control remained acceptable ($\geq 85\%$) for all treatments except those discussed at 3 WAT. The greatest total yield from two harvests was when cabbage was treated with pendimethalin (20.4 ton/A). However, total yield did not differ from any treatment except the single application of oxyfluorfen, which did not control any of the broadleaf weeds early on. The post-emergence application with the water-based formulation of oxyfluorfen appeared to be safer than the emulsifiable concentrate formulation, but the injury did not affect head formation or head measurements.