

SEARCH CRITERIA

Model	Model C: Technological Development Model
Industry	Pasture production, graingrowers
Focus/Level	Industry
Purpose	Testing available knowledge
Outcomes	Development of a management practice
Special Interest Groups	Other
Design and Implementation	Designed by researchers/experts, managed by farmers/community

1. PROJECT TITLE:

On-farm testing and extension of sustainable pasture/wheat production in the northern and eastern wheatbelt of WA.

2. FUNDERS:

GRDC
WA Department of Agriculture

3. PROVIDERS:

Department of Agriculture

4. KEY CONTACTS:

Mr Keith Devenish Extension officer (now based at Jerramungup District Office)
Dr Clinton Revell. Project Manager. Department of Agriculture.

5. INDUSTRY/ISSUE/GEOGRAPHY:

Broadacre wheat and pasture system, northern and eastern wheatbelt of WA. Within this region there are approximately 4000 producers. The system is typically a phase pasture system.

6. PROJECT CONTEXT:

Pasture production in the northern and eastern wheatbelt tends to be poorly managed in comparison to the level of management directed to the cropping phase of rotations. As a consequence weed burden and regeneration rates are poor and N production is below potential. This project is targeted toward 'grain growers' and the focus of the project is improved pasture production.

7. PROJECT NICHE (SPECIFIC OBJECTIVES):

1. To promote best-practice management technology for self-regeneration medic and yellow serradella pastures grown in rotation with wheat in the northern and eastern cereal wheatbelt of Western Australia.
2. To increase the adoption of phase pasture technology for the management of herbicide resistance in annual grass and broadleaf weeds.
3. To provide support for the development of high water use pasture systems in the northern and eastern wheatbelt.

8. PHILOSOPHY/APPROACH:

Promote best practice technology for the management of commercial pastures to improve their productivity and to ensure the maximum benefit of the pasture is passed on to future wheat crops. The project aimed to link with TopCrop groups established within the region and in partnership, conduct on-farm testing of pasture establishment and management technology.

This approach to improving pasture production in predominantly cereal growing environments emphasises the value of on-farm testing, whereby farmers are encouraged to design, implement and monitor pasture performance along with the Department of Agriculture researchers. The project also aims to capitalise on 'farmer to farmer' communication networks, very often the most effective means by which innovations are communicated.

9. RESOURCES, MANAGEMENT AND STAFFING STRUCTURES:

1 extension officer, Mr Keith Devenish. The project was run over 5 years with a total budget of \$438,000. The project liaised with the newly formed TopCrop Groups in the region.

10. PROCESS/METHODS USED:

The aim of this project was to improve the management of the pasture phase of the rotation. The aim of this project was not to improve pastures in order to improve sheep production, rather it was aimed at improving pasture production to improve the cropping phase. At the time of the project, the cropping phase was breaking down (particularly under reduced tillage systems) due to herbicide resistance and disease, especially anthracnose in lupins. Cadiz was highlighted as a serradella that would be worth considering in this project. The grain can be harvested by a grain harvester, it is well suited to the sandplain soils and is acid tolerant.

When Keith first spoke with the farmers, they were reluctant to participate in the project due to their impression that emphasis on pasture therefore equated to increase emphasis on meat and wool production. These farmers were not involved in the sheep industry and therefore could not see how the project was relevant. Hence the outcomes of this project were modified in order to acknowledge these perspectives highlighting the gains in terms of improved available N, decreased weed seed burden and a management tool for herbicide resistance.

The application of the project saw large fields being sown to legume pastures such as Cadiz as a focal point of demonstrating on-farm pasture technology. Some farmers were committed to a 2 year pasture phase, others to a single year rotation and virtually no-one was prepared to undertake a 3 year rotation.

The paddocks were managed by farmers, with advice from the extension officer and researchers.

11. IMPACTS TO DATE (AND EVALUATION APPROACHES USED):

The project has been attributed to the following impacts:

- The area sown to legume pastures has increased substantially since 1999.
- Cadiz serradella has experienced the biggest increase with an estimated 28 per cent of farmers sowing Cadiz in 2000. Of this number 12.5 per cent were harvesting their own seed.
- The number of farmers sowing lucerne has increased to about five per cent.

- The area and number of farmers sowing subterranean clover has increased slightly.

12. EFFECTIVENESS:

High. The project has had a significant impact in the region with the area sown to legume pastures increasing substantially.

The use of farmer- farmer communication capitalising on the systems learning, appears to have been very successful.

The project was clearly very relevant with 30 per cent of farmers in the region adopting improved legume pasture management as part of their system.

13. PROJECT DOCUMENTATION AVAILABLE:

Measuring the adoption of legume-based pasture systems for the central, eastern and northern wheatbelt. Devenish and Bee. 2001 Crop Updates

Crop Update papers, 2001 and 2000.

Revell and Devenish (2001) Final Report.

14. ISSUES:

There is a strong demand in this project to continue, particularly in support of farmer to farmer communication and self-directed learning. This project supports personal development and self-directed learning and encourages farmers to adapt systems to suit their own context.

15. COMMENTS/CONCLUSIONS:

It would seem this project has had high success and the interest and on-farm work in serradella has continued since the project's conclusion. This project appears to have followed participatory principles demonstrated the active encouragement of farmers to design, manage and monitor and where required, adapt the system to suit their context. Using the farmer to farmer networks has proved to be a very effective means of bringing about the increases in area sown to legume pastures.

16. REVIEW METHODS:

Review conducted by Fionnuala Frost with Mr Keith Devenish. Follow up calls were made with 8 people. The review material presented at the annual Crop Updates was also used.