VOLUNTEER FLAX AND CANOLA CONTROL IN FIELD PEA. John B. Christianson[1], Kirk A. Howatt[2], Brian M. Jenks[1], Gregory J. Endres[3], Denise M. Markle[1], Gary P. Willoughby[1], North Dakota State University, Minot, ND[1], Fargo, ND[2], Carrington, ND[3].

The wide variety of crops grown in North Dakota can result in the problem of multiple volunteer crop species in a field, which compete with the crop and may require multiple herbicide applications to obtain satisfactory control. Experiments were conducted at three locations in North Dakota to find effective strategies to control volunteer flax (*Linum usitatissimum*) and volunteer canola (*brassica napus*) in field pea (*Pisum sativum*). Herbicide treatments included an untreated control, three rates of metribuzin (210, 315, and 420 g ai/ha) applied preemergence (PRE), and three rates of metribuzin (70, 140, and 210 g ai/ha) and one rate of bentazon, acifuorfen, and MCPA applied postemergence (POST). Crop response and volunteer control was evaluated 14 days after POST application. Field pea was harvested for yield at physiological maturity at all three locations. Location by treatment interaction prevented combing any data. MCPA and acifluorfen generally caused the greatest injury to field pea (10 to 19%). Metribuzin, especially the two lower rates at each application, was safe to field pea, causing less than 7% injury. Acifluorfen at 210 g ai/ha POST provided the most consistent volunteer flax control at 76%. MCPA and bentazon appeared to have no effect on flax. All herbicide treatments provided at least 58% control of canola. There was wide variability in yield among the locations. Metribuzin at 315 g ai/ha PRE generally controlled volunteer crops, resulting in the greatest field pea yield. Field pea treated with acifluorfen, controlled volunteer flax, resulting in the second highest yield average in spite of injury caused to field pea immediately after application. Overall, metribuzin at 315 g ai/ha PRE, 140 g ai/ha POST, 210 g ai/ha POST, or acifluorfen provided the best volunteer flax and canola control, resulting in the greatest yields.

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