

Taming the technology: Application of sequence data in the lentil breeding program

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SPG Contributions	Project Status	Duration/Timeline of Project (Year to Year)	Total Project Cost
\$234,743.00	Completed	November 2008 – May 2012	\$234,743.00

Project Description

To develop molecular maps of cultivated lentil and a wild species for use in foreground and background selection; to increase the efficiency of germplasm development through interspecific hybridization combined with molecular marker selections for adapted background.

Outcome

Using markers developed in conjunction with the Cook lab at UC Davis, the research team was able to map a lentil species (*L. ervoides*) and use the markers to track introgression of alleles from this species in a population derived from a cross with cultivated lentil (*L. culinaris*). This will enable the leveraging of information out of better characterized legume species such as Medicago and soybean for use in identifying genes of interest in lentil. Through the work done in this project, the lab at the Crop Development Centre (CDC) now has experience in applying modern molecular marker techniques in the breeding program.

Research Objective

OBJECTIVE 1

To develop molecular maps of cultivated lentil and a wild species for use in foreground and background selection.

OBJECTIVE 2

To increase the efficiency of germplasm development through interspecific hybridization combined with molecular marker selections for adapted background.