The problem
Clubroot - caused by the fungus *Plasmodiophora brassicae* Woronin - is one of the most important plant pathogens of cultivated cruciferous crops world-wide. Mild clubroot infections lead to slowed growth, lack of uniformity in crops, delayed harvesting and yield loss. Severe infections result in total crop failure. Once soil has been contaminated spores remain viable for up to 18 years. Information on the presence or absence of clubroot in soils has been difficult to obtain because traditional methods could not detect low levels of clubroot in soils. Current control measures are not effective if not properly targeted.

Project aims
- Development of an ‘in field’ test for resting spores of clubroot
- Investigate clubroot control using the ‘in field’ test to inform integrated management strategies.

Approach
The presence or absence of clubroot can be determined in most soil samples using laboratory based molecular tests. The molecular test has been used to develop a competitive lateral flow device for rapid testing and detection of the clubroot resting spore detection in the field. The aim of the project is to optimise and further validate the clubroot lateral flow device on a range of soil types incorporating changes in the lateral flow format leading to mass production and usage on all soil types where brassicas are grown.

Benefits to the industry
The results obtained from using the test and its development as part of a risk assessment will enable producers to make accurate estimates of likely yield losses and the potential for use of control treatments. By reducing the spread and development of clubroot growers will be able to avoid clubroot problems and potentially reduce their usage of control treatments.