

Project number: RD-2006-3306
Project title: Managing *Ramularia collo-cygni* through varietal resistance, seed health and forecasting
Lead partner: SAC Commercial Ltd
Scientific partners:
Industry partners: Syngenta
Government sponsor: SEERAD
Start date and duration: 1 Aug 2007, 20 months

Project aim: The aim of this proposal is to understand the relationship between *R collo-cygni* varietal resistance and seed infection under field conditions to provide information on current varietal resistance.

Key messages emerging from the project:

- Winter and spring barley varieties show different levels of ramularia symptoms.
- Rebecca achieved the lowest DNA levels in the seed and symptoms in the plant.
- Belgravia, NFC-Tipple and Belgravia all show low DNA levels in the seed and low disease symptoms in the plant.
- Decanter and Westminster showed good resistance in the field but high levels of DNA in the seed.
- Concerto had high levels of DNA in the seed and high levels of symptoms in the plants.

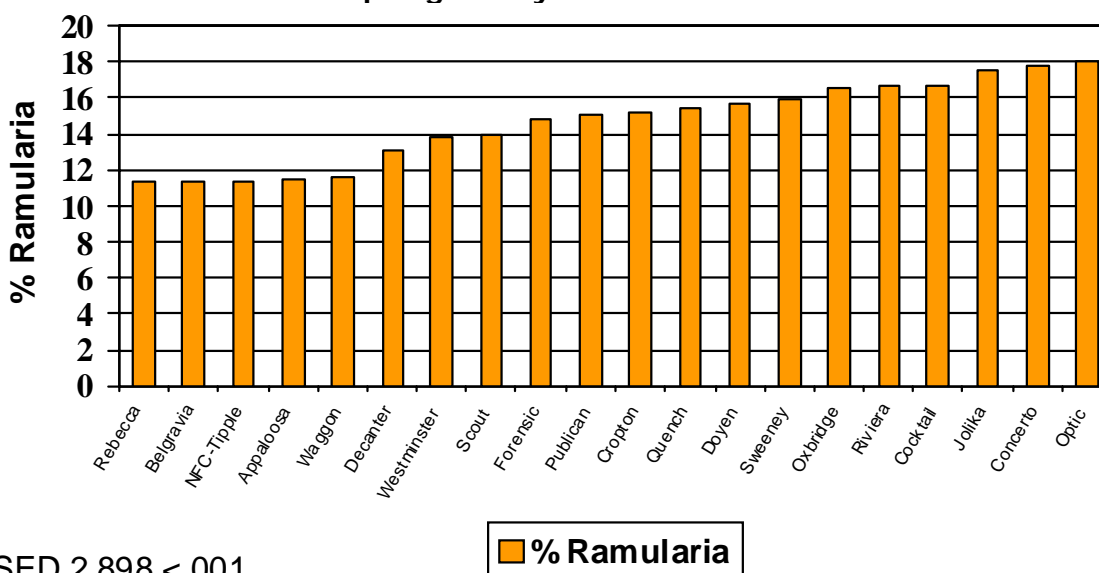
Summary of results from reporting year:

Spring Barley

Assessments of 2008 recommended list spring varieties show all varieties are susceptible, but the malting barley variety Optic had the highest level.

Rebecca showed the lowest level of symptoms and also had the lowest levels of ramularia DNA on the seed.

% Ramularia in spring barley Recommended List varieties 2008



Spring barley seed was tested for the presence

HGCA Research and Development, Annual Project Report, 2008 results

Spring barley	Ramularia DNA in Seed (Pg)
Rebecca	0.08
Belgravia	2.3
NFC Tipple	0.82
Appaloosa	0.3
Waggon	0.8
Decanter	29.5
Westminster	18.8
Scout	0.04
Forensic	10.9
Publican	0.3
Cropton	8.35
Quench	0.8
Doyen	1.63
Sweeney	0.07
Oxbridge	2.59
Cocktail	1.33
Jolika	1.05
Concerto	31.7
Optic	4.23

of ramularia at the start of the season. Ramularia DNA was detected in all seed stocks.

Rebecca showed low levels of ramularia DNA in the seed and low levels of ramularia symptoms in the plant.

Concerto had high levels of DNA on the seed and high levels of symptoms in the plant.

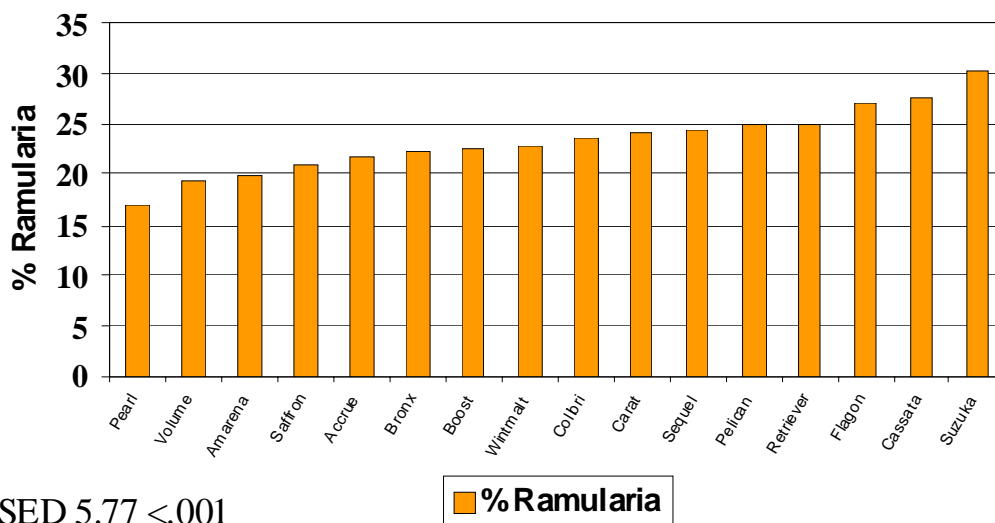
Decanter and Westminster showed high levels of DNA in the seed but lower levels of symptoms in the plant.

Winter Barley

All varieties exhibited ramularia symptoms in the plants at levels above 15%.

Pearl Volume, Amarena and Saffron gave the lowest levels of ramularia symptoms in the field. Flagon, Suzuka and Cassata gave the highest levels of symptoms.

% Ramularia in winter barley Recommended List varieties 2008



Key issues to be addressed in the next year:

- Measure the development of ramularia in the plant asymptotically
- Measure the increase in ramularia levels in the seed at harvest

The results described in these summary reports are interim and relate to one year. In all cases, the reports refer to projects that extend over a number of years. AHBD-HGCA (HGCA) has provided funding for this project but has not conducted the research or written this report. While the author has worked on the best information available to them, neither HGCA nor the author shall be liable for any loss, damage or injury howsoever suffered directly or indirectly in relation to the report or the research on which it is based. Reference herein to trade names and proprietary products without stating that they are protected does not imply that they may be regarded as unprotected and thus free for general use. No endorsement of named products is intended, nor is any criticism implied of other alternative, but unnamed products.