

COGGO

Council of Grain Grower Organisations Limited
ACN 091 122 039

Final Report

COGGO Research Fund for 2016 projects

A project completion report covering the project. The acceptance of a satisfactory report against the objectives of the project, and agreement on the sharing of any commercial returns and/or IP will trigger payment within 4 weeks, by COGGO for any outstanding payments.

This Final Report should be completed with reference to the Research and Intellectual Property Agreement (the Research Agreement) signed between the proponent and COGGO Pty Ltd.

1. Project information

Project title	Headless Barley – some direction for growers
Commencement Date	1 st of October 2015
Completion Date	31 st of March 2017

Name of Proponent	SOUTH EAST PREMIUM WHEATGROWERS ASSOCIATION
ACN/Legal Name or ABN	79 262 796 876
Mailing Address	P.O. BOX 365, Esperance, Western Australia 6450

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Project Supervisor/Principal Researcher	Nigel Metz
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Project Number	
Date Received	

2. Project results	This section provides a final report against the Project Aim and the Planned Outputs for the Project.
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Achievement of the Project Aim	Brief statement of achievement in relation to the aim of the project
<p>This project has utilised data from the SEPWA barley variety trials to quantify actual on farm head loss characteristics of barley production in the south coast region. SEPWA's unique reach of production environments and historic data collection has enabled a far wider examination for genetic by environment (GxE) factors than previous industry research.</p> <p>The project was designed to span 2 harvest seasons (2015 and 2016) as well as utilize historic SEPWA trial data to create a head loss by variety risk matrix. This information has been collated into an online webpage which all growers in WA are able to access. This will enhance growers agronomic strategy for their barley crop management.</p>	

Project Outputs		Please provide a report on the achievement, or otherwise, of the project outputs as per the planned outputs provided in the Project Proposal.
1	-	<p>Output 1 (from Project proposal)</p> <p>Head loss data from multiple trial sites and multiple years combined into a single statistically valid data set.</p>
		<p>Comment:</p> <p>Completed. Head loss data from 2010 through to 2016 has been recorded and presented in the Project Results in a succinct and easy to read manner, accessible for growers and provides extremely useful information when choosing a currently available barley variety which best suits the agronomic needs of the rainfall environment.</p>
2	-	<p>Output 2 (from Project proposal)</p> <p>The development of a simple on line information resource via the SEWPA web site which would enable growers to assess their agronomic risk factors of barley head loss.</p>
		<p>Comment:</p> <p>Completed. Data has been summarized into two separate graphs per rainfall zone (low, medium, high) and also has been summarized into an overall result across all zones. The interface is the simplest method possible to illustrate the results in a comprehensive manner.</p> <p>The link to the webpage is: http://www.sepwa.org.au/projects/headloss-barley-project</p>

Project results	Please provide brief statements on the results of the Project
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The results of this project span over the seasons between 2010-2016. Comparing varieties at various locations is a difficult exercise in terms of a direct comparison, as many seasonal and agronomic effects of one rainfall zone may not be present in another. Varieties were separated by rainfall zone for the purpose of improving the accuracy of the GxE (genetic x environment) matrix when assessing mainstream barleys. Varieties which did not have more than 2 years of data were excluded from the variety matrix.

Over different numbers of trial sites each year, fallen barley heads were counted at harvest and calculated per metre squared. This was extrapolated out to yield per hectare, thus assessing yield losses at harvest time due to headloss by variety.

The overall results showed the three varieties which were the best and the three varieties which performed the worst across the different rainfall zones. The varieties which had the best overall head retention were;

1. Rosalind,
2. La Trobe and
3. Spartacus.

The varieties which had the worst head retention were;

1. Henley,
2. Gairdner, and
3. Buloke.

The results from the Low rainfall areas showed that Rosalind, La Trobe, and Granger were the best varieties for head retention and Henley, Buloke and Fathom were the worst (in order of ranking). In the medium rainfall zone, the best varieties for head retention were Spartacus, La Trobe, and Rosalind, and Buloke, Henley, and Scope were the worst. In the High rainfall zone, Rosalind, Spartacus, and Baudin were the best varieties for head retention, while Henley, Gairdner, and Bass were the worst.

This data was summarized on two graphs, one which shows overall results in kg/ha losses of variety in order of the best performing variety, in terms of head retention, to the worst (see Figure 1).

Interestingly, the results were not always in line with DAFWA rankings for particular varieties, which suggests that more work could be done in this area to improve the methods of assessment and consistency of analysis. The other graph illustrates this more clearly, as it places the order of DAFWA head retention rankings in order on the x axis (see Figure 2).

The remaining graphs for headloss can be found on the following webpage:

<http://www.sepwa.org.au/projects/headloss-barley-project>

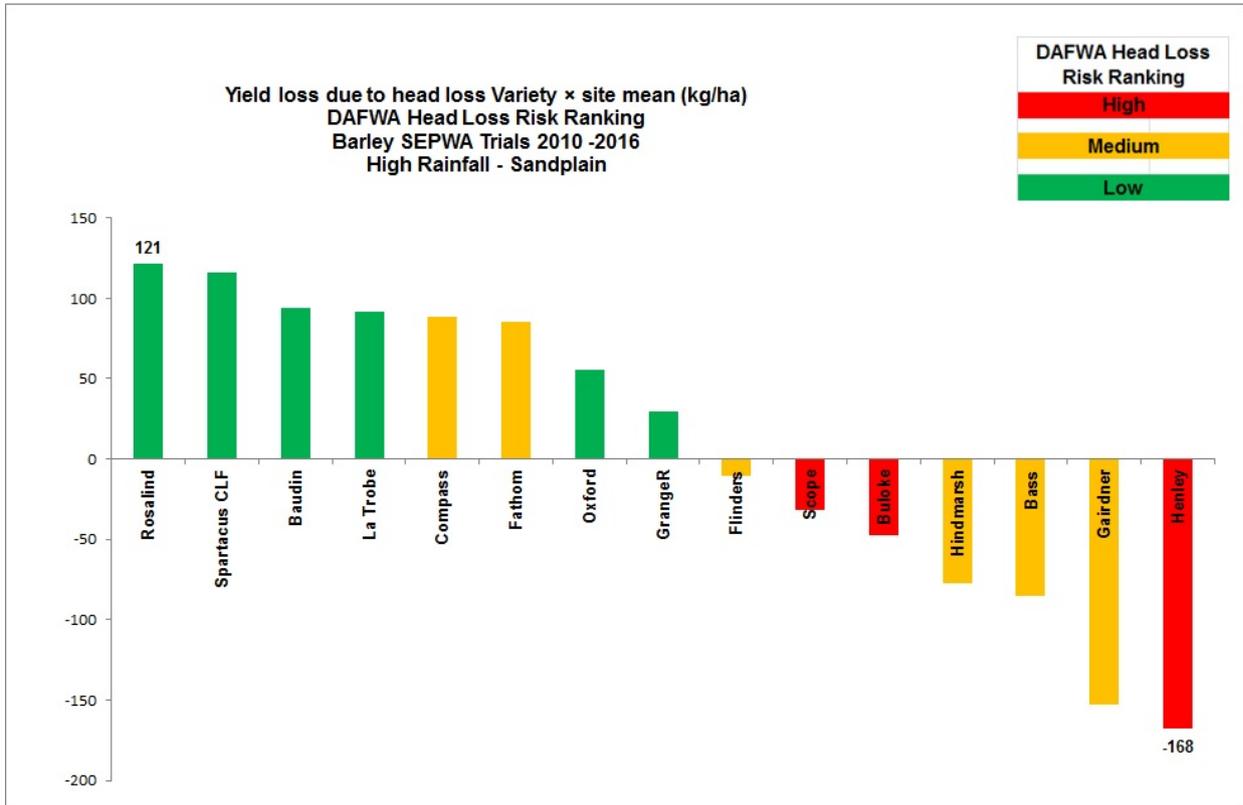


Figure 1: Graph illustrating yield loss via headloss in kg/ha by variety in high rainfall environment on average between 2010-2016.

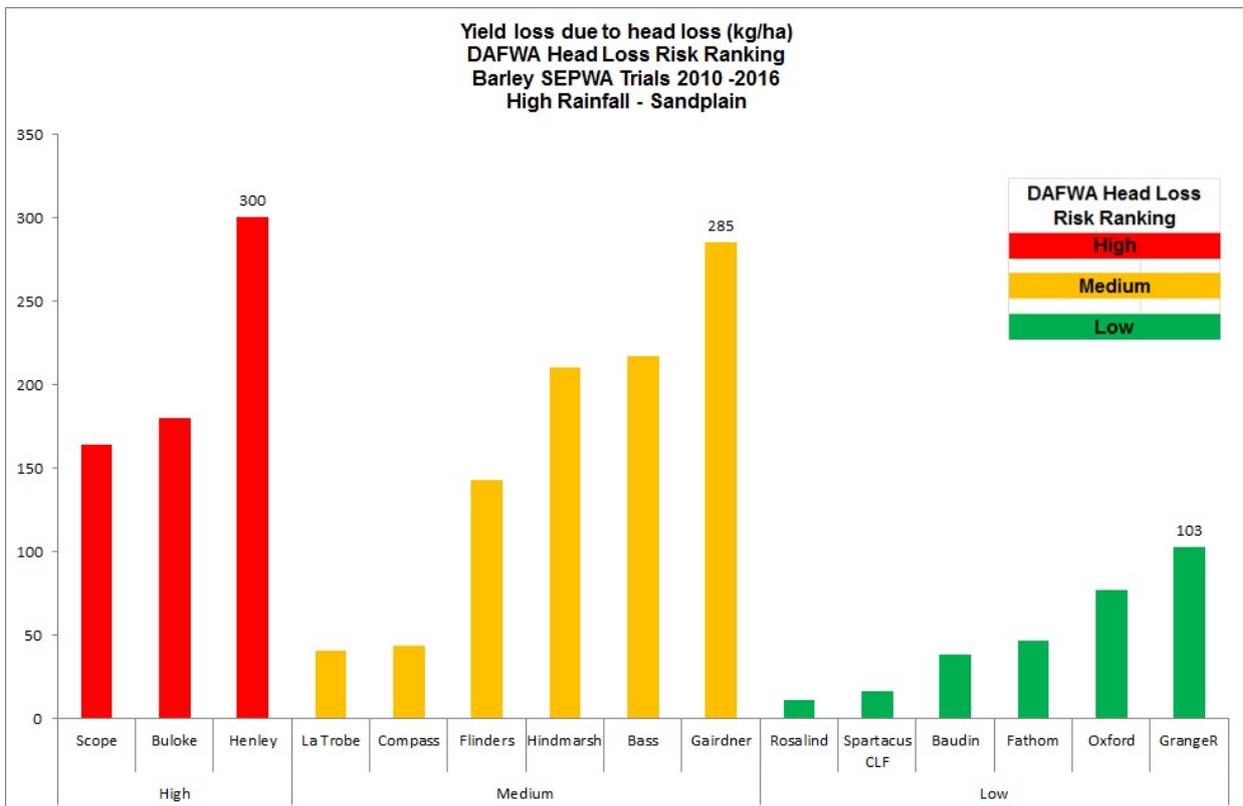


Figure 2: Graph illustrating yield loss via headloss in kg/ha by variety in order of DAFWA risk ranking in high rainfall environment on average between 2010-2016.

3. Project resources	This section describes use of the funding listed in the initial plan and any refunds due to COGGO
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Expenditure of funds requested from COGGO	\$ Total funds budgeted	\$ Total funds expended (actual)	\$ Total funds requested from COGGO*	\$ Total COGGO funds expended	\$ Refund due to COGGO of any unexpended COGGO funds
Salary/Contractors	9635	9635	9635	9635	0
Operating costs	11300	11300	11300	11300	0
Capital					
TOTAL	20935	20935	20935	20935	0

*Funding provided by COGGO.

IMPORTANT: Return of unused funds to COGGO is required as per *Clause 3.3* of the Research Agreement.

4. Commercialisation	<p>Insert details of the proposed commercialisation process, as applicable, with reference back to the planned commercialisation plan in the project proposal) for any outputs from the project.</p> <p>This should include recommendations for the commercialisation of the results of the project and the registration or other protection of Project IP and Project Confidential Information as per the Research Agreement.</p>
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N/A	
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It is understood that this may require further discussion and agreement with COGGO via its' agent GIWA, as per the undertakings given and terms agreed, in the project proposal. This can be the subject of an appended letter and attachments. In all cases such discussion and subsequent agreements need to be governed by *Section 8 Project IP, Improvements and Project Confidential information* of the Research Agreement.

5. Communication/ Extension	<p>Insert details of how the communication and extension of the project outcomes has been achieved to date and recommendations for future activities to disseminate and promote adoption of the results of the Project.</p>
<p>Further extension of the headloss assessments will be continued at SEPWA events until a time when deemed of less relevance. The webpage will remain online until a similar dataset is updated or outdates the current information. Information will also be provided in the SEPWA newsletter.</p>	

Note: As per *Clause 7.3 (b) (ii)* of the Research Agreement COGGO may require the Researcher to produce an edition of the Final Report in a form suitable for general distribution. If so required by COGGO, the Researcher must produce a non-confidential version of the Final Report within 28 days of receiving a request to that effect from COGGO.

6. Certification

The Project Supervisor and the Research Organisation certify that all information contained in, and forming part of, this final project report is complete and accurate. The project supervisor and research organisation further warrant that the project complied with all the relevant guidelines affecting the conduct of research, for example in relation to ethics, bio-safety, environmental legislation, GMAC or National Health and Medical Research Council Codes.

Project Supervisor's signature



Name (in Capitals)

AIDAN SINNOTT

Date:

Research Organisation signature



Name and title of authorised signatory (in Capitals)

NIKI CURTIS

EXECUTIVE OFFICER

Date:

28/3/17

Completed Final Project reports

Email to coggoresearchfund@giwa.org.au or mail to
COGGO Research Fund, GIWA, PO Box 1081, Bentley DC, WA 6983

For any further enquiries please email questions to coggoresearchfund@giwa.org.au
Or phone (08) 6262 2128

COGGO representative

For the purpose of this Project agreement contract, COGGO will be represented by Grains Industry Association of Western Australia (GIWA), or such other representative that is nominated by COGGO as authorised to operate on behalf of COGGO.

PROJECT SYNOPSIS SUITABLE FOR GENERAL PUBLICITY AND COGGO WEBSITE

This “Headless Barley” project was designed to utilise data from the SEPWA barley variety trials to quantify yield losses on farm due to head loss characteristics of barley in the south coast region. Headloss data has been compiled and analysed between 2010-2016, therefore offering an up-to-date look at current varieties, and their susceptibility to head loss. Using this information, all results are in graph format available to all growers online at:

<http://www.sepwa.org.au/projects/headloss-barley-project>

The result of this project is to enhance growers agronomic strategy for their barley crop management.