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Persistence of Isoproturon in *Gobhi Sarson* (*Brassica napus* L.) and Canola (*B. napus*) Genotypes

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Isoproturon is recommended for weed control in different cultivars of *gobhi sarson*. Its leaves being deep green and smooth are commonly used as pot herb. In Punjab, it is called as *Sag*. Canola is an internationally accepted nomenclature for Brassica varieties C 8888 and C 124 having < 2% erucic acid and < 30 μ glucosinolates g^{-1}, which is considered to be healthy oil for human consumption. Therefore, it is very essential to estimate herbicide residue in vegetative plant parts. Keeping this in view, the residue of isoproturon was estimated at early stages of growth in *gobhi sarson* cultivars.

A field experiment was conducted during 2000-01 to study the persistence of isoproturon (0.5 and 0.75 kg ha^{-1}) in plant. Plant samples were collected after 7, 15 and 30 days of herbicide application. The method of extraction and estimation of isoproturon content in plant were followed as described by Katz (1966) and Kulshreshtha (1982). The chlorophyll "a" & "b" contents of leaves were estimated by the method of Witham (1971).

Table 1. Residue of isoproturon (ppm) in different *Brassica napus* cultivars

Days after sowing	Cultivars	Isoproturon dose (kg ha^{-1})	
		0.50	0.75
07	GSL I	0.009	0.012
	GSC 3A	0.011	0.014
	C 124	0.010	0.012
	C 8888	0.008	0.010
15	GSL I	0.005	0.009
	GSC 3A	0.006	0.008
	C 124	0.007	0.009
	C 8888	0.006	0.006
30	GSL I	0.003	0.004
	GSC 3A	0.004	0.004
	C 124	0.003	0.004
	C 8888	0.002	0.002

Residues of isoproturon increased with increase in dose of isoproturon applied and decreased with passage of time (Table 1). In all cultivars of *Brassica* the residue of isoproturon got degraded to non-detectable limits after 30 days of

Table 2. Effect of isoproturon on chlorophyll content (mg g^{-1} fresh weight) in different *Brassica napus* cultivars

Treatment	Dose (kg ha^{-1})	Cultivars			
		GSL 1	GSC 3A	C 124	C 8888
			7 Days after spray		
Isoproturon	0.50	0.702	0.808	1.065	0.854
Isoproturon	0.75	0.623	0.586	0.901	0.699
Control		0.788	1.276	1.065	0.946
			15 Days after spray		
Isoproturon	0.50	0.398	0.149	0.292	0.296
Isoproturon	0.75	0.127	0.110	0.247	0.247
Control		0.992	0.508	0.918	0.851
			30 Days after spray		
Isoproturon	0.50	1.298	1.094	1.196	1.104
Isoproturon	0.75	1.238	0.890	1.064	1.025
Control		1.518	1.306	1.329	1.280

, application.

The chlorophyll content of leaves in all ıe cuitivars of *Brassica* after 7, 15 and 30 days of pplication of isoproturon showed increasing trend with each level of isoproturon (0.5 and 0.75 kg ha^{-1}). Herbicide application caused phytotoxicity to crop during initial period. The chlorophyll content recorded 30 days after application indicated that there was no phytotoxicity in all cultivars (Table 2).

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