

Maintaining Profitable Farming Systems with Retained Stubbles in the Upper North of South Australia

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Funded By: GRDC Stubble Initiative

Project Title: Maintaining profitable farming systems with retained stubbles in the Upper North of SA

Project Duration: 2013-2018

The Upper North Farming Systems Group has received funding from GRDC to deliver a stubble management project to farmers in the Upper North over the next 5 years. The GRDC has funded \$130,200.00 (+GST) per year from 2013 to 2018. A project team consisting of UNFS Committee Members, Michael Wurst from Rural Solutions and Ruth Sommerville from Rufous and Co has been developed to deliver this project in the most efficient and effective manner. The Primary Aim of the GRDC Stubble Initiative is to increase the profitability of stubble retention systems to equal to or greater than those where stubble is removed.

The main outcome will be improved profitability and sustainability in a climatically risky environment through the adoption of systems which allow increased retention of residues for erosion control and improved crop water use efficiency whilst providing feed for grazing animals and enabling adaptive land management.

Specific targeted elements include;

1. Reduction in the pre-sowing cultivation (both number of passes and intensity of disturbance) used to establish crops, particularly after a pasture phase.
2. Improved management of stubbles from previous crops and pastures to maximise their value for both productivity and NRM outcomes (including stubble handling, seeding systems and grazing management).
3. Specific management issues (weeds, disease, pests and nutrition) arising from increased residue retention.

Key outputs from this project will be specific best practice guidelines for the Upper North with focus topics of:

- Break Crops
- Fallow Stubble Management and Monitoring
- Seeding Equipment Operation
- Inter-row Sowing Equipment Operation
- Pest and Weed Management at Seeding and Over Summer
- Disease Management
- Crop Nutrition
- Applied Review of the Benefits and Costs of Stubble Retention.

Key Demonstration and Trial Activities for this project have begun. Projects initiated in 2013 include;

1. **Grazing Systems:**
 - a. **Alternative Grazing System Demonstration** – A paddock scale demonstration of alternate grazing systems. Initial Results will be presented in the UNFS 2014 results book.
2. **Managing difficult to control weeds**
 - a. **Onion Weed Demonstration** – Site selection and planning has occurred and treatments will be applied in 2014. Results will be presented in the UNFS 2014 results book.

3. **Crown Rot Management** – District Survey and management actions being trialled in 2014
4. **White Grain Management** – District Survey and management actions being trialled in 2014
5. **Nitrogen Management**
 - a. **Paddock Scale Demonstration of variable rate nitrogen application.** – Site selection and planning has occurred and treatments will be applied in 2014. Results will be presented in the UNFS 2014 results book.
6. **UNFS Seeder Demonstration**
 - a. Seeding equipment effectiveness in barley (2013), canola (2014) and wheat (post pasture in 2014) and the implications for stubble management.
 - b. The use of Precision Agriculture to improve crop management (2013-2018)
 - c. Soil management practices – effect of burning and cultivation on seed establishment and soil condition (2013-2018).

