

Are Intercropped Cover Crops Compatible with Canola Weed Management?

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Summary- Across the Canadian Prairies, a cover crop mixture was seeded into canola to evaluate the effects of three different herbicide resistance systems and application timings on establishment and growth.

Abstract- A short growing season and limited fall precipitation in the semi-arid climate of western Canada hinders widespread adoption of fall cover crops. Intercropping is a potential solution by increasing the window for cover crop establishment and growth. However, intercropping also creates challenges when using herbicides to control weeds in cash crops like canola (*Brassica Napus* L.). Field experiments at three sites in Manitoba, Saskatchewan, and Alberta were established to compare three herbicide application timing treatments (pre-emergence only, pre-emergence and in season, and a pre-emergence, in season, and desiccant) for the three herbicide tolerance systems utilized with canola hybrids (Liberty Link, Clearfield, and Roundup Ready). A cover crop mixture of red clover (*Trifolium pratense*), white Dutch clover (*Trifolium repens*), subterranean clover (*Trifolium subterraneum*), Persian clover (*Trifolium resupinatum*), alfalfa (*Medicago sativa*), and Italian ryegrass (*Lolium multiflorum*) was seeded at the same time as canola. Experiment measurements include cover crop stand, aboveground biomass, and herbicide damage ratings. Preliminary results will be presented as we explore the compatibility of these canola herbicide tolerance system on cover crop growth and biomass production.