Evaluation of spray additives with picloram, screening of non-registered herbicides, and various glyphosate plus 2,4-D combinations for leafy spurge control have been the primary emphasis of the research program in 1991 from treatments applied in 1990.

Compounds that appeared to increase picloram absorption in greenhouse and previous field trials were field evaluated. The additives MAPEG 400 MO, X-77, L-77, LI-700, Tetronic 504, and Triton CS-7 at 0.5% (v/v) increased leafy spurge control when applied with picloram compared to the herbicide applied alone but not with picloram plus 2,4-D regardless of application date. Several additives evaluated in the greenhouse will be field tested in 1991, including Scoil, Sunit II, Raider, Raider L (pH), and BAS-090.

Many labeled and unlabeled herbicides were evaluated for leafy spurge control in greenhouse and field experiments. Imazethapyr (Pursuit), imazaquin (Scepter), and BAS-514 averaged greater than 80% control with no grass injury when applied in September. Control was similar when the herbicides were applied alone or with an additive or in combination with 2,4-D. DPX-V9360 (Accent) and imazethapyr (Pursuit) applied with X-77 or 2,4-D plus X-77 provided greater than 80% leafy spurge control, but grass injury ranged from 40 to 80%.

Glyphosate plus 2,4-D (Landmaster BW) provided greater than 65% leafy spurge control when applied alone and 95% control when applied with picloram. Grass injury was variable due to location and application date (35 to 80%).

2,4-D mixed amine (Hi-Dep) and 2,4-D alkanolamine were evaluated for leafy spurge control. Leafy spurge control 12 months after application averaged 10% or less regardless of formulation. 2,4-D plus picloram provided similar leafy spurge control regardless of 2,4-D formulation.