WEED MANAGEMENT SYSTEMS IN DRY BEAN. Nader Soltani*, Richard Vyn, Christy Shropshire, and Peter H. Sikkema. University of Guelph Ridgetown Campus, Ridgetown, Ontario, Canada. N0P 2C0.

Three field experiments were conducted over a three-year period (2004, 2005 and 2006) to evaluate various weed management programs in white bean in Ontario, Canada. Herbicide treatments evaluated caused no visible injury in white beans. Trifluralin provided 12% grater control of common lamb's-quarters compared to s-metolachlor. There was no benefit of tankmixing s-metolachlor + trifluralin in respect to yield and profitability compared to either trifluralin or s-metolachlor alone. The postemergence application of bentazon + fomesafen following a soil applied herbicide resulted in improved control of common lamb's-quarters 15%. Two inter-row cultivations following a soil applied herbicide resulted in improved control of redroot pigweed, common lamb's-quarters, and green foxtail. The addition of imazethapyr (60% label dose; 45 g a.i. ha^{-1}) to the soil applied grass herbicide resulted in improved control of redroot pigweed, common lamb's-quarters 16%, and green foxtail 6%. There was an increase in profitability with the use of s-metolachlor or trifluralin. There was a further increase in profitability by adding imazethapyr (60% label dose) to the grass herbicide. Profitability was increased by following the grass herbicide with a postemergence (POST) application of bentazon plus fomesafen or two interrow cultivations. There was a decrease in profitability by applying a tankmix of s-metolachlor + trifluralin. There was a decrease in profitability if a POST application of bentazon plus fomesafen or two inter-row cultivations followed a soil applied herbicide that included imazethapyr (60% label dose).