

## Double-haploid lentils: High speed global genetic delivery system

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SPG Contributions	Project Status	Duration/Timeline of Project (Year to Year)	Total Project Cost
\$348,124.00	Completed	August 2009 – August 2012	\$348,124.00

### Project Description

To develop an efficient anther culture protocol for the production of double-haploid lentil; to develop an efficient microspore culture protocol; to use the developed protocol(s) on selected material from the Crop Development Centre (CDC) lentil program to develop an efficient double-haploid method that is applicable to a wide range of genotypes.

### Outcome

Despite many experiments involving multi-stress treatments, only tri-nucleated or tetra-nucleated microspores were observed. Sustained microspore division in lentil has not yet been achieved and no embryos were developed. Some critical factors are still missing for the development of double haploid technology for lentil. Further fundamental research is required to discover why this species is so recalcitrant to both androgenesis and somatic embryogenesis.

### Research Objective

#### OBJECTIVE 1

To develop an efficient anther culture protocol for the production of double-haploid lentil.

#### OBJECTIVE 2

To develop an efficient microspore culture protocol.

#### OBJECTIVE 3

To use the developed protocol(s) on selected material from the Crop Development Centre (CDC) lentil program to develop an efficient double-haploid method that is applicable to a wide range of genotypes.