Introducing the HiRES project – Long-term farming systems research for the high rainfall zone

Mackie Family, Mount Barker

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Key Messages

- The project will include a 4-year, fully phased, comprehensive 4.5 ha small plot trial site in the Mount Barker region.
- Crop rotation sequencing, variety choice, time of sowing, optimised nutrition and integrated disease and weed management strategies will be the focus of the project.
- Medium- and long-term profitability and sustainability of trial treatments will be assessed.

BACKGROUND

This new GRDC and DPIRD co-investment of $10 million over five years aims to deliver research to support Western Australia's high rainfall zone farmers to maximise their profitability and ensure sustainability of production. Key to this will be research covering crop rotation sequencing, crop agronomic management and integrated disease & weed management strategies.

Finding an alternative to the tight cereal-canola rotations will be key to solving some of the disease and soil fertility risks, predicted to increase over time. It is hoped results from the project will culminate in a package of strategies and resources to help growers into the future.

Project objective:

For growers in the HRZ of WA to have knowledge of the profitability of various combinations of crop rotation sequence, integrated disease management approaches and crop management strategies that can be implemented sustainably in their farming enterprise by 2029.

SCF's involvement in the project includes the seeding and maintenance of the large Albany small plot trial site (Liam will have a job ahead of him!), participation in steering committee meetings and extending outcomes of the project to farmers in the high rainfall zone of the Albany Port Zone.

METHODOLOGY/TREATMENTS

A large, fully phased trial site, which will run for four years and consist of 12 treatments and 152 small plots, covering an area of approximately 4.5 ha. The trial is set to be located just north of Mount Barker on the Mackie family farm. A twin trial site will be located in Esperance (Gibson).

There are three key components of the project:

1. Firstly, trial site implementation and measurement. Specifically, taking measurements that collect data on:

- Yield and grain quality
- Disease severity
- Crop phenology
- Soil moisture & nutrition
- Input costs
- Strategic sampling for stubble load quantification, soil biota and plant tissue nutrients.

2. Secondly, data analysis to assess profitability and sustainability of the combinations of treatments. Part of the sustainability piece includes understanding the emissions intensity for each treatment and comparing treatments against the Australian Agricultural Sustainability Framework 2021-22.

3. Lastly, modelling. Actual results on profitability and sustainability will be modelled for insight over both the medium and long term.

DPIRD will work closely with the Stirlings to Coast Farmers and South East Premium Wheatgrowers Association (SEPWA) grower groups to deliver the project, overseen by a small management committee of technical experts. Results will be extended to growers to enable a better understanding of the long-term impact of production decisions.

ACKNOWLEDGMENTS

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