



farmtalk



This article contains information most relevant to the less than 350 mm rainfall mallee farming region

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Fact Sheet 2

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Intensify Cropping Improve your Profitability!

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The issue

Over recent years in the Mallee, there has been a strong move towards more intensive cropping practices. Traditionally, Mallee farming systems have been based on low input systems designed more to manage the **RISK** of poor seasons than the opportunity provided by favourable seasons. This can result in available moisture **NOT** being used as effectively as possible, therefore having a significant impact on potential yield and subsequent profitability.

In general, district practice seems to mainly concentrate on water being the major limiting factor. However research investigation has demonstrated that **inadequate nutrition** is often a greater limitation to yield than many people realise. Therefore, it can really be a lack of adequate nutrition that is holding the crop back from attaining its potential yield.

What we know

Long-term studies at core research sites, across the Mallee, have demonstrated that higher input intensive cropping systems have produced up to double the gross margin return compared to the district practice of wheat / pasture systems (Figure 1).

The benefit from intensive cropping comes from:

a) a flexible rotation strategy that responds to the opportunities presented at sowing time i.e. available soil moisture, timeliness of the break.

b) improved matching of nutrient requirements to potential crop yields. In general, higher nutrient inputs than traditionally used are required to optimise crop productivity. Maximum economic performance occurs when nutrient supply, either from the soil or from added

fertiliser, is matched to the crop potential as determined by the plant available water.

c) improved nutrient efficiencies (particularly nitrogen) from an increase in microbial activity as a result of a greater return of plant residues.

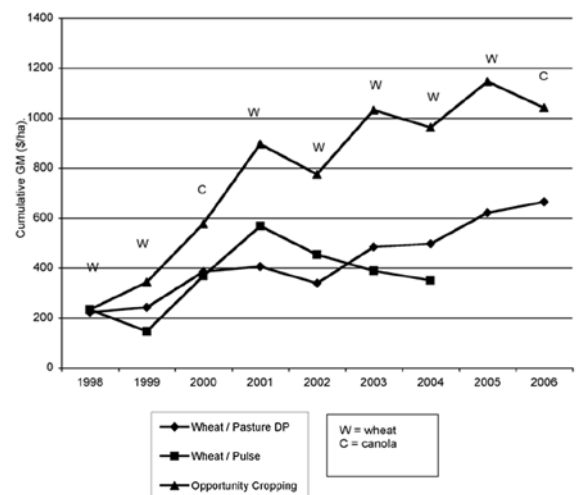
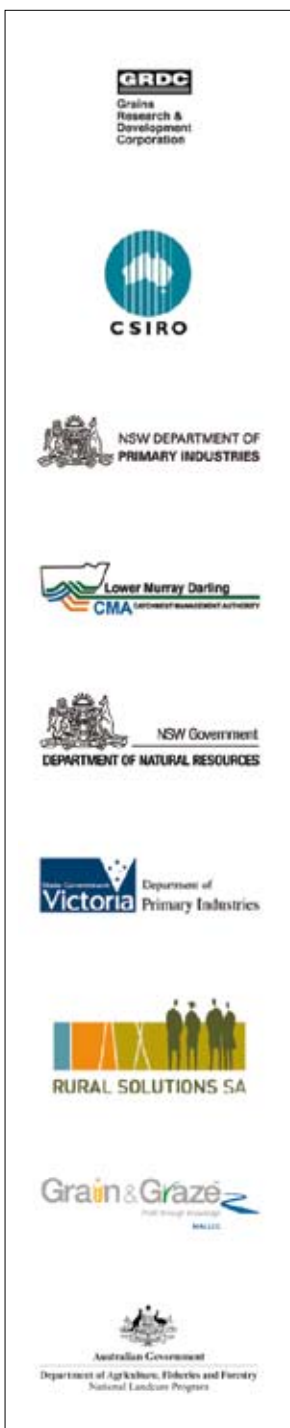


Figure 1. Cumulative Gross Margin for 3 Farming Systems - MSF Waikerie Core Trial 1998 - 2006

A fixed rotation such as cereal / pulse is not well adapted to the variable climate of the Mallee, as demonstrated in 1999 (Figure 1) when low moisture resulted in a loss of the vetch crop but still a profitable wheat crop.

Cereals are the backbone of the intensive system and can be successfully grown sequentially where nutrition, disease and weed issues are addressed. The key to the sustainability of these systems is the improved soil biological processes that result from the greater input of crop residues (see farmtalk #25 Managing Soil Biology – Benefits from Nutrient Efficiencies and Disease Suppression).

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What this means

The practice of limiting inputs and cropping intensity to manage risk is in fact costing farmers yield and profit. As shown in Figure 2, the potential for increased profits from intensive higher input systems are far greater than any risk of increased losses.

The intensive systems can achieve higher gross margins on average 7 out of 10 years. High input systems can result in greater losses but this only occurs on average in 2 years out of 10. It will be very important for the farm business to be in a financial position to cope with these loss years before broad-scale adoption of these more intensive systems (see Figure 2). The 9 years of trials at Waikerie shows just how variable the benefits from intensive cropping can be (Figure 1). The major improvement in profitability for the intensive systems has come in the first 4 seasons which were around average to a bit below average rainfall. Over the last 5 years (3 droughts) there has been very little difference in performance between the intensive and low input district practice wheat / pasture treatment. Overall the intensive system has been able to maintain an improved economic performance over the last 9 years even though the rainfall for that period has been 25% below the long term average.

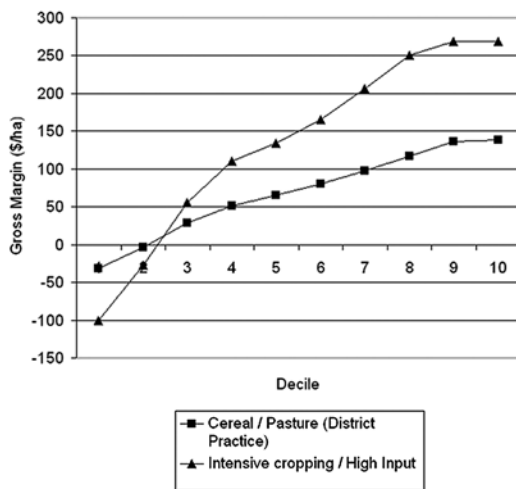


Figure 2. Impact of Rainfall (deciles) on the gross margins of Mallee farming systems - 250mm Average Annual Rainfall

Actions YOU need to consider to improve your UNDERSTANDING

Farmers can maximise production and reduce risk by increasing their level of knowledge of their paddocks management. A critical factor is for people to have a good understanding of their pre-sowing seasonal conditions including:

- **Stored available water at sowing** - refer to MSF website (www.msfp.org.au) for sampling procedure
- **Available nutrients at sowing** - particularly Nitrogen
- **Seasonal rainfall indicators**
- **Impact of subsoil limitations** - boron, salt, pH (see *farmtalk* #8 Identifying subsoil constraints on Mallee farms)
- **Disease assessment** – monitor and use the Root Disease Testing Service
- **Weed Populations**

Where to next

- Consider joining or establishing a farmer working group to develop the skills and knowledge to assess your paddocks.
- Consider conducting on-farm trials in conjunction with a MSF group.
- Contact your district agronomist or a commercial advisor for more specific information.

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