

In search of improved broad-leaved weed control in lentil – Concept study

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SPG Contributions	Project Status	Duration/Timeline of Project (Year to Year)	Total Project Cost
\$28,095.00	Completed	March 2008 – March 2009	\$28,095.00

Project Description

To search the current literature for evidence of heritability of tolerance to sulfentrazone in tolerant crops; to screen existing early generation material in the Crop Development Centre (CDC) lentil breeding program for useful levels of tolerance to sulfentrazone or other appropriate Group 14 herbicides; to screen lines from the ICARDA lentil core collection for sulfentrazone tolerance; to investigate the feasibility of using very low rates of sulfentrazone in combination with imazamox on Clearfield ® lentil to improve the control of kochia and buckwheat.

Outcome

Early generation lentil germplasm, recommended lentil varieties, advanced breeding lines from the Crop Development Centre lentil breeding program and selected lines from the ICARDA lentil collection were exposed to sulfentrazone at up to 140 g ai/ha in field and phytotron trials. Evidence of differential sensitivity to the herbicide were observed with some varieties and lines exhibiting a level of tolerance close to that required for commercial use of the herbicide on the crop. Efforts to recover seed of the more promising material met with limited success but seed stocks are available for further seed increase and subsequent testing to confirm these preliminary results. Observations to date suggest that it may be possible to develop lentil varieties tolerant to sulfentrazone.

Research Objective

OBJECTIVE 1

To search the current literature for evidence of heritability of tolerance to sulfentrazone in tolerant crops.

OBJECTIVE 4

To investigate the feasibility of using very low rates of sulfentrazone in combination with imazamox on Clearfield ® lentil to improve the control of kochia and buckwheat.

OBJECTIVE 2

To screen existing early generation material in the Crop Development Centre (CDC) lentil breeding program for useful levels of tolerance to sulfentrazone or other appropriate Group 14 herbicides.

OBJECTIVE 3

To screen lines from the ICARDA lentil core collection for sulfentrazone tolerance.