PROPOXYCARBAZONE INJURY TO SUBSEQUENT CROPS BY SOIL RESIDUES. Angela J. Kazmierczak and Kirk A. Howatt, Graduate Research Assistant and Assistant Professor, Department of Plant Sciences, North Dakota State University, Fargo, ND 58015.

Weed population shifts require researchers to determine new chemical control for producers. Many parameters need to be considered before a herbicide can be labeled for a specified region, for example, persistence in the soil. Propoxycarbazone is labeled for use in spring, winter, and durum wheat in North Dakota; however a field bioassay is required the growing season following application. Field experiments were established in 2006 at three locations to determine propoxycarbazone effect on rotational crops sequence. Hard red spring wheat was established in half of the experiment, while the other half was left bare ground. Herbicide treatments were applied at the four-leaf stage of the wheat. Treatments included propoxycarbazone and mesosulfuron at various rates alone or in combination of and metsulfuron. In the spring of 2007, sugarbeet, soybean, canola, and barley were established in the experiment. Plant populations were determined at 14 and 28 d after emergence, visual evaluations were recorded throughout the season and yield was recorded at maturity. There were differences in plant stand counts, although they were small within species. When differences occurred among plant populations, the number of plants in the herbicide treatments were equal to or greater than populations in the untreated. Throughout the growing season, visual injury of crops was not affected by herbicide treatment, except canola flowering at one location with propoxycarbazone at 20 30 g ai/ha. Yield was not affected in any crop regardless of reduced plant population or delayed flowering effect.

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