

A COMPARISON OF WEED CONTROL PROGRAMS IN GLYPHOSATE RESISTANT SOYBEAN. Terry J. Schulz and Karen A. Renner, Department of Crop and Soil Science, Michigan State University, East Lansing, MI.

The most expensive inputs today in soybean production are seed cost followed by herbicides. This research compared weed control programs in glyphosate resistant and conventional solid-seeded soybean. Soybeans were planted at 448,000 seeds per hectare. Preemergence herbicides were applied immediately after planting. The conventional post-emergence treatments were chosen after scouting the plots when weeds were 3-6 cm in height. Glyphosate was applied to weeds 15-20 cm in height, 7 days after application of the conventional post herbicides. Weed control was evaluated on 24 July, 28 days after emergence applications of glyphosate. Soybeans were harvested October 13 and the net return calculated for each weed control system. Herbicide prices from in season purchase were used in calculating the cost of each treatment. Seed costs were based on dealer prices for purchasing certified, patented, glyphosate resistant seed or purchasing conventional seed or planting saved, conventional, commercially cleaned seed.

Common lambsquarters control was greater than 94% for all herbicide treatments in glyphosate resistant and conventional weed control programs. Annual grass control was less than 90% in conventional treatments of flufenacet + metribuzin PRE followed by a POST treatment of thifensulfuron methyl + lactofen, and sulfentrazone + chlorimuron ethyl PRE followed by a POST application of acifluorfen. Common ragweed control was less than 90% with a treatment of dimethenamid-p PRE followed by thifensulfuron methyl + fomesafen POST, and imazethapyr PRE followed by acifluorfen POST. Metolachlor + metribuzin preemergence followed by cloransulam methyl postemergence provided the best full season weed control. There was no difference in soybean yield among weed control programs in glyphosate resistant or conventional soybeans. Therefore the greatest net return was from the weed control program with the lowest cost of seed + herbicide(s). All of the weed control programs in glyphosate resistant soybeans, with the exception of the glyphosate only treatment (no preemergence herbicide), were more expensive than the conventional weed control programs due to the cost of the seed. The weed control programs in glyphosate resistant soybeans cost a farmer considerably more (24 to 47%) than the average cost of a weed control program in conventional soybeans planted with farmer saved, commercially cleaned seed. A conventional weed control program can also be a considerable savings to a grower when using commercial varieties of non-Roundup Ready soybean seed (11 to 38%) compared to certified, patented, glyphosate resistant seed.