AUTUMN TICKLE EFFECTIVELY CONTROLS WILD RADISH (RAPHANUS RAPHANISTRUM) IN A WHEAT – LUPIN ROTATION

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More chemical options are available to selectively control wild radish in cereals than in lupins. Two trials were conducted to examine the impact of intensifying chemical and non-chemical control options including autumn tickling on wild radish control, its population dynamics and yield performance of crops in a wheat-lupin rotation under normal and late seeding of wheat. Autumn tickling performed in late April of 1997 stimulated the emergence of 160 seedlings/m² of wild radish before seeding wheat as compared to 2.5 seedlings/m² in the untickled control. The emerged radish seedlings were killed by a knock-down herbicide. This resulted in a three times cleaner wheat crop, 56% reduction in radish dry biomass at anthesis, and 33% increases in yield of wheat even in the absence of herbicides to control wild radish in a high density wheat crop. All the herbicides sprayed up to Z31 stage of wheat effectively controlled radish and significantly increased wheat yield. Late seeding reduced 20% yield of wheat.

Lupin crop in 1998 was treated with 1.0 kg a.i. ha⁻¹ simazine before seeding and no post-emergence herbicide was sprayed in lupin except in one treatment. Effective control of wild radish plants in wheat reduced density of wild radish plants emerged before and after seeding of lupins. About 3 to 40% of radish plants that emerged up to 7 weeks after emergence (WAE) of lupin, survived 1.0 kg a.i. ha⁻¹ simazine and competed with lupin plants up to its floral phase. An effective control of wild radish in wheat led to 60 to 98% reduction in the density of radish plants that emerged by 7 WAE and survived up to 10 WAE of lupin as compared to untreated control. This has increased yield of lupin up to 47% in absence of any post-emergence control of wild radish in lupin as compared to untreated control.