

**Project Title:** Weed Management Studies for Processing Cucumbers

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**Objective:**

The objective of this research project was to develop improved weed management programs for processing cucumbers, by evaluating a range of herbicides for crop tolerance and weed control efficacy on this crop. Information on yield, crop sensitivity and control of problem weeds was developed. Improved weed management programs reduce the need for labor for hand hoeing and weeding, reduce the cost of production to the grower and enhance competitiveness of the processing cucumber industry.

**Methodology:**

Research trials were carried out at the Dept. of Plant Agriculture, University of Guelph, Simcoe during the summer of 2005. Treatments were replicated four times in each experiment. Plots were 10 m long by either 2 m wide. Plants were thinned to a known stand appropriate for this crop. Cucumbers were grown according to accepted commercial practices used in Ontario. Crop injury, weed counts, weed biomass, weed ratings and yield were recorded. All trials were harvested by hand at crop maturity. Data was statistically analyzed, tabulated and reported.

**Results:**

Sandea (halosulfuron-methyl), as a postemergence, but not as a preemergence application, resulted in slight crop injury. Alanap (naptalam) and Basagran (bentazon) postemergence also caused slight injury but did not reduce yields. Command (clomazone) caused no injury and had good control of all weeds except pigweed. The addition of Sandea preemergence improved pigweed control and produced yields comparable to the weeded check. Alanap, especially post emergence, also controlled pigweed and yields were comparable to Sandea. Two applications of Basagran postemergence at 1/2X recommended rate gave good broadleaf weed control. Assure (quizalofop-p-ethyl) gave excellent grass control postemergence

Dual Magnum evaluations were conducted at two locations. Location #1 was a heavier soil and yields were almost double than those at location #2. All plots were kept weed free. Dual Magnum (s-metolachlor) caused severe injury at both locations and at all rates and application timings. Injury was more severe at the higher application rates. Dacthal (chlorthal dimethyl) caused no injury. Dacthal and Dual Magnum at the lower rate had yields comparable to the weeded check. Dual Magnum trials were done in cooperation with AAFC's Pesticide Minor Use Program.