

## **4B-102: Development of adapted field pea varieties for pork producing regions in northern and southern Australia**

**Project Leader** Mr Stephen Moore (Australia) Mr Adrian Russell (New Zealand)

### **Benefit to Industry**

The key industry benefit of this research has been the development of a diverse set of germplasm with broad adaptation in region north and more specific adaptation in region south. This germplasm has and can continue to be used to produce a commercially viable, locally produced source of protein for the pork industry in northern NSW, Qld and parts of South Australia.

### **Key Findings**

The key outcomes of this project have included:

- Two commercially field pea varieties for the north (Maki, 2009 & CRC Walana, 2011)
- A number of high yielding advanced lines which have the potential for varietal release in both the northern and southern regions
- A significant & diverse gene pool consisting of high yielding, stable, disease resistant germplasm which is adapted for pork producers in both the northern region and South Australia
- Diverse (and different) early generation progenies from both PRNZL and University of Sydney crossing programs
- Ongoing phenology experiments which have facilitated the development of agronomy packages and provided comparative yield and gross margin data for pulses in the north
- Population development of a number of grain quality traits including Trypsin Inhibitor Activity (TIA), High Metabolisable Energy (HME) and a pea albumin deficient mutant (PA2)
- Communication of the results of this project to grain growers, pork producers, agronomists and marketers via advisor and grower updates, field days and crop inspections, articles in rural and popular press, radio and television

### **Potential Users of Information**

For the pork producer they include a locally produced protein source that is of consistent and good quality and is available in adequate supply. In addition, for varieties with improved grain quality traits could permit changes in feed rations which may be financially attractive. For the grain grower it is a stable high yielding alternative pulse in the north with a guaranteed market. Improved grain quality traits potentially could lead to premiums paid for varieties possessing desirable traits.

### **Background**

The overall aim of this project was, utilising a targeted crossing, selection and evaluation program, to produce high yielding, disease resistant, regionally adapted varieties with appropriate grain quality characters which could be commercially competitive with alternative pulses and other crops grown in the target regions.

### **Methods**

The methods adopted for the implementation of this project were:

- a) Germplasm creation & early generation development**
- b) Field experimentation** - experimental sites for yield, phenology & disease evaluation in both region North and South were selected and representative of the target regions.
- c) Grower advanced trials** - to evaluate performance under commercial conditions
- d) Extension and communication** - a number of methods were utilised to disseminate information to grain growers, pork producers, agronomists, consultants, researchers and marketers.
- e) Project management** - to comply with reporting requirements of the CRC.