OPPORTUNITY FOR PROFIT MANAGEMENT GUIDELINE RDP00013

GRDC
GRAINS RESEARCH & DEVELOPMENT CORPORATION

SA VIC MALLEE

Contents

Foreword

This Management Guideline has been designed for grain growers as part of the GRDC's Project RDP00013 'The integration of technical data and profit drivers for more informed decisions'. This national project is being delivered across the 14 major grain growing agro-ecological zones in Australia through the collaborative partnering of five agribusiness consulting organisations.

This report identifies the key management affected profit drivers by agro-ecological zone and provides some guidelines around how growers can manage them. The profit drivers have been identified through the collection of more than 300 benchmarking datasets nationally. These benchmarking datasets have been analysed by the respective project partners to identify the key management affected profit drivers by agro-ecological zone. The quantitative benchmarking analysis has also been complemented by a qualitative survey process with grain growers across each region.

It has been valuable for the project to be driven at the agro-ecological zone level where each of the project partners have been able to draw out local insights and perspectives. There are a range of environmental and enterprise characteristics that are unique to each agro-ecological zone and the applied project methodology allows these to be explored.

A consistent message from the project is that there is a large gap in financial performance between the Top 20% businesses and the average business in each agro-ecological zone. There is abundant opportunity for many grain growers to increase profit from the resources that they currently have available to them.

Prepared by Rural Directions Pty Ltd on behalf of the Grains Research & Development Corporation.

Rural Directions Pty Ltd

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There is significant opportunity for most growers to extract higher levels of profitability from their existing resource base.

Executive Summary

This Management Guideline for the SA Vic Mallee agro-ecological zone has been developed by Rural Directions Pty Ltd on behalf of the GRDC and demonstrates that there is a significant gap in financial performance between the Top 20% producer and the average of farming businesses across the zone. The Top 20% producers have been selected based on Return on Equity (ROE).

The Top 20% of grain growers are generating very strong levels of profitability.

In the SA Vic Mallee zone, the Top 20% have generated an operational ROE of 12.98% during the five year period analysed between 2009 and 2013*. This is three times stronger than the average business in the zone which has recorded a Return on Equity of 4.68% during the same time period*.

Return on Assets Managed (ROAM) is an alternative ratio which can be used to measure financial performance. In the SA Vic Mallee zone the Top 20% recorded an operational ROAM of 17.57%, almost twice that of the average business in the dataset at 8.47%*.

** The seasonal conditions between 2009 and 2013 were particularly strong in many parts of the Mallee and Upper Eyre Peninsula. We would expect to see Top 20% performance stabilise to be between 8% and 10% ROE and ROAM on a longer run analysis.*

High Margin, Low Risk Agriculture?

If translated into relative returns, shares will generally provide 9% returns on funds invested over a long term period. Recent share market performance however has been much lower than this. They are widely considered to be a more volatile investment, but yield higher returns. Agriculture is often perceived as a high risk, low margin industry with volatile returns. Yet, the Top 20% of farm businesses in the SA Vic Mallee zone are consistently generating an operational Return on Equity of over 12% and have an ability to maintain profitability at just Decile 2 prices*. These returns become stronger when capital appreciation of land values over time are added in. From a historical perspective it isn't unrealistic for this to add a further 5% to 6% to overall agricultural returns. This has the potential to lift the long term financial performance of the Top 20% to between 17% and 18% ROE.

This level of return twinned with the ability to maintain performance in poor pricing scenarios clearly demonstrates that low risk, high margin agriculture is achievable but how exactly can it be achieved? We look to answer this question throughout this *Management Guideline.*

The Profit Drivers

There are a range of important profit drivers that are influencing variation in farm performance. The four primary profit drivers that are driving the differences in long term financial performance have been identified as:

1. Gross margin optimisation
2. Developing a low cost business model
3. People and management
4. Risk management

It is the interaction of these four primary profit drivers that is resulting in very different levels of financial performance being achieved. Interestingly, across most agro-ecological zones there is only a very weak correlation between enterprise scale and ROE performance. This indicates that scale is not an effective profit driver unless it is successfully matched with each of the four profit drivers detailed above. There is little difference in enterprise scale between the Top 20% business and the average business in the dataset in both South Australian agro-ecological zones.

While the range in land values per hectare in each region is quite large, the Top 20% and the average business in each dataset are generally farming a land base of similar market value per hectare. Growers that are farming in the very expensive land value regions within each agro-ecological zone may be limited to more modest levels of ROE performance than what the Top 20% are achieving. These businesses however can still generate robust returns when managed effectively in accordance with the identified profit drivers.

Gross Margin Optimisation

The Top 20% are generating 12% or $58 more cropping income per hectare than the zone average and investing 26% or $69 less in variable costs per hectare. This is enabling the Top 20% to generate a gross margin that is 55% or $127 stronger per hectare than the average business in the dataset. There are no major rotational differences between the Top 20% businesses and the average in the dataset.

In terms of fertiliser and chemical costs, in the SA Vic Mallee the Top 20% are outlaying approximately $10 less on both fertiliser and chemical in $ per hectare, however they are leveraging crop yields from this investment that are 10% to 20% higher.

Gross margin optimisation is a measure of operational efficiency.

Low Cost Business Model

Developing a low cost business model also provides opportunity to increase farm profitability. In the SA Vic Mallee the Top 20% grain growers are 36% more efficient with machinery and labour utilisation. This has been measured through a Total Plant Machinery and Labour (TPML) benchmark which has the benefit of allowing businesses that employ contractors for some operations to be compared on an equal basis to those that own and operate all of their machinery.

In the SA Vic Mallee the Top 20% are investing approximately 25% of business turnover into TPML costs in comparison to 38% for the average business in the dataset.

Leasing or sharefarming additional land is an important part of the business model for many of the Top 20% in both South Australian agro-ecological zones. The Top 20% however are accessing lease land in a more cost effective manner than the average business in the dataset. In the SA Vic Mallee the Top 20% are accessing land approximately 37% more cost effectively when land lease values are considered on a % of gross margin basis. This is being achieved through a combination of achieving stronger yields and paying more realistic lease values.

Developing a low cost business model is a measure of structural efficiency.

People and Management

Good management is regularly identified as a key profit driver. Good management is required to optimise gross margins and develop a low cost business model. To understand potential differences in management approach, a qualitative survey was conducted with a cross section of growers. This survey explored what different farm managers consider to be important for profit, the decision making processes they work through, how they access technical information, and their capacity to implement knowledge gained. The results from the qualitative survey were very insightful. It was identified that it is an implementation gap rather than a knowledge gap that is generally driving substantial differences in performance between the Top 20% and their lower performing peers. There are six key management characteristics of high performing grain businesses that were observed. These were:

1. Having a systems focus
2. Taking a ‘helicopter’ view when under pressure
3. Internalising and taking responsibility for key decisions
4. Focusing energy on things within their control
5. Superior implementation ability
6. Strong observation skills

Risk Management

A resilient business is one which can incur a production shock and yet maintain suitable levels of financial performance. While developing a resilient business is influenced by gross margin optimisation and developing a low cost business model there are also elements of business resilience which are improved through proactively managing risk.

Some potential measures of well implemented risk management within a business might include:

- Lower income variation from year to year
- Lower long term cost of production by commodity
- Lower variability in profit from year to year
- A greater ability to withstand a business or production shock

Businesses which have effectively identified and mitigated key production and business risks will generally have less income variation from year to year and much lower long term cost of production for the range of commodities that they produce.

Agro-ecological Zone Description

The GRDC has categorised the grain producing regions of Australia to create 14 major agro-ecological zones. These zones are listed below and also shown in the map below.

- Qld Central
- SE Qld & NE NSW
- SW Qld & NW NSW
- NSW Central
- NSW-Vic Slopes
- Vic High Rainfall
- SA & Vic Mallee
- SA Mid North Lower Yorke Eyre
- Tas Grain Growing
- WA Northern
- WA Central
- WA Eastern
- WA Sandplain
- WA Mallee

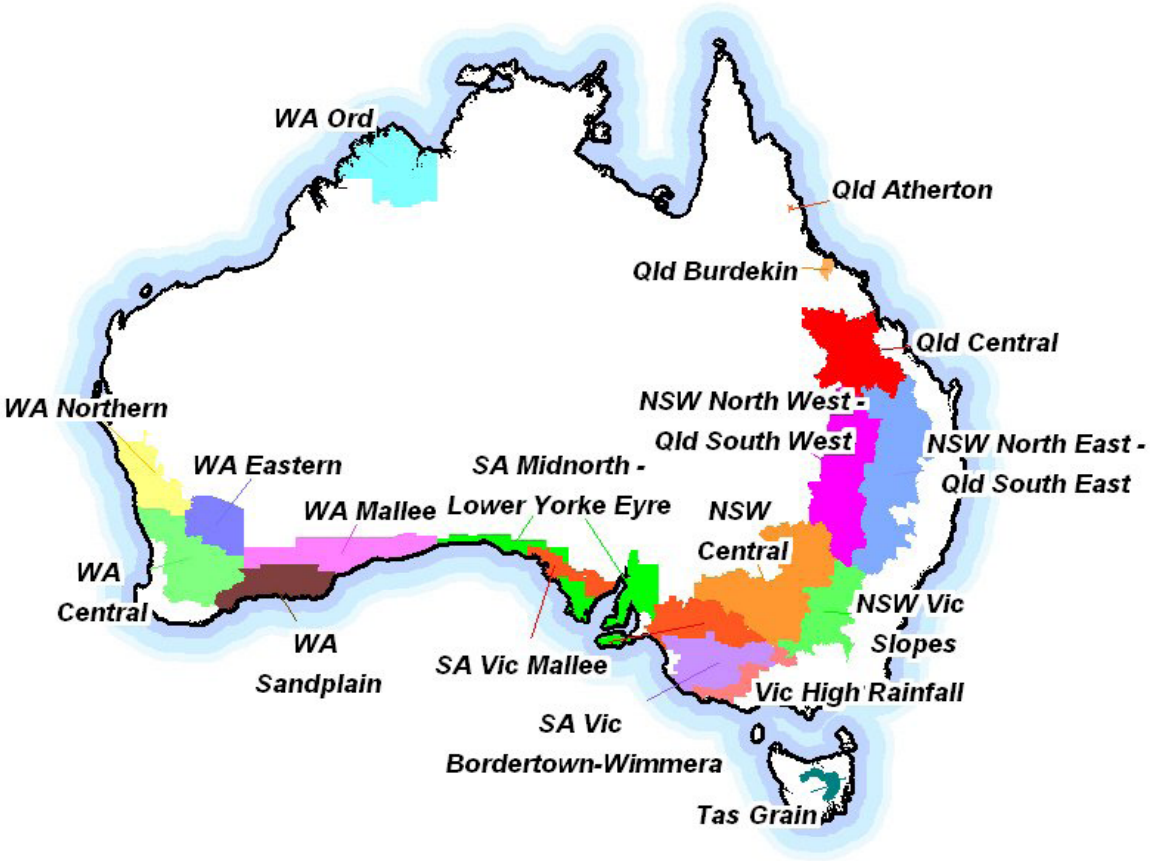

Figure 1: The 14 major agro-ecological zones within the Australian grain producing regions as depicted by the Grains Research and Development Corporation.

What does a Top 20% business look like in the SA Vic Mallee zone?

This zone is representative of the higher rainfall, heavier soil type cropping regions across South Australia.

Soil types	Sand, sandy loam, loam
Rainfall	Low to medium (270mm to 425mm)
Typical yield	1.8t/ha for wheat in 2001 (GRDC) 2.25t/ha for wheat across the dataset collected
Enterprises	77% average cropping intensity for the 22 businesses captured in the benchmarking dataset for this zone. The Top 20% of businesses by Return on Equity (ROE) have the following characteristics: • 25% of them are cropping only businesses and • 75% are mixed cropping and livestock businesses
Average farm size	3,973 hectares across the datasets captured
Average land values	$1,618 per hectare. Ranges from $477 to $4,824 per hectare

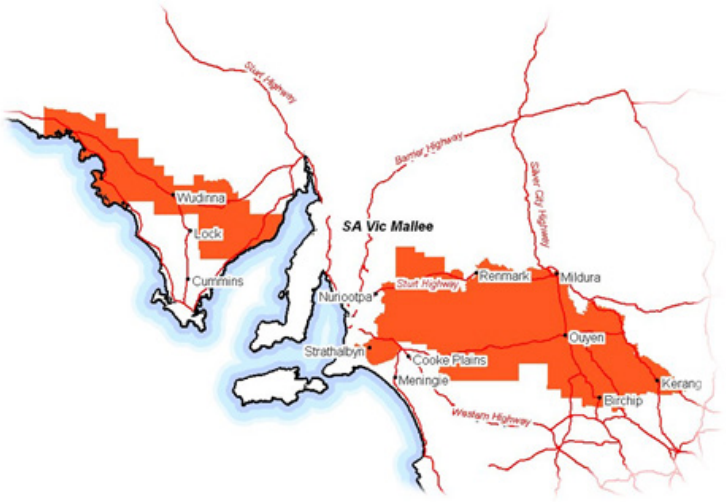

Figure 2: A map of the SA Vic Mallee agro-ecological zone

In the SA Vic Mallee zone, the average business in the dataset and the Top 20% by ROE businesses are both managing around $6.8 million in total assets. The Top 20% are only managing about 5% greater land area in comparison to the average business in the dataset. This suggests that enterprise scale is not a major driver of differences in net profit performance within the SA Vic Mallee zone. While having a suitable level of critical mass is required, there was a very weak correlation between area managed and long term Return on Equity (ROE).

It should also be noted that the structure of assets managed is quite different in the zone between the average business and the Top 20% by ROE. The Top 20% by ROE are either leasing or sharefarming a greater portion of their land base in comparison to the average business in the zone. This is reflected by a larger difference between total assets owned and total assets managed for the Top 20% by ROE businesses.

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Statement of Position

Item	SA Vic Mallee Top 20% by ROE	SA Vic Mallee Average	Range	
			Min	Max
Total assets owned	$5,464,331	$6,190,109	$2,047,005	$18,136,571
Total assets managed	$6,745,445	$6,872,850	$2,131,914	$18,772,572
Total liabilities	$1,218,666	$1,772,876	$215,041	$5,652,189
Net worth	$4,245,665	$4,417,233	$1,551,182	$12,484,413
Equity	77.70%	71.46%	54.75%	91.59%
Hectares managed	4,179	3,973	421	11,697
Market value per hectare	$1,614	$1,730	$477	$4,824

Table 1 - Statement of position

Statement of Performance

Item	SA Vic Mallee Top 20% by ROE	SA Vic Mallee Average	Range	
			Min	Max
Total income	$1,614,505	$1,469,807	$265,484	$3,919,866
Total variable costs	$597,222	$656,758	$126,464	$1,905,399
Gross margin	$1,017,283	$813,049	$139,019	$2,014,467
Total overheads	$176,226	$181,647	$43,420	$637,747
Operating surplus	$841,057	$631,401	$92,845	$1,376,720
EBITDA	$801,095	$593,056	$92,846	$1,311,611
Depreciation	$113,328	$123,448	$32,106	$408,643
Total financing costs	$88,001	$135,976	$12,916	$415,141
Net profit before imputed labour	$599,765	$333,632	-$10,987	$795,990
Imputed labour	$88,131	$111,606	$56,453	$224,562
Net profit before tax	$511,634	$222,026	-$189,022	$672,096

Table 2 - Statement of Performance

How do they compare in performance benchmarks?

Benchmark	Top 20% of businesses as selected by ROE	Average across the dataset	Range	
			Min	Max
Return on Equity (ROE)	12.98%*	4.68%	-3.09%	15.00%
Return on Assets Managed (ROAM)	17.57%*	8.47%	-0.75%	27.73%
Profit as % Income	26.94%	10.22%	-19.61%	39.22%

Table 3 - Performance benchmarks

** The seasonal conditions between 2009 and 2013 were particularly strong in many parts of the Mallee and Upper Eyre Peninsula. We would expect to see Top 20% performance stabilise to be between 8% and 10% ROE and ROAM on a longer run analysis.*

Retaining 25% to 30% of farm turnover as net profit before tax is an achievable target.

The following observations can be drawn from this table. In the SA Vic Mallee zone, in comparison to average, the Top 20% by ROE are:

- Generating a ROE that is greater than 8% stronger than the average. This represents an additional $80,000 in operating net profit per annum for every $1 million held in net assets.
- Generating a ROAM that is more than double the average. This represents an additional $90,000 in operating net profit per annum for every $1 million in assets managed.
- Retaining 27% of turnover as net profit per tax. This compares to 10.22% for the average business in the zone. This equates to an additional $170,000 in net profit before tax being retained per annum per $1 million in business turnover by the Top 20% by ROE. This is a significant difference that is driven by efficiencies created by the Top 20% at both the gross margin optimisation and business overhead level.

It is worthwhile to note that 30% of turnover is being retained as net profit before tax by some businesses in the region.

Calculate your: Profit as a % Income

	Your business	Example
Total income (A)		$1,000,000
Total variable costs (B)		$400,000
Gross margin (A – B = C)		$600,000
Total overheads (D)		$100,000
Operating surplus (C – D = E)		$500,000
Lease (F)		$80,000
EBITDA (E – F = G)		$420,000
Depreciation (H)		$65,000
Total financing costs (I)		$50,000
Net profit before imputed labour (G – H – I = J)		$305,000
Imputed labour (K)		$50,000
Net profit before tax (J – K = L)		$255,000
Profit as % income (L / A x 100)		25.5%

Table 4 - Calculate your profit as % income

Terminology explanation

imputed labour involves placing a fair market value on any family member that is not remunerated through a paid salary.

Is high margin, low risk agriculture possible?

What if you could have an investment that consistently generated an operational return 8% on your capital invested with more stable returns than asset classes such as shares? Most may not consider that Australian agriculture can provide these qualities, as it has long been associated as highly variable, high risk and often low margins. The land of droughts and flooding rains if you like.

However, this is exactly what the Top 20% of farm businesses are able to consistently achieve across a long run analysis; 13% operating returns and consistent profitability from year to year*.

A Top 20% producer is able to maintain profitability at Decile 2 prices while the average producer actually requires Decile 5 or better to maintain profitability.

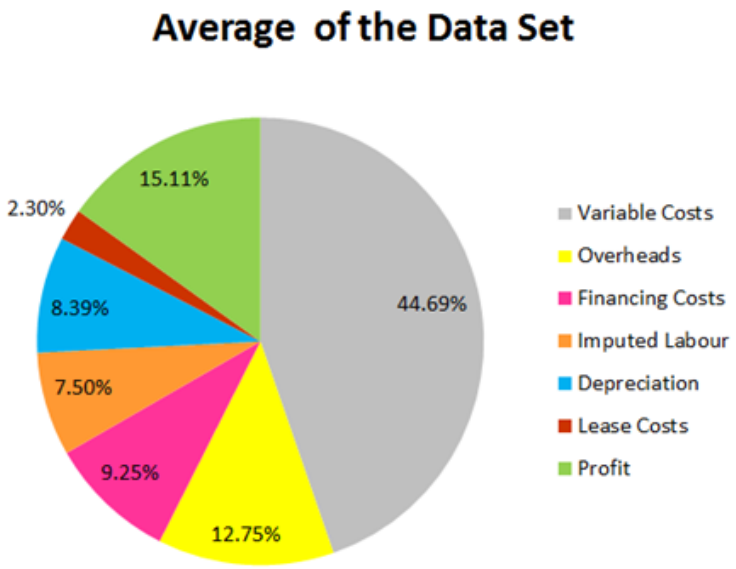
** The seasonal conditions between 2009 and 2013 were particularly strong in many parts of the Mallee and Upper Eyre Peninsula. We would expect to see Top 20% performance stabilise to be between 8% and 10% ROE and ROAM on a longer run analysis.*

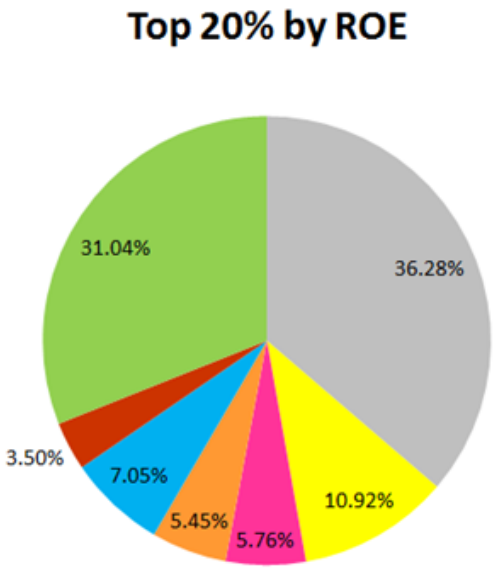
Across the dataset, the average cost of production for wheat was $220 per tonne. In comparison, the Top 20% of businesses as selected by ROE recorded an average cost of production for wheat of $152 per tonne during the same period. In our analysis these cost of production indicators include an allocation for all costs including variable costs, machinery and labour costs, general overhead costs, and financing costs. Given that they are inclusive of financing costs they could more accurately be described as break-even point indicators. Generally cost of production figures are quoted without the inclusion of finance and lease costs. This convention has been broken in this analysis to assist producers with identifying target pricing and also develop long term strategies to reduce cost of production.

How is such a big difference in financial performance and risk profile being achieved?

In bringing the gross margin optimisation and low cost business model profit drivers together it can be valuable to have a look at how business revenue is being divided up between variable costs, overhead costs, and retained profit. This is demonstrated for the Top 20% vs the average business in the data set in the graphs below. By retaining a much greater % of turnover as net profit before tax, the Top 20% by ROE become much more resilient businesses. Effectively they could cover a short term production shock that reduced enterprise income by 25% and still breakeven. By contrast, a production shock of this magnitude on the average business in the zone would result in a significant production loss being incurred. Such production losses for an average business are likely to contribute to increasing core business debt.

The interaction of the four primary profit drivers is crucial in obtaining strong results.





How do you compare? Benchmarks and stretch targets - performance

These indicator tables provide an overview of benchmarks relating to the different profit drivers. The benchmark is what the Top 20% are achieving on average and the stretch target is what the Top 10% are achieving. There are also 5 examples of real businesses to show the range in results as well as identifying where each of these five businesses has opportunity to grow without necessarily changing the size of their resource base. There is space provided to place your own benchmark data alongside for comparison. Some benchmarks have also been adjusted to account for different rainfall zones within the wider agro-ecological zone to improve the accuracy of the results.

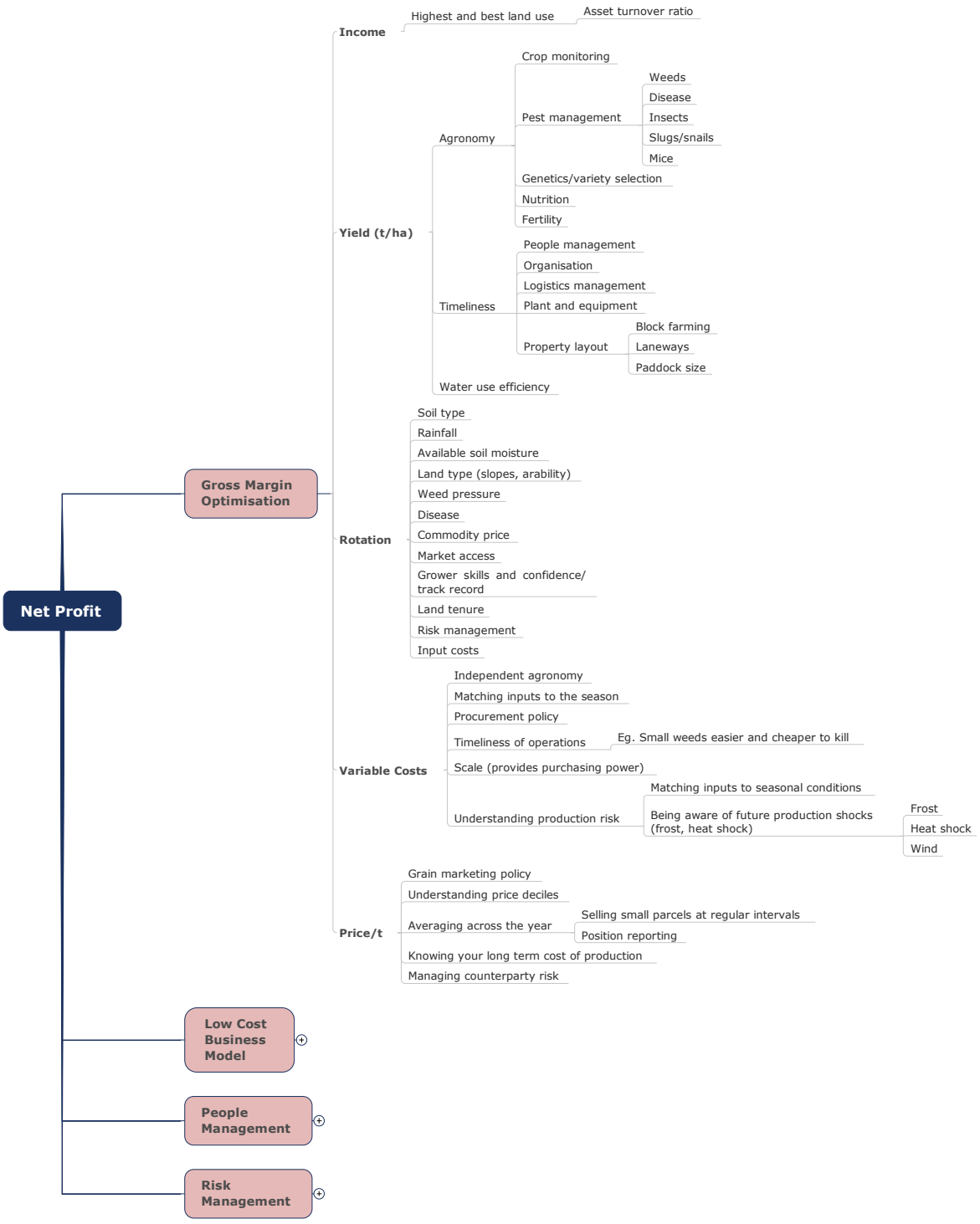
These "How do you compare" tables are provided in both the Performance, Gross Margin Optimisation and Low Cost Business Model sections of this *Management Guideline* to assist with understanding your own business performance.

Profit Driver	Profit Driver Benchmarks	Benchmark	Stretch Target	Your business	Business 1 Revenue opportunity	Business 2 Variable cost opportunity	Business 3 High overhead structure	Business 4 Top 20% business	Business 5 Gross margin optimisation and overhead cost opportunity
Performance Benchmarks	Return on Equity*	10.00%	15.00%		8.14%	3.00%	1.31%	15.00%	8.00%
	Return on Assets Managed*	12.00%	17.00%		12.30%	7.00%	3.20%	16.50%	12.00%
	Profit as % income	25.00%	30.00%		22.00%	7.50%	7.00%	27.00%	26.00%

** The seasonal conditions between 2009 and 2013 were particularly strong in many parts of the Mallee and Upper Eyre Peninsula. We would expect to see Top 20% performance stabilise to be between 8% and 10% ROE and ROAM on a longer run analysis.*

Gross Margin Optimisation

The Gross Margin Optimisation profit driver is influenced by total farm income, crop yield, crop rotation, variable costs and price received. A range of secondary and tertiary profit drivers support the four primary profit drivers.



Benchmark	Top 20% of businesses as selected by ROE	Average across the dataset	Range	
			Min	Max
Income per Ha (cropping)	$553.00	$494.99	$216.10	$800.29
Variable costs per Ha (cropping)	$192.50	$262.04	$120.65	$488.30
Gross margin per Ha (cropping)	$360.50	$232.95	$50.60	$441.4
Variable costs as a % Income (cropping)	34.81%	47.06%	$120.65	$488.30
Wheat price	$237.04	$240.62	$214.19	$266.88
Wheat water use efficiency (kg/mm/ha)	8.73	8.33	4.43	12.81

Table 5 - Benchmarks that relate to cropping gross margin optimisation

It is difficult to be a Top 20% producer if you invest more than 40% of cropping income into crop related variable costs.

Terminology explanation

Variable costs include:

- Contract work
- Crop selling and storage costs
- Crop insurance
- Fertiliser
- Freight
- Fuel (net of rebate)
- Gypsum and lime
- Hire of plant
- Repairs and maintenance on machinery
- Seed and seed cleaning costs
- Sprays and chemicals

Insights from this table are as follows. In the SA Vic Mallee zone, the Top 20% by ROE:

- Are generating 12% or $58 more cropping income per hectare than the zone average
- Are investing 26% or $69 less in variable costs per hectare
- Have 5% higher water use efficiency on wheat
- Are generating a cropping gross margin that is 55% or $128 stronger per hectare
- Are generating similar prices per tonne in the market place to the zone average
- Are investing 35% of cropping income into variable costs compared to the zone average 47%. This allows a further 12.25% of income to be potentially quarantined for net profit.

Is this purely driven by those with lentils?

Whilst the prevalence of high value break crops is becoming more commonplace in the SA Vic Mallee zone, it was observed that there were no major rotational differences between the Top 20% and the average. Top 20% businesses instead focus on robust cost control yet produce higher yields from any given rotational mix through robust agronomy and excellent timeliness. This is driving the stronger gross margins generated by the Top 20% in this zone.

In the neighboring SA Mid North, Lower Yorke Eyre zone there is a much stronger usage of lentils in the rotation, particularly in parts of the Yorke Peninsula. However when analysed, there was little difference in overall business performance between that of Top 20% lentil growers and Top 20% non lentil growers. This indicates that performance is not dependent on a particular crop type but rather to excellent timeliness and agronomy, a rotational mix that is suited to the land base, and a business model that is cost effective in regard to machinery and labour.

Top 20% performance is not dependent on a crop type alone. It is possible to achieve Top 20% performance with a mix of most crop types.

Cropping variable cost analysis

Variable cost control is well executed by the Top 20% grain grower. Cropping variable costs per hectare were broken down into their component parts to understand key differences between the Top 20% and the average business with regard to investment into variable costs.

Benchmark	Top 20% of businesses as selected by ROE	Average across the dataset	Range	
			Min	Max
Contract work $/ha	$7.75	$14.25	$0	$90.50
Crop selling costs $/ha	$7.37	$7.36	$0	$25.74
Crop insurance $/ha	$3.98	$4.83	$0	$11.57
Fertiliser $/ha	$59.73	$71.98	$31.90	$153.97
Freight $/ha	$13.65	$17.95	$0.51	$47.27
Fuel $/ha	$22.17	$28.89	$13.87	$60.28
Gypsum & Lime $/ha	$1.40	$0.87	$0	$9.55
Plant hire $/ha	$1.36	$0.93	$0	$7.20
Plant R&M $/ha	$12.25	$22.46	$11.74	$79.87
Seed $/ha	$6.39	$9.73	$1.71	$31.47
Sprays $/ha	$45.04	$55.71	$20.49	$91.67
Other non specified $/ha	$11.41	$27.08		
Total	**$192.50**	**$262.04**	**$120.65**	**$488.30**

Table 6 - Cropping variable cost per hectare breakdown

Calculate your: Variable costs as a % Income

	Your business	Example
Contract work		$30,000
Crop selling costs		$10,000
Crop insurance		$10,000
Fertiliser		$100,000
Freight		$25,000
Fuel		$60,000
Gypsum & Lime		$20,000
Plant hire		$5,000
Plant R&M		$45,000
Seed		$15,000
Sprays		$80,000
Other non specified		-
Total variable costs (A)		**$400,000**
Total Income (B)		**$1,000,000**
Variable costs as % income (A / B x 100)		**40%**

Table 7 - Calculate your variable costs as % income

The following information can be observed from Table 6. In SA Vic Mallee, the Top 20% by ROE are:

- Investing 17% less per hectare into fertiliser on average at closer to $60 per hectare rather than $72 per hectare
- Investing approximately 19% less into chemical costs per hectare. This could be a result of more targeted weed control through better crop monitoring, and more cost effective herbicide selection is.
- Are 23% more efficient in their fuel usage per hectare
- Are 45% more efficient with repairs and maintenance costs per hectare
- Are 45% more efficient in regard to expenditure on contract work.

To explore fertiliser and chemical costs further, an analysis was undertaken of investment in these variable costs on a $ per tonne of wheat yield basis across the dataset.

Benchmark	Top 20% of businesses as selected by ROE	Average across the dataset	Range	
			Min	Max
Fertiliser cost per tonne wheat yield	$27.18	$35.89	$15.57	$58.82
Chemical cost per tonne wheat yield	$20.43	$28.46	$11.46	$50.65

Table 8 - Fertiliser and chemical costs in $ per tonne of wheat yield.

The information represented in the above table demonstrates that high performing grain growers are leveraging more from their investment in the key variable costs of fertiliser and chemical. Producers with a lower $/t of wheat yield investment in fertiliser and chemical are not necessarily investing less $ per hectare on these inputs, but have a more balanced approach to variable cost inputs and are able to leverage strong yields from their given investment into variable costs. In general, those that perform well on this indicator are doing one or more of the following:

- Leveraging additional yield from their per hectare investment in chemical and fertiliser through good agronomy and excellent timeliness
- Are balanced in their approach to in-crop nitrogen strategies; they avoid applying very high rates of in-crop nitrogen that are unlikely to be converted to yield
- Successfully integrating legumes into their crop rotation to fix soil nitrogen that can be utilised by subsequent cereal, hay, or canola crops
- Are skilled in tailoring nitrogen applications to seasonal potential and also carry over deep soil N
- Are balancing up the influence of late season production shocks such as frost, lodging, failed spring or heat shock during grain fill.

An investment of $30 per tonne of wheat yield in to fertilser costs is profitable, realistic and sustainable.

Some observations from Table 8 include:

Fertiliser

- The Top 20% by ROE are 24% more efficient in generating yield from their investment in fertiliser inputs.

While efficiency against this measure is good, it is also important to recognise that these efficiencies are not to be achieved from applying rates of fertiliser that are below the rates required to replace nutrients removed in produce. A separate analysis demonstrated that the rates of fertiliser application associated with the Top 20% by ROE are in fact, above removal rates. This analysis suggested that replacement rates of fertiliser for a cereal and brassica based crop rotation in the zone require an investment of around $30 per tonne of cereal yield. Interestingly, if a grain legume crop is included, and makes up 25% of the crop rotation, it is possible to reduce fertiliser costs down to $25 per tonne of cereal yield and still be above maintenance or replacement rates.

The range on fertiliser costs per tonne of wheat yield, at between $11/t and $50/t, indicates that there is both some under fertilisation and over fertilisation taking place within the zone. During the period analysed, DAP and Urea pricing was relatively consistent, averaging approximately $500 per tonne for urea and $780 per tonne of for DAP. If the value of these commodities changes significantly, the $30/t benchmark would need to be recalibrated.

Chemical

- The Top 20% by ROE have very similar efficiency in generating yield from their investment in chemical even though they are investing almost $10 more per hectare into chemical costs. This is demonstrated by chemical costs per tonne of wheat yield both being close to $26/t. Once again, the range demonstrates opportunity for improvement for some growers. Investing $39 into chemical per tonne is excessive! Anything greater than $30/t is a concern.

Calculate your: Fertiliser cost per tonne of wheat yield

	Your business	Example
Total fertiliser cost (A)		$100,000
Total cropped hectares (B)		1,000
Fertiliser cost per hectare (A / B = C)		$100/ha
Average wheat yield tonnes per hectare (D)		3.3t/ha
Fertiliser cost per tonne of wheat yield (C / D)		$30/t

Table 9 - Calculate your fertiliser cost per tonne of wheat yield

Calculate your: Chemical cost per tonne of wheat yield

	Your business	Example
Total chemical cost (A)		$80,000
Total cropped hectares (B)		1,000
Chemical cost per hectare (A / B = C)		**$80/ha**
Average wheat yield tonnes per hectare (D)		3.3t/ha
Chemical cost per tonne of wheat yield (C / D)		**$24/t**

Table 10 - Calculate your fertiliser cost per tonne of wheat yield

Additional observations from the data on gross margin optimisation include:

- There are a number of high gross margin and high water use efficiency businesses in the dataset that actually fell short of the Top 20% by ROE. This could be a result of one or more of the following:
  - Having high overhead cost structures that reduce net profitability or
  - Being located in the higher land value parts of the zone on a $ per hectare or $ per tonne of wheat yield basis, resulting in a dilution of ROE performance
  - Not having a strong land leasing or share-farming component to their business model
- Some of the high income businesses in the zone are also excluded from the Top 20% by ROE because of very high variable cost expenditure per hectare. This is often a function of excessive expenditure of fertiliser and chemical inputs.
- Variable cost control is a key profit driver with the Top 20% businesses within this group achieving cropping variable costs as a percentage of income below 40%. With the average business in the zone achieving 47.06%, this means that the Top 20% by ROE are able to quarantine an additional 7.06% of revenue that can be retained as net profit before tax purely through variable cost management.
- Interestingly there is evidence to suggest that maintaining cropping variable costs well below 40% is actually achievable. A long running benchmarking group facilitated by Rural Directions Pty Ltd has demonstrated an ability to maintain cropping variable costs as a % of income down to 35%. There are also some Top 20% by ROE businesses who are achieving this without compromising productivity or crop yield. The reason why this group of businesses, that are maintaining cropping variables costs at 35% of income, are not perfectly represented in the Top 20% by ROE is that many of them are farming in a part of the zone where market values for land and land leases are well above productive values. This prevents some of these businesses from being included in the Top 20% by ROE despite otherwise being very efficient businesses.
- If businesses are able to limit variable costs to 35% of income rather than 40% of income, this allows an additional 5% of turnover to be quarantined for net profit before tax. This is a significant gain. Achieving a 35% target on variable costs as a % income is a function of crop selection and rotation, good agronomy, efficient and active variable cost management and excellent operational timeliness.
- Profit as a % of turnover is another measure which can be considered to evaluate the efficiency of a business. This can be useful to apply in situations where some businesses are limited on ROE potential as a result of farming a very expensive land basis.

A robust stretch target for cropping variable costs is to keep them below 35% of cropping income.

How do you compare? Benchmarks and stretch targets – Gross margin optimisation

Profit Driver	Profit Driver Benchmarks	Benchmark	Stretch Target	Your business	Business 1 Revenue opportunity	Business 2 Variable cost opportunity	Business 3 High overhead structure	Business 4 Top 20% business	Business 5 Gross margin optimisation and overhead cost opportunity
Total hectares					4800 (4100 crop)	8300 (5800 crop)	2600 (1357 crop)	4900 (3800 crop)	1700 (1500 crop)
Performance Benchmarks	Return on Equity*	10.00%	15.00%		8.14%	3.00%	1.31%	15.00%	8.00%
	Return on Assets Managed*	12.00%	17.00%		12.30%	7.00%	3.20%	16.50%	12.00%
	Profit as % income	25.00%	30.00%		22.00%	7.50%	7.00%	27.00%	26.00%
Gross margin optimisation	Income per hectare >400mm (crop)	$500.00	$550.00			$589			
	Income per hectare 350 - 400mm (crop)	$475.00	$525.00					$506	
	Income per hectare 300 - 350mm (crop)	$400.00	$450.00		$335		$245		$502
	Income per hectare 250 - 300mm (crop)	$350.00	$400.00						
	Variable costs as % income (crop)	40.00%	35.00%		36.41%	63.00%	40.55%	42.00%	24.50%
	Variable costs per hectare >400mm (crop)	$200.00	$192.00			$301.00			
	Variable costs per hectare 350 - 400mm (crop)	$190.00	$184.00					$206.00	
	Variable costs per hectare 300 - 350mm (crop)	$160.00	$158.00		$152.00		$121.00		$192.00
	Variable costs per hectare 250 - 300mm (crop)	$140.00	$140.00						

** The seasonal conditions between 2009 and 2013 were particularly strong in many parts of the Mallee and Upper Eyre Peninsula. We would expect to see Top 20% performance stabilise to be between 8% and 10% ROE and ROAM on a longer run analysis.*

Calculate your: Gross margin per hectare

	Your business	Example
Total income (A)		$1,000,000
Total variable costs (B)		$400,000
Total gross margin (A – B = C)		**$600,000**
Total hectares (D)		1,000
Gross margin per hectare (C / D)		**$600/ha**

Table 11 - Calculate your gross margin per hectare

Gross Margin Optimisation Diagnostics

Are you short of the benchmark or looking to hit your stretch target? – Diagnostic tool to assist

1. Income		Yes / No / Comment
Is your income per hectare less than the benchmark for the level of rainfall that you receive? If so:		
1.1	How does your seeding completion date compare with best practice?	
1.2	Does your rotation	
	- involve a proven sequence of high return crops?	
	- limit compromise or yield limiters for each crop type?	
	- promote crop health and vigour?	
	- allow competive weeds such as ryegrass to be effectively managed?	
	- fit your skill set and machinery capability?	
1.3	Are there any physical constraints to achieving higher yields that can be cost effectively addressed?	
	- Soil pH through liming?	
	- Sodic soils that can be improved with Gypsum?	
	- Cost effective claying, delving, or spading?	
	- Lacking in macro nutrients?	
	- Lacking in micro-nutrients?	
	- hard pan to be addressed?	
1.4	Does your farming system promote storage of out of season rainfall?	
1.5	Does your farming system build soil health and organic matter over time?	
1.6	Does crop nutrition and agronomy match crop yield potential?	
1.7	Are you proactively monitoring crops for early disease and nutrition intervention?	
1.8	Does your harvest capacity allow crops to be harvested in a timely manner with minimal losses?	
1.9	Is land type matched to highest and best land use? (consider soil type, frost risk, waterlogging)	

2. Variable cost control		Yes / No / Comment
Are your variable costs as a % of income > 40%? If so:		
2.1	Are you over investing in fertiliser inputs?	
2.2	Are you over investing in chemical inputs?	
2.3	Do you seek an independent perspective with crop agronomy?	
2.4	Does your crop rotation promote more modest investment into chemical and fertiliser?	
2.5	Is your approach to machinery usage right to ensure low R&M, low fuel costs, and contracting fees only when needed?	
	- Are you only using contractors when the cost of using a contractor is less than the cost of ownership?	
	- Have you compared a cost of ownership versus the cost of seeking a contractor for each key pass?	
	- Do you have an active program of preventative maintenance?	
	- Is your property, machinery, and management approach set up for optimising fuel usage?	
	(paddock size and shape, implement width and capacity, essential passes only)	
2.6	Do you limit storage fees and charges by proactively managing grain marketing before and during harvest?	

3. Are you investing more than $30 per tonne of wheat yield per hectare into fertiliser? If so:		Yes / No / Comment
3.1	Do you base fertiliser investment on a combination of long term average yield and in season potential, or just in-season potential? In season potential alone is sometimes risky as it can over look late season production shocks such as frost, lodging, failed spring and heat shock.	
3.2	Do you base your investment in phosphorus fertiliser (MAP/DAP) on previous years phosphorus removal or what you have always done historically?	
3.3	Is there a legume that can be grown in your region with consistent levels of profitability and are you including it in your crop rotation?	
3.4	Do you use Deep Soil N testing to assist with establishing applied N rates each year? This can assist greatly with matching N supply to N demand.	
3.5	Are you aware of the principle of diminishing marginal benefits with fertiliser applications?	
3.6	Do you stop and ensure that you have a robust business case for applying rates of in-season fertiliser that are greater than long term average wheat yield x $30	
3.7	Do you utilise an independent agronomist or perspective to guide fertiliser applications?	
3.8	Do you avoid applying high rates of fertiliser on crops which are yield compromised? (ie late sown, water logged, high disease pressure, high weed pressure)	
3.9	Is timing of your fertiliser inputs matched with optimising yield?	
3.10	Do you benchmark fertiliser expenditure against high profit businesses?	

4. Are you investing more than $25 per tonne of wheat yield per hectare into chemical costs? If so:		Yes / No / Comment
4.1	Are you applying an Integrated Weed Management approach that utilises effective measures other than chemical control? (rotation, hay, windrow burning, seed capture or destruction, crop topping)	
4.2	Do you control weeds in a timely manner when they are small and easier to kill?	
4.3	Do you save expensive chemistries for when they are really needed only?	
4.4	Do you seek an independent perspective on chemical inputs and cost effective weed control strategies?	
4.5	Do you benchmark chemical expenditure against high profit businesses?	

5. Are you falling short of the Water Use Efficiency (WUE) targets for your area? If so:		Yes / No / Comment
5.1	Are you growing varieties that are well adapted to variable seasons?	
5.2	Are you conserving out of season rainfall through effective Summer and early Autumn weed control?	
5.3	How does your timeliness of sowing compare to the optimum window in your region for each crop type?	
5.4	Are you regularly monitoring crops to assess progress and weed, pest, and disease pressure to make early intervention when needed?	
5.5	Are you maximising stubble retention and ground cover over the Summer and Autumn months?	
5.6	Are you avoiding unnecessary tillage that results in moisture loss?	
5.7	Are you monitoring stored soil moisture each year in your local area?	
5.8	Is land use matched to land type and high frost risk country managed accordingly?	

Case Study 1
Top 20% Insight Into: Variable Cost Control

The Benchmarks

Income per hectare: $459
Profit as a % of income: 27%
Annual rainfall: 352mm
Farm size: 4,200 ha
Crop types grown: Wheat, barley canola, lupins, hay and pasture
Variable costs as a % income: 34.86%
Fertiliser cost per tonne of wheat yield: $26/t
Chemical cost per tonne of wheat yield: $23/t

How is this being achieved?

Gross margin optimisation is a key profit driver in grain businesses in Southern Australia. Optimising cropping gross margins requires a grower to generate as much revenue per hectare as possible in a cost effective manner. This is achieved through the selection of enterprises suited to highest and best land use in their region, excellent timeliness and crop agronomy, and matching chemical and fertiliser inputs to seasonal conditions in a disciplined manner.

A common misconception is that high revenue per hectare requires high expenditure on inputs. While crop nutrition is critical to realise yield potential, an undisciplined approach to fertiliser and chemical inputs can negatively impact farm business performance. It can potentially result in a high income generating business falling short of the performance achieved by Top 20% grain growers. Taking into consideration the potential for late season production shocks such as a failed spring, heat shock, frost, or crop lodging is also all part of a balanced decision making process in regard to nitrogen inputs.

Mark farms in the SA-Vic Mallee agro-ecological zone and has a strong focus on ensuring fertiliser and chemical inputs are optimised each season in a disciplined manner. Maintaining long term average variable cost expenditure as a percentage of income at under 35% demonstrates that Mark's business is an excellent example of what can be achieved with a disciplined approach to variable cost control. This level of performance has been achieved despite a run of seasons that did not receive a favourable Spring finish. Failed springs can often result in costs blow outs for some growers as a result of potentially undisciplined investment into nitrogen fertilisers that don't end up being converted to grain yield. Having a disciplined approach to variable cost inputs is particularly important in the SA-Vic Mallee agro-ecological zone where the downside risk on crop yield from a failed spring can be significant.

Mark uses a number of strategies and support tools to assist in the optimisation of crop inputs, which together with achieving high income per hectare, results in a high profit margin farming business. Mark's approach consists of sourcing unbiased support, the use of tools to assist with decision making, and the integration of legumes, livestock, and hay to manage weed pressure and crop nutrition in an integrated manner. Key components of Mark's approach include:

- An robust crop, pasture, and hay rotation to manage in paddock herbicide resistance and disease;
- The inclusion of a grain legume and medic based pastures for the natural fixation of soil nitrogen. This allows Mark to achieve a fertiliser cost per tonne of wheat yield removed benchmark of $26. This couldn't be achieved sustainably without the inclusion of legumes.
- Reducing chemical costs as a result of the inclusion of pasture, grain legumes, and hay in his crop rotation to reduce grass weed seed set. This results in lowering overall chemical inputs and reduces reliance on expensive grass control herbicides.
- The use of an independent agronomist to provide unbiased advice and planning in regard to crop inputs;
- Utilisation of tools such as Yield Prophet to guide nitrogen decision making throughout the year;
- Involvement in an open book benchmarking group

The effective integration of cropping and livestock is a real strength of Mark's approach. Managing a cropping and livestock enterprise simultaneously adds extra complexity to a farming system however Mark has an excellent skill set around managing the enterprises in a manner which keeps enterprise conflict to a minimum. The pasture phase is managed in a manner where it provides maximum benefit to the cropping enterprise. The pasture phase involves grass free, medic based pastures where nitrogen fixation and non-selective control of grass weeds ensures that the benefit to the cropping enterprise from the livestock phase in the rotation is optimised. Livestock gross margins are also robust as a result of Mark's strong grasp on the key profit drivers relevant to his livestock enterprise.

The application of a robust and advanced crop rotation that includes a good grain legume and clean medic based pastures suited to the property to naturally fix nitrogen back into the soil is certainly a key strength within Mark's business. With a robust rotation he can save on overall fertiliser costs as well as chemical costs by controlling weeds, herbicide resistance, soil health, and disease burdens in an integrated manner. Mark also employs discretion when considering the need for each chemical pass. This reduces the number of passes each year and provides the highest impact approach to weed management. His focus on the optimisation of chemical and fertiliser inputs has a savings flow on effect for fuel and labour costs as well as wear and tear on machinery.

Mark is confident that his approach has directly contributed to his overall long term business performance. He is still able to achieve excellent revenue generation whilst accomplishing excellent efficiency in his use of key crop inputs, particularly nitrogen and chemical costs. By optimising crop inputs Mark targets a result that is profitable, realistic and sustainable despite the inevitable seasonal variation encountered in his region.

Case Study 2
Top 20% Insight Into: Highest and best land use

The Benchmarks

Income per hectare: $350/ha
Profit as a % of income: 23%
Annual rainfall: 350mm
Farm size: 4,800ha
Crop types grown: Wheat, barley, canola, field peas
Wheat Water Use Efficiency: 9.39kgs/ha/mm of PAW
Fertiliser cost per tonne of wheat yield: $33/t
Chemical cost per tonne of wheat yield: $20/t

How is this being achieved?

Gross margin optimisation is a key profit driver in grain businesses in Southern Australia. Optimising cropping gross margins requires a grower to generate as much revenue per hectare as possible in a cost effective manner. Finding enterprises that are suited to the highest and best land use of the land classes across a property is crucial to maximising income. Applying a robust crop rotation, excellent timeliness, and good agronomy are also critical success factors. Being realistic around best land use based on its productive capacity and ability to generate income is an important contributor to gross margin optimisation. Many may look to the price of commodities to guide their decision making, rather than other profit drivers within their business which they can potentially control more readily.

Matt, a Top 20% grower in the South Australian Mallee, knows the importance of applying a suitable and robust crop rotation as well as managing climatic risks such as frost and failed springs. Focusing on a conservative approach to cost control, whilst balancing this with optimising income, has been the key to Matt's long term performance. Finding the highest and best land use in the SA Vic-Mallee agro-ecological zone is even more of a motivation given the greater variability in climate and soils in the region. A break crop that consistently performs has been difficult to find which has previously limited enterprise choice and rotation for some growers in the SA Vic-Mallee. As technology has changed and legume varieties have been developed for the Mallee environment, Matt has identified where the opportunities are for grain legumes within his rotation.

Matt observed that he could potentially save money on fertiliser inputs as well as improving the productivity of his mid slopes country that occupies approximately half the farm by adopting a variable rate approach to N, P, K & S fertilisers. In the troughs and sand hill tops on Matt's farm, which have low to moderate yield potential, phosphorus based fertilisers are applied at just above maintenance rates (approx. 50 kilograms per hectare). The more productive mid slopes are now fertilised in accordance with their higher yield potential and receive around 70 kilograms per hectare via variable rate technology. A targeted and variable rate approach is also applied for in crop nitrogen applications.

Despite the increased costs associated with purchasing and operating the variable rate technology, overall the approach has had a positive influence on profitability. Matt has been able to realise a 20% yield increase on his mid-slopes in some seasons by managing each soil type according to its capability. Matt has also seen better crop responses since targeting inputs towards soil requirements and capability. An added bonus of identifying and managing soil types in accordance with their potential is that Matt has also been able to introduce peas and canola to his crop rotation on some soil types. The ability to successfully grow break crops which either naturally fix nitrogen or provide a root disease break has further boosted overall crop yields and gross margins.

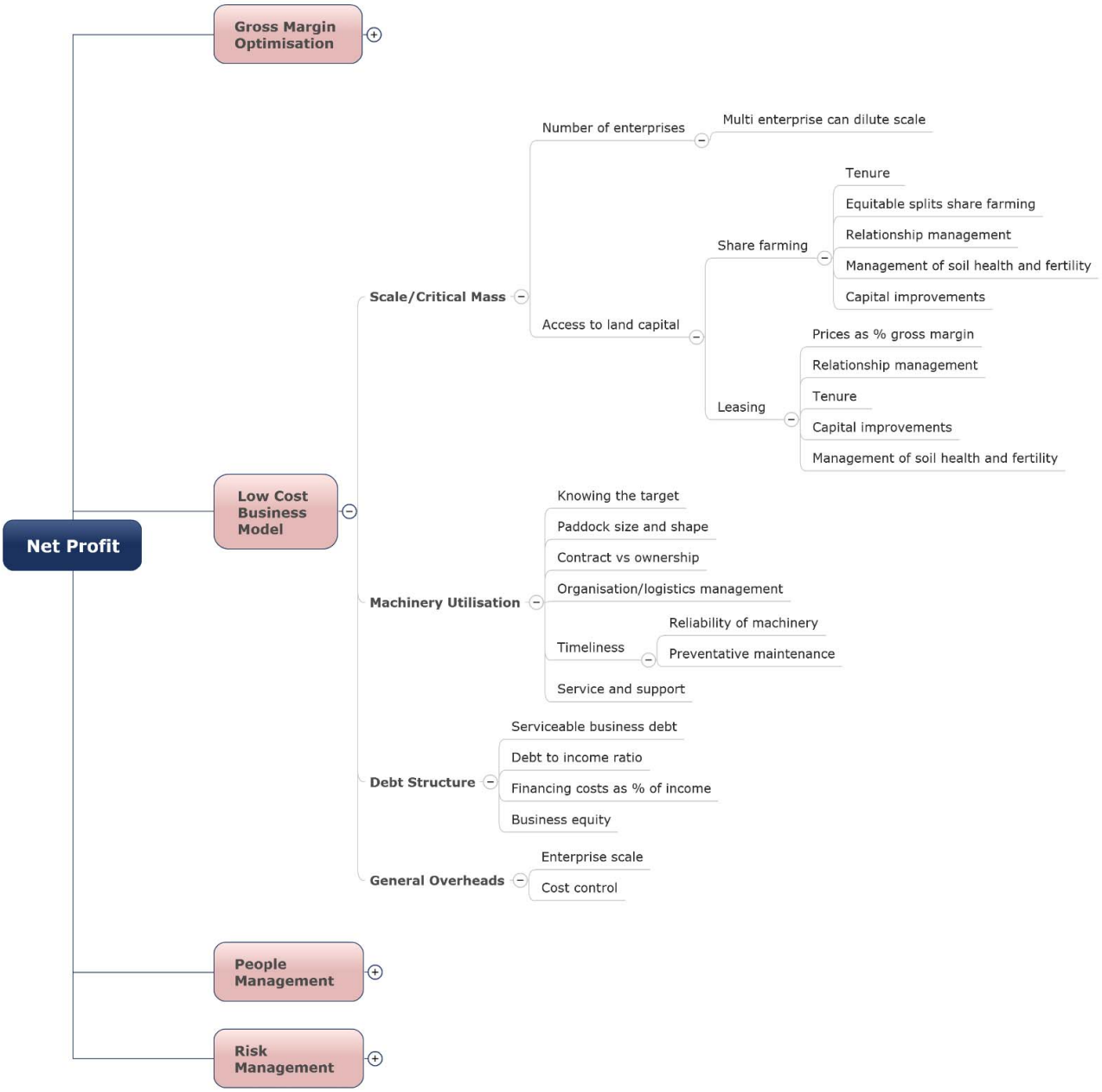
Some of the contributing factors to Matt's success have been:

- Advanced business management skills to understand where improvements can be made and where the greatest payoff is likely to be;
- He has a simple, cropping only enterprise mix where he can focus his attention and observation skills to continuously improve his chosen farming system;
- He has a positive mindset and is highly accountable to decisions that are made as Matt is confident that his decision making process is sound;
- He understands where business risks lie and actively works to mitigate them;
- Matt benchmarks the performance of his business annually;
- Utilising soil testing over time to understand the differing nutrient requirements of each of the different soil types on his property;
- Using an independent agronomist to guide decisions and filter technical information.

Matt lets the numbers shape important decisions and he thinks through the consequences of decisions prior to implementation. He is cautious around jumping into new technology or following the 'latest and greatest' without proper testing. His move into variable rate fertiliser and targeting mid slopes with higher rates is an example of Matt's decision making process whereby he fully considers the risks and expected returns from capital outlays prior to investment. Matt is also an active thinker in regard to realising the highest and best use of each of the soil types that make up his land resource.

Matt is actively managing risk in his business, but also grasps the opportunities he identifies to increase overall business performance. His mindset and considered approach in management are ultimately the driving force behind his success in creating a resilient, high profit farming business.

Low cost business



Scale can be helpful but it is not the sole driver of high profit farms.

The Low Overhead Cost Business Model profit driver is influenced by a farm's structural efficiency. This can be influenced by reaching a suitable critical mass and is potentially also influenced by the level of enterprise simplicity employed within the business. These factors can have an influence on machinery utilisation, labour utilisation, and maintaining low general overhead costs. It is not necessarily scale that drives high machinery and labour utilisation, but rather how your investment in machinery and labour is matched to the size of your business. Utilising contractors requires consideration when designing a low overhead cost business model, particularly if contracting is more cost effective than owning and operating a piece of equipment for a required operation. Debt positioning and land lease rates can also have an influence on the overhead cost structure of a farm business.

The Top 20% retain an extra 10% of business turnover as net profit before tax from increased machinery and labour utilisation. This is driven through the investment of 25% of income going towards TPML costs by the top 20% versus 35% on average.

Benchmark	Top 20% of businesses as selected by ROE	Average across the dataset	Range	
			Min	Max
Total Plant Machinery and Labour (TPML)				
a.) TPML as a % income	24.2%	37.8%	12.31%	59.58%
b.) TPML ($/Ha)	$113.60	$169.38	$70.65	$398.15
Machinery investment to income ratio	0.80	0.95	0.47	1.97
Investment in machinery capital per hectare	$403.08	$513.68	$170.89	$1,306.80
Hectares managed/FTE	1,425.47	1,158.90	324.27	2,177.60
Turnover per FTE	$565,071	$431,931	$201,958	$806,461
Land lease				
a.) % of gross margin	25.2%	40.24%	20.15%	70.83%
b.) $/ha	$51.87	$88.55	$28.10	$275.81
Equity %	78.56%	74.85%	54.75%	91.59%
Debt to income	0.78	1.15	0.24	2.22
a.) Finance costs as a % income	5.85%	8.67%	1.13%	16.3%
b.) Land lease costs as a % income	4.04%	3.02%	Nil	5.40%
c.) Finance & land lease costs as a % income	9.89%	11.69%	1.53%	18.80%
EBIT ($/Ha/mm annual rainfall)	$0.47	$0.29	-$0.03	$0.90
Net profit ($/Ha/mm annual rainfall)	$0.38	$0.15	-$0.26	$0.77

Table 12 - Benchmarks relating to a low overhead cost business

Terminology explanation

Total Plant, Machinery and Labour (TPML) is used to compare businesses that employ an own and operate model with a contractor model for their machinery and labour. This benchmark is also useful to measure how well a grain business is utilising their investments into machinery and labour.

High profit farming businesses are able to generate more than $650,000 in income per Full Time Equivalent employee. They achieve this in a sustainable manner by creating simple and scalable farming systems.

The Top 20% have $280 less per hectare invested in machinery capital without drawing on contractors.

The following information can be drawn from this data. In SA Vic Mallee, in comparison to the dataset average, the Top 20% by ROE are:

- 36% more efficient with machinery and labour utilisation, as measured by TPML as a % of income. This is potentially allowing an additional 14% of turnover to be retained as net profit before tax within these businesses.
- Have a machinery investment to income ratio of 0.8 to 1.00. This is 16% lower than the dataset average for the zone at 0.95 to 1.00.
- Have $110 less per hectare invested in machinery capital without drawing on contractors.
- Are managing an additional 266 hectares per FTE. This is 23% more than the average business for the zone.
- Are generating $133,140 or 31% more turnover per FTE. The Top 20% are achieving this without compromising productivity as they are only managing 23% more area per FTE and yet generating 31% more income per FTE. This is achieved through either enterprise and crop selection or increased per hectare productivity from timeliness and good agronomy.
- Are accessing lease land more cost effectively that the average business. The average business in the Zone is paying 40% of gross margin to lease land, while the Top 20% are paying closer to 25% of gross margin (37% more cost effectively in relative terms).
- When considered on a $ per hectare basis, the Top 20% are paying $36.68 less per hectare to secure lease land (41% less in relative terms).

- The increased lease cost efficiency of the Top 20% could be achieved through a combination of:
  - Accessing land at more realistic market rates, through being able to compete on the non-price factors such as a proven track record in good land management, or selecting regions to lease land where rates are more cost effective (this is where the 41% gain in relative terms on a $/ha basis is being achieved)
  - Generating higher yields and/or stronger gross margins than the average business (this explains the extra efficiency that is being achieved when lease costs are considered on a % of gross margin basis)
- Have a debt to income ratio of 0.78 to 1.00 rather than 1.15 to 1.00. This indicates a higher level of debt serviceability amongst the Top 20% by ROE.

High profit farming businesses are able to achieve a machinery investment to income ratio of 0.7 to 1:00 without compromising operational timeliness.

The Top 20% are more conservatively positioned in regard to debt to income ratio at 0.7 to 1:00 rather than 1:1 to 1:00.

Calculate your: Total Plant, Machinery and Labour (TPML) as % income

	Your business	Example
Contract work (A)		$30,000
Fuel (B)		$60,000
Freight (C)		$25,000
Plant hire (D)		$5,000
Plant R&M (E)		$45,000
Depreciation (F)		$65,000
Machinery lease (not hire purchase) (G)		$0
Plant & equipment interest (H)		$15,000
Wages & on-costs (I)		$50,000
Imputed labour (J)		$50,000
Total TPML costs (A + B+ C + D + E + F + G + H + I + J = K)		**$345,000**
Total Income (L)		$1,000,000
TPML costs as % income (K / L x 100)		34.5%

Table 13 - Calculate your Total, Plant, Machinery and Labour costs as % income

How do you compare? Benchmarks and stretch targets – Low cost business model

Profit Driver	Profit Driver Benchmarks	Benchmark	Stretch Target	Your business	Business 1 Revenue opportunity	Business 2 Variable cost opportunity	Business 3 High overhead structure	Business 4 Top 20% business	Business 5 Gross margin optimisation and overhead cost opportunity
Low costs business structure	TPML as % Income	30.00%	25.00%		37.00%	33.00%	45.00%	27.77%	30.25%
	Machinery investment to income ratio	0.7:1	0.6:1		1.02:1	0.84:1	1.07:1	0.67:1	0.86:1
	Investment in machinery capital per hectare	$375	$325		$345	$555	$328	$337	$454
	Hectares managed/FTE	1500	2000		1991	806	1443	1706	872
	Turnover/FTE	$650,000	$800,000		$597,075	$381,464	$228,175	$683,707	$406,544
	Land lease as % gross margin	40%	35%		0.00%	51.00%	33.00%	27.40%	44.00%
	Equity %	75%	80%		73.00%	69.00%	90.00%	60.00%	87.00%
	Debt to income	1 : 1	0.7 :1		1.18:1	1.48:1	0.61:1	1.33:1	0.50:1
	Finance and lease costs as % income	15.00%	10.00%		9.00%	12.50%	7.00%	15.00%	10.00%
	Overhead costs ($/ha)	$50.00	$40.00		$27.50	$84.00	$30.00	$31.00	$29.00
	Land lease/rent ($/ha) (averaged across all worked hectares)	$11.00			$0.00	$9.00	$6.00	$17.00	$24.00
	Machinery lease ($/ha) (averaged across all worked hectares)				$0.00	$0.00	$0.00	$0.00	$0.00
	Depreciation ($/ha)	$37.00	$32.00		$31.00	$40.00	$22.50	$23.00	$40.00
	Financing costs ($/ha)	$23.00			$27.00	$55.00	$9.00	$41.00	$21.00
	Imputed labour ($/ha)	$25.00			$15.00	$26.00	$40.00	$16.00	$59.00

Low Cost Business Model Diagnostics

Are you short of the benchmark or looking to hit your stretch target? – Tool to assist

3. Is your machinery investment to income ratio higher than 0.8 to 1.00? If so:		Yes / No / Comment
3.1	Are you leveraging the best possible level of income from your machinery investment through	
	- excellent timeliness?	
	- a robust crop rotation?	
	- good agronomy?	
	- applying highest and best land use?	
3.2	Does your investment in machinery match the scale of your cropping enterprise?	
	- How does your machinery capital per hectare compare to the benchmark for your region?	
3.3	Do you have any machinery that is rarely used and surplus to your requirements? If so it is best to sell off this machinery rather than keep it.	
3.4	Does every piece of machinery that you own perform an essential function for your business? If not, should you really own it?	
3.5	Is your farm set-up for high machinery utilisation?	
	- Large paddock size	
	- Rectangular paddock shape wherever possible	
	- Block farming of crop types	
	- Wide gates and good access	
3.6	Are you organised well ahead of time to ensure that you are able to get high levels of productivity from your kit?	
	- Preventative maintenance complete well before key operations?	
	- Machinery ready to gor 2 or 3 weeks before you need to start?	
	- Do you set a seeding start date that allows for a 25% contingency for unexpected break downs and weather interruptions?	
	- Are all employees well inducted to machinery operation before peak periods commence?	
3.7	Can you cost effectively increase shift length during peak periods rather than upsize?	

3.8	Have you simplified your enterprise mix and number of crop types to avoid unnecessary duplication in machinery capital?
3.9	Can you cost effectively access more land to achieve a greater level of utilisation from your machinery?
3.10	Can you delay your next machinery upgrade and get by comfortably with your existing kit?
3.11	Do you give adequate planning and thinking to logistics management and how to get more from each existing piece of equipment?
3.12	Are you able to observe and review machinery logistics during peak periods, identify bottlenecks, and effectively overcome them?
3.13	Is optimising machinery utilisation one of your key goals?

Case Study 3
Top 20% Insight into: Machinery & Labour Utilisation

The Benchmarks

Income per hectare: $500
Profit as a % Income: 26%
Annual rainfall: 330mm
Farm size: 1,600ha
Crop types grown: Wheat, barley, canola, lupins, vetch hay
Machinery Investment to Income ratio: 0.63:1
Income per Full Time Equivalent (FTE): $600,000
Total Plant, Machinery, & Labour (TPML) as a % income: 30%

How is this being achieved?

Tom is a Top 20% grower with a systems focus who firmly believes that high profit farming is set up from the very start of the production year. The timing of all operations in his no-till, full stubble retention production system is critical. As a result, operational management to ensure that key dates to finish sowing are met is well considered and carefully planned. Tom enjoys continuing to refine his chosen cropping only production system and relishes the challenge of getting greater utilisation from existing machinery and labour resources. A robust crop rotation forms the foundation of Tom's cropping business and maintaining enterprise simplicity is also a key principle that he applies.

Enterprise simplicity, logistics thinking, and excellent planning assist Tom with keeping Total Plant, Machinery, and Labour (TPML) costs down to 30% of income. This is an excellent result considering that the average investment into TPML costs in Southern Australia is often closer to 35% of income. Machinery and labour utilisation are both key profit drivers in Southern Australian grain crop businesses and are an essential component to developing a low cost business model.

Supporting the low TPML costs that Tom achieves in his family business is a low machinery investment to income ratio of just 0.63 : 1. Tom's business is also achieving $600,000 of turnover per full time equivalent (FTE) employee. While generating high levels of income through excellence in crop agronomy, timeliness, and rotation are some of the foundation stones behind this success, other factors are also at play. Enterprise simplicity assists with maintaining a focus on the task and achieving high work rates. This helps Tom achieve $600,000 of turnover per full time equivalent when the average in Southern Australia is often closer to $400,000.

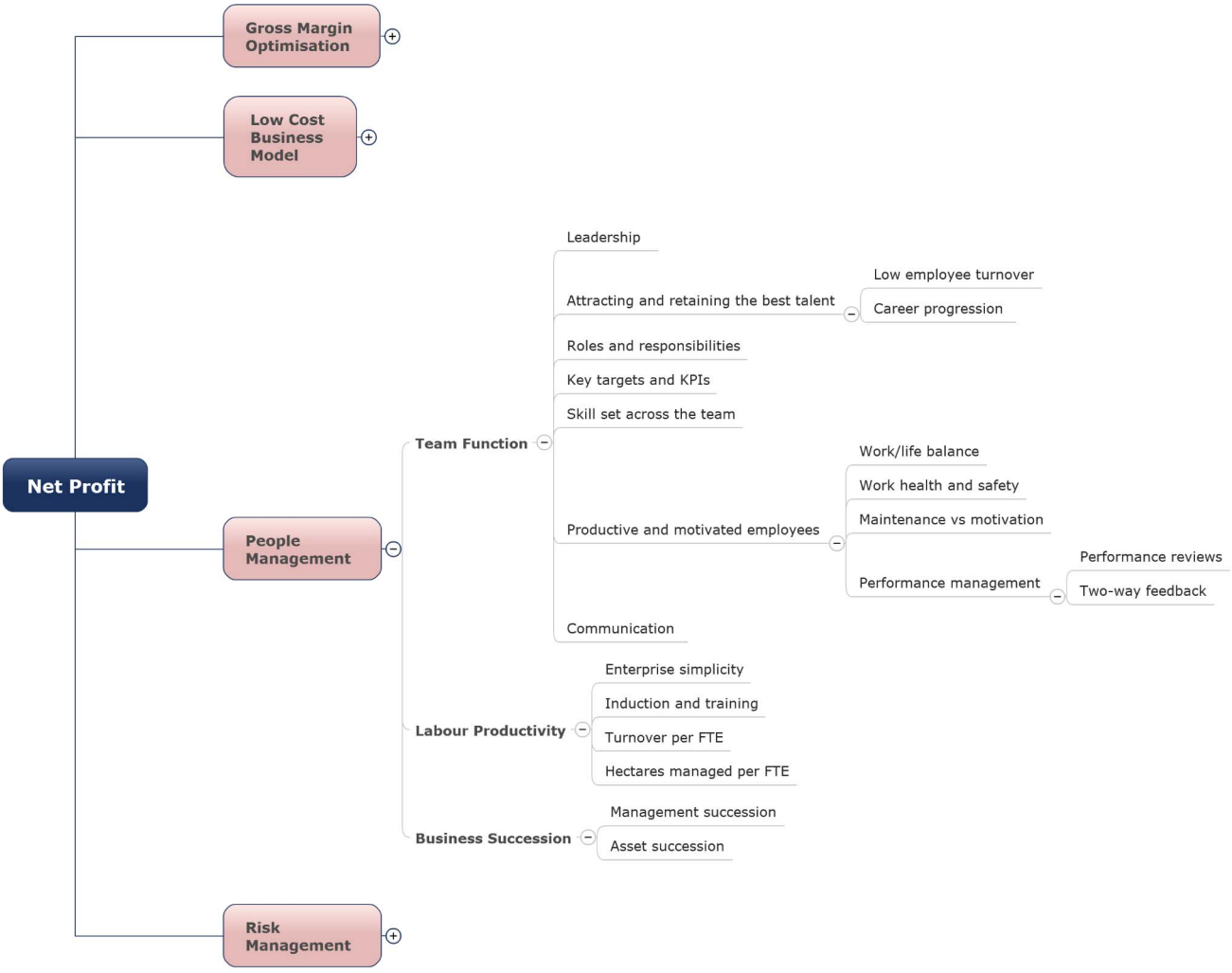
Despite having tight time frames for all operations and up to date machinery, Tom maintains high levels of machinery utilisation with a long term machinery investment to income ratio of just 0.63:1. This is achieved without compromising production and productivity, as Tom's business is also a pace setter on income generation for his rainfall zone and soil type. Machinery investment to income ratios are often closer to 1.1 to 1 on average in Southern Australia with some growers being challenged that it is possible to get it below this because of timeliness considerations. The reality in Tom's business is that he operates at an impressive 0.63 to 1.00 ratio without compromising operational timeliness. This is accomplished with a focus on a simple farming system, intelligent logistics planning, and getting the best out of machinery by:

- Grouping crop types together (block farming);
- Where possible acquiring or leasing land in larger rather than smaller blocks;
- A simple, high value enterprise mix;
- Good access via well maintained lane-ways and regular paddock shapes where possible;
- Ensuring machinery is efficient but working hard and avoiding having "lazy assets" in his machinery inventory;
- Preparing machinery well in advance of key timings;
- Building in operational contingencies for breakdowns and weather including the use of preventative maintenance;
- Capital investment decisions into new machinery being based on numbers, logistics, and achievable work rates rather than emotion.

Tom constantly reviews what has worked well and where the opportunity for improvement lies. He notes that observation skills are very important, both in terms of crop monitoring and also observing emerging trends. Better managers pick up on what is going on around them and their attention to detail is greater, but they also strike the balance of avoiding getting bogged down in the unnecessary detail. It is a combination of his helicopter view approach to planning, prioritisation of tasks with the highest impact, and excellent execution that Tom achieves high utilisation from his machinery and labour resources. Tom uses a benchmarking group to monitor his business performance annually and compare himself to some of his respected farming peers and also against industry best performance.

Understanding the contribution that a low cost business model has on overall profitability keeps Tom focused on ways to continually get more from his system without burning out machinery or human capital resources. Rather, Tom continually looks for ways in which his business can be streamlined, aiding the timeliness of operations and getting the most out of his existing soil, machinery, and labour resources. A profitable business model is also allowing Tom the opportunity to continually grow his business in a sustainable manner.

People and Management



Management traits and characteristics identified

A number of differences were identified between producers consistently achieving Top 20% results and their lower performing peers. These key differences can be summarised around the following six themes.

1. Having a systems focus
2. Taking a 'helicopter' view when under pressure
3. Internalising and taking responsibility for key business decisions
4. Focusing energy on the things within their control
5. Superior implementation ability
6. Strong observational skills

These are explored in further detail below.

1. Having a systems focus

There are at least two elements to having a systems focus. The first is having a real focus on developing your production system. This includes highly developed thinking around enterprise mix, crop choice, and how to optimise performance across your adopted production system. Thinking at this level includes exploring how different enterprises or crop types can be successfully integrated. Decisions at the production system level include making informed choices around cropping vs livestock mix, rotation length, crop selection, stubble retention, ground cover, moisture conservation, seeder type, and integration across the system.

A case study on systems thinking involved the exploration of different perspectives on the integration of livestock and cropping enterprises by participants in the survey. While a definite answer in this regard has not been established by the current project, a number of the businesses in the Top 20% were intensive cropping operations with no livestock enterprise. When asked, livestock were viewed by these businesses as either a distraction from their key focus or detrimental to their chosen production system (reducing ground cover and causing soil compaction). For some, not having livestock has enabled them to simplify their farming businesses and increase focus on their cropping enterprises. However, there are others in the Top 20% that are successfully integrating cropping and livestock enterprises. This demonstrated that both systems can be applied successfully, depending on the skill set and preferences of the producer. It is also important to understand that property specific risks such as land type and climate also influence this decision. If there is a need to manage a localised issue such as frost risk or highly variable seasons, then often the cropping and livestock discussion becomes more relevant and more involved.

A key difference in a Top 20% business is that gross margin optimisation is often sought rather than purely a focus on yield maximisation.

Once a production system is adopted, the Top 20% develop a strong sense of commitment to their approach and focus on successful implementation of their chosen system. This allows a longer term approach to be undertaken and avoids distractions associated with shorter term thinking. Some other common characteristics of the Top 20% in regard to their chosen production system are as follows:

- Maximising yield and maximising price are commonly considered as two primary profit drivers by producers. A key difference in a Top 20% business is that gross margin optimisation is often sought rather than a focus on yield maximisation. This approach often allows a more realistic approach with regard to variable cost inputs and can often prove to be more profitable in the long term when seasonal variability and late season production shocks such as frost, heat shock, or failed springs are factored in.
- When asked if legumes were considered an important part of the system, most producers highlighted the benefits to the system in relation to soil health and increased nitrogen fixation. The Top 20% often considered the wider benefits of including legumes in the rotation in reducing whole farm input costs and risk, extending the seeding window, and reducing labour or machinery inputs at critical times in the production cycle.
- Declining terms of trade or "cost/price squeeze" was mentioned by a number of survey participants as having an influence on their businesses. Maximising yield and price was commonly identified as being the key solution to this. Those in the Top 20% were more inclined to look for systems solutions to this challenge including achieving greater utilisation of key overheads such as machinery or labour, the selection of higher value crops where possible, adopting more profitable and lower risk rotations, or increasing efficiency through enterprise simplicity.

The second element to systems thinking that was more common amongst the Top 20% was systematised patterns of work. Being able to perform operational tasks in a timely and organised manner, by having the right support systems, optimises returns with less overall demands on time. An example of developing a more systematised pattern of work is explored below.

- During the qualitative survey process producers were asked about their ideal date to finish seeding for their location and the mix of crop types that they grew. Virtually all of the survey participants were able to accurately identify the date but it was generally only those in the Top 20% could say they consistently achieved completion of seeding by that date Organisation, accurately knowing achievable work rates, factoring in contingencies for machinery breakdowns and weather delays and ensuring everything was ready operationally allowed the Top 20% to consistently achieve this.
- An excellent example of a systematised pattern of work was one Top 20% producer who included an additional 25% contingency time at sowing when establishing his seeding commencement date. This contingency budget allows for weather interruptions and potential machinery breakdowns yet still enables seeding to be completed on time. Not only did this grower accurately understand their achievable work daily work rates, he had also budgeted in advance for weather and potential machinery breakdown interruptions. Having a clearly established start date also enables producers to plan all pre-seeding tasks such as machinery maintenance, seed cleaning, paddock preparation, and having fuel and chemicals sourced and on farm.

2. Helicopter view point

Taking a 'helicopter view' was also a characteristic of the Top 20% which assisted them in maintaining their long term focus and not letting short term 'speed bumps' get in the way of longer term goals or targets. The Top 20% indicated that having a longer term planning horizon was a key to making good decisions.

- When one producer was asked how to make good "game day" decisions when under pressure, his response was "to find the highest ladder to climb and examine the situation from above" or in essence take the 'helicopter view point'. This is sometimes also referred to as the view from 30,000 feet.
- "Game day" decision making was seldom implemented by the Top 20% without a good degree of prior planning. While many producers need to make quick decisions every day, it is a unique skill to be able to successfully filter information and understand the consequences of one particular action over another. The Top 20% also regarded the decision making process under pressure as a positive part of their job and they relished the challenge.
- Taking a helicopter view can also assist producers with identifying looming business or production risks. Having an ability to identify these future production or business risks assists these producers in being better prepared for them when they arrive.

"Find the highest ladder to climb and examine the situation from above to make good decisions under game day pressure" is a strategy often implemented by the Top 20%. It avoids the speed bumps throwing you off your long term strategy.

3. Internalise and take responsibility for key decisions

Some interesting observations were made in relation to decision making responsibility. It was observed that the Top 20% were much more inclined to internalise and take responsibility for key management decisions. This didn't mean that they didn't draw on trusted advisors during the decision making process but rather that they had developed and set some customised ground rules for key decisions. If an opportunity didn't measure up against their internal benchmark then they didn't invest further energy and attention in to it.

In contrast to the Top 20%, it was noted that was common for some of the mainstream producers generating more moderate levels of profitability and performance, to externalise some of the responsibility for key decisions. These producers often sought extensive external input into key decisions, often from non-independent sources that may have had a vested interest in the recommendations that they were making. The risk in this approach is that some key decisions are being externalised rather than objectively assessed against carefully considered internal benchmarks. The following comments can be made in regard to this.

- While the Top 20% utilised a number of different advisors, they commonly used them as a third party to challenge decisions and provide them with technical information. Much of the ground work needed to make such decisions was already undertaken by the producer and they placed accountability on themselves for the decisions that they made.
- When asked what decision making process they follow, many of the producers generating more modest returns often quoted a wide range of external sources and/or technical information to help them make the decision. *"Observing what others do in the district"* was a common response. While seeking external perspectives is a valuable process, there is a risk that this can externalise decision making, potentially to someone that doesn't have a strong connection to long term business objectives.
- What differentiates the Top 20% is that through internalising key decision making against internal benchmarks, they know the decision they have made suits their system and their long term goals. Sole reliance on technical information or what others recommend or suggest is potentially risky as their comments and recommendations might not suit the production system followed or particular circumstances. Without carefully considered internal benchmarks it is difficult to make consistent decisions that are always in the long term interests of the business.

"I don't let emotion make the decision, I let the numbers and our benchmark results drive the approach".

Insights came from a question pitched around "the block of land next door has come up for sale, how do you go about assessing the opportunity and establishing what purchase price you would be willing to pay?" The Top 20% had a number of stop/go points whereby the excitement of the opportunity gets replaced by the need for suitable returns and how the opportunity fits with their long term plan. Others drew on many different external sources such as accountants, bankers, and real estate agents in order to base their opinion. Often the opinions being sought by the later group were from sources that had a vested interest in the market rather than the interests of the individual business at heart. It was observed that amongst those who tended to externalise key decisions, that they were almost searching until they found someone that justified the answer they wanted to hear rather than seeking input that would rationally challenge their thinking.

4. Sphere of control versus of sphere of influence

Some different observations were made between Top 20% and more mainstream producers in relation to where they focus their energy. This included differences in where producers identified opportunities to interfere and make changes or refinements to their production and management systems. The Top 20% are very good at identifying where they will get the best return on energy invested. In principle this often came across as a strong focus on the things that they can change and control rather than unnecessarily investing valuable energy into factors over which they have little or no control. This is further explained by the sphere of control and influence.

Figure 3 shows the sphere of control/influence. It can be used to determine what can be actively controlled, what factors may influence your business but over which you may have only limited control, and then those factors which you have no control over and may only have very limited influence on your business anyway.

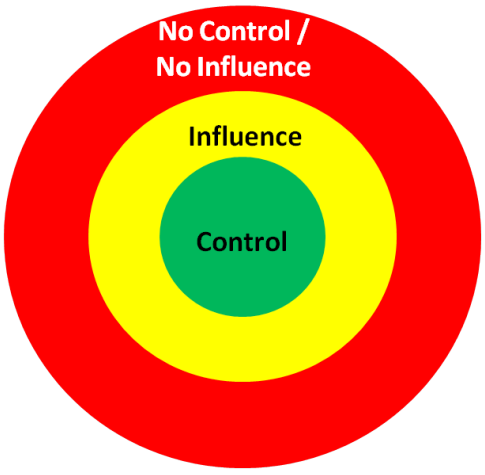


Figure 3: Sphere of influence and control

Examples of no control include:

- Weather
- Political priorities and policy
- Commodity price volatility
- Currency volatility
- Global input pricing

Examples of influential factors include (note, some overlaps):

- Grain marketing
- Final crop yield
- Business succession
- Debt and financing levels
- Unavoidable variable costs
- Frost

Examples of control include:

- Adverse readiness
- Rotation
- Business systems
- Labour
- Timeliness and organisation
- Agronomic practice
- Moisture conservation
- Building in contingencies to allow for unknown variables such as weather and machinery breakdown

Top 20% producers focus their energy on things within their control.

When asked “what issues in your farming business keep you awake at night or worry you the most?”, there were some differences in responses between the Top 20% and mainstream. Some of these differences were being driven by sphere of control and sphere of concern influences. High performing producers were happy to accept the events over which they have no control such as price and weather and rather invest their energy into developing systems that will allow them to internally to manage these risks. One Top 20% producer was not concerned about failed springs for example as he had developed a production system that successfully stored soil moisture during summer, autumn, and winter. The design of his particular production system was something that was in his control and could be used to manage the seasonal volatility that was accepted as given.

It wasn’t uncommon for some producers to unnecessarily invest energy and concern over factors over which they have limited or no control. It was felt focusing energy on this sometimes very wide ‘sphere of concern’ was potentially distracting them from identifying the opportunities where they could positively interfere and move across into the ‘sphere on control’.

It is the move in focus from ‘fear of the variable’ to ‘what can I do to manage the variable’ that makes the difference. The only variables that really concerned the Top 20% were uncommon major production shocks over which they perceived they had very limited control such as a particularly unusual frost event. If frost was a common part of their landscape then good producers in these regions learned how to manage this. It was interesting however that one Top 20% producer that wasn’t farming in a frost prone region was actually very concerned about the potential impact of frost on his business. Future frost events concerned him because he felt that it was something which could have a significant detrimental influence on his business that he wasn’t yet able to control. Given more time, this producer may well be able to develop how he could make changes in his business to respond to frost, particularly given that he doesn’t operate in a high frost risk region. His concern over frost could be indicative of his helicopter view point keeping him aware of potential future risks.

By exercising a helicopter view point, it allows influencing factors that were previously considered to be outside of the sphere of control to be brought back within manageable bounds. Investing energy where you can positively interfere and make a difference is a common characteristic of high performing businesses.

5. Knowing the target and consistently meeting the target

One of the more interesting aspects of the qualitative survey process was how strongly it highlighted differences in implementation ability. It was identified during the qualitative survey process that there is sometimes a great divide between knowledge and implementation. The conclusion was quickly reached that it is implementation ability or capacity that drives higher levels of performance amongst the Top 20% more so than differences in technical knowledge. This is explored in more detail below.

- During the qualitative survey process all growers were able to accurately identify their ideal date to finish seeding for their region and their crop types grown. When asked how often they achieve finishing seeding by their target date, the Top 20% producers were confidently able to say “every year” or “in excess of 80% of the time at least”. Conversely, when asked the same question, average producers indicated that historically “they had never finished seeding by their target date” or “this year might be the first year”. This contrast was quite pronounced which highlighted the implementation gap between the knowledge that they held and achieving it in practice.
- What was also interesting was the responses received to the question around “if not why not, and if so why?” in regard to finishing seeding by their target completion date. For the mainstream producers, who had a much poorer track record than anticipated at finishing seeding by their desired completion date, their first line of response was generally focused around external excuses. Elements such as the weather, or lack of resources, or machinery break downs were commonly discussed. It was interesting to compare their responses against the years when they had finished seeding by their target completion date, which for many the current 2015 year was potentially going to be their first time.

Initially their responses were often about the external influences of the weather or having a good run with machinery. When these lines of thought were explored more deeply it was discovered that their increase in performance against their target was actually a function of internally changing things that they could control such as starting a week earlier, increasing ground speed, or changing their fertiliser application strategy such that increased work rates could be achieved at seeding.

Growers can take encouragement from this that there are a range of factors within their control that they can influence to improve productivity.

This, alongside questions asking where producers obtain technical information, demonstrated that the supply of technical information was not the limiting factor in achieving the right results.

The Top 20% producer not only knows the target, but consistently meets the target through superior implementation skills.

Timeliness and organisation were two of the most commonly mentioned words by survey participants when discussing key profit drivers. When these concepts were explored in more detail it became evident that knowledge of the driver didn’t always match up with actual performance against the driver for the mainstream producers. By contrast the high performing businesses consistently met their targets. Timeliness was considered so crucial to the overall performance that one Top 20% producer has a 25% contingency margin built in to his seeding work plan, allowing him to set a seeding start date that will allow for weather delays and machinery break downs should they occur.

6. Observation skills

Well honed observation skills were also a common point of discussion from high performing businesses. This view is also supported by advisors. Further discussion on developing superior observation skills is detailed below.

- Observation skills can be defined as both short and long term. A defining characteristic of the Top 20% is that they possess advanced long term observation skills that allow them to plan ahead and understand consequences.
- High performing producers also have excellent short term observation skills related to in season crop production. These observation skills enable them to identify issues and potential issues and adapt to them in a timely fashion. A key component of developing good observation skills is intensive crop monitoring throughout the production season. It is a common trait that high performing cropping managers are regularly out in their paddocks observing and monitoring crop growth and development, pests and diseases.
- Monitoring long term business performance and trends also allows farmers to adapt their management if needed. This is consistent with the theme of "you cannot manage what you cannot measure".

Possessing strong observation skills however does not limit the Top 20% by bogging them down in minor detail. Rather, it allows them to prioritise what is most important first and focus on achieving this outcome in a timely manner.

Implementation Gap

The qualitative survey provided greater insights into the gap in profit between an average farm business and a Top 20% business than initially anticipated. Our conclusion from the survey process was that it wasn't actually differences in technical knowledge, but rather implementation ability that was a primary driver within high performing businesses.

Technical knowledge and access to decision support tools is widely available through a number of different sources. Such information can be easily accessed through self research or via advisors. The qualitative survey process demonstrated that technical information is flowing freely. All producers surveyed had good levels of technical knowledge and were drawing on multiple sources to secure technical information as it becomes available.

Case Study 4
Top 20% Insight Into: Operational Timeliness

The Benchmarks:

Income per hectare: $420/ha
Profit as a % of income: 27%
Annual rainfall: 380mm
Farm size: 4,800ha
Crop types grown: Wheat, barley, canola, field peas, lupins,
Wheat Water Use Efficiency: 7.30kgs/ha/mm of PAW
Machinery investment to income ratio: 0.67:1
Income per Full Time Equivalent (FTE): $700,000
Total Plant, Machinery & Labour (TPML): 27.77%

How is this being achieved?

Operational timeliness is one of the key components to income generation and gross margin optimisation per hectare, a key profit driver for grain businesses in Southern Australia. For some, achieving optimal timeliness is seen as buying big gear, overlooking that this can often blow out costs on machinery depreciation and finance. Differences in machinery utilisation are driving some significant differences in overall business profitability in Southern Australia. High profit farming requires developing a balance between income generation and variable cost control to optimise gross margins, and then developing a low cost business model to maximise net profit. Achieving strong levels of utilisation from machinery and labour resources are essential components to developing a low cost business model.

Timeliness of operations is now synonymous with best practice farming and climatic management, particularly in regard to achieving optimal yields and managing frost risk, heat shock, and failed or shorter springs. Many yield curves demonstrate large losses in yield potential, sometimes dropping 10% or more just 2 weeks after the optimal sowing date. Of course, going too early on some varieties can also be detrimental in regard to managing frost risk and the crop canopy. It could potentially be argued that the optimal window for seeding some crop types is getting tighter and more compressed as the risks of being too early or too late are carefully balanced up. When considering operational timeliness it is also important to consider timeliness across all operations that fall across the calendar year and not just the key events of seeding and harvest. Timely control of volunteer plants and weeds during summer, along with the timing of nutrient, herbicide, and fungicide applications throughout the growing season, all have an influence on crop yield and returns.

Rob recognises the importance of achieving optimal timeliness whilst also optimising his investment into machinery and labour resources. A characteristic of Top 20% businesses is that they are often very good at being able to

consistently achieve excellent operational timeliness under variable conditions. This does not happen as a result of some kind of magical force, but rather as a result of excellence in planning and implementation.

Rob knows his ideal date to finish seeding and when asked how often he achieves seeding completion by this date he states “every year, without fail, as timing is imperative”. Despite the need to achieve this, Rob retains an excellent long run average machinery investment to income ratio of just 0.67:1 despite the average often being closer to 1:1 in the SA-Vic Mallee agro ecological zone. Rob’s total plant, machinery and labour (TPML) costs are under the ideal 30% of total income benchmark and he is achieving outstanding labour utilisation of $700,000 in turnover per full time equivalent (FTE). The average result in South Australia is closer to $400,000 per FTE.

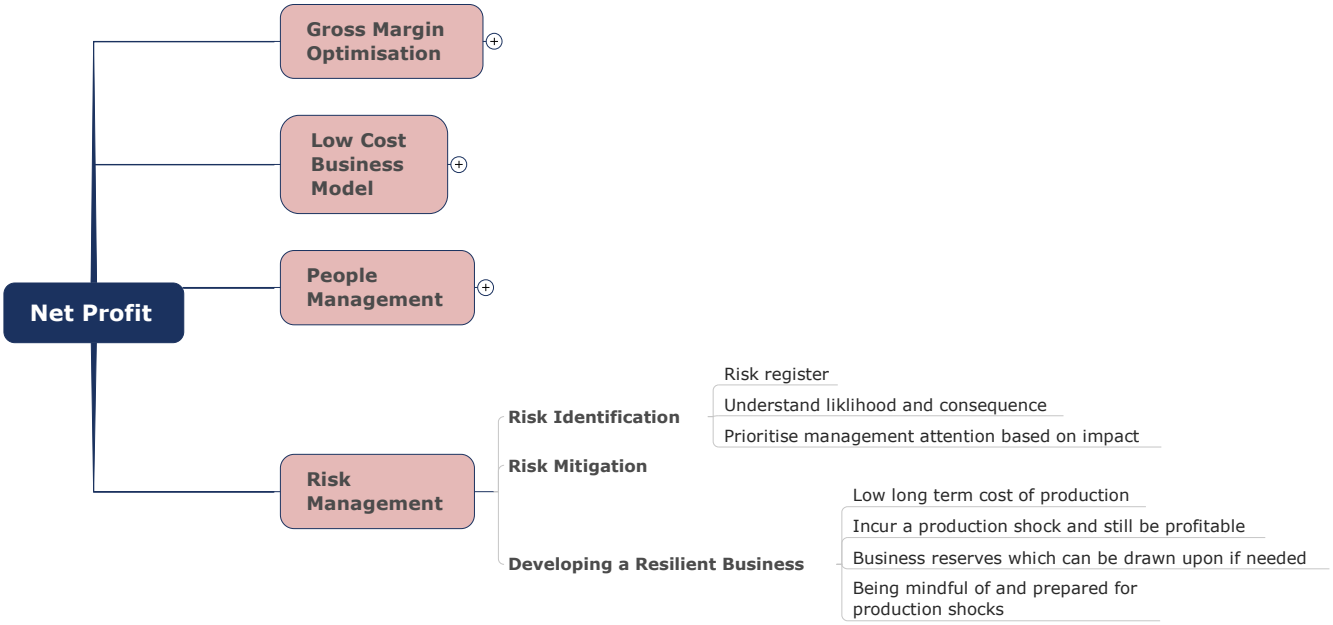
Rob achieves excellent operational timeliness from a balanced investment in machinery by accurately knowing his work rates and being organised. The work rates that Rob applies are based on real data, ensuring that the influence of field efficiency is also taken into account in addition to implement width and travel speed. Rob is aware of his operational targets well in advance of key events and ensures his year-round work flows are mapped out to give the crop the best possible start each year. His planning horizon is proactive and his team members are well managed and motivated to help achieve this. Timing is so crucial that Rob builds in a 25% contingency margin to allow for unexpected breakdowns and weather interruptions to ensure that he meets his target every year under variable conditions.

Rob is able to maximise his income through advanced operational timeliness, leading to high profit farming by:

- Being organised and maintaining a long term planning horizon;
- Having active and documented work plans for each week during February and March to ensure that they are ready to start seeding when planned in April;
- Building in contingency margins to account for weather interruptions and unexpected machinery breakdowns for key operations;
- Having a simple farming system and sticking to proven technology. Does not chop and change readily until results are proven;
- Ensures all machinery is ready well in advance to limit the number of breakdowns and ensures the general readiness of the business for key operations;
- Selection of crops that are well suited to the highest and best use of the land resource he is managing, including the inclusion of a pulse crop to naturally fix nitrogen. Crop selection also includes risk management around frost prone areas or areas where there is higher likelihood of crops cutting out early;
- A focus on team member well-being to ensure they are motivated and working towards a common goal;
- The use of independent consultants, particularly the agronomist, to ensure he is provided with the highest impact information in a timely manner;
- The use of an independent advisory board to hold decisions to account and highlight new avenues to keep the business growing;
- Annual benchmarking to verify the businesses performance.

Rob believes the most important document in his business is his benchmarking report. “You don’t know what you don’t measure” were his words when asked of the value of benchmarking. Originally he was not a believer in benchmarking but now uses it to measure performance and see where opportunity for improvement lies and finds benchmarking very beneficial. With Rob’s focus on achieving operational targets and applying surprisingly simple but effective methods to ensure he meets them, the results speak for themselves. He insists that operational timeliness is a relatively simple target but you must put the systems in place to proactively manage implementation. The penalty is essentially missed revenue opportunity from the start which Rob says is not an acceptable outcome within his business. As a result he has put steps in place to directly manage the consistent implementation of operational timeliness across the full calendar of events. Achieving consistent operational timeliness, combined with exceptional machinery and labour utilisation ensures that Rob is operating a high profit margin farming business.

Risk Management



Business resilience is very important in agriculture, particularly in regard to managing climate variability. Business resilience is certainly tested across the grain production zones in Australia through seasonal variation, commodity price fluctuation, and input cost variation. Risk Management as a profit driver is influenced by a business's ability to identify and mitigate key risks. A resilient business is one which can incur a production or business shock and yet maintain suitable levels of financial performance. While developing a resilient business is influenced by gross margin optimisation and developing a low cost business model there are also elements of business resilience which are improved through proactively managing risk.

Some potential measures of well implemented risk management within a business might include:

- Lower income variation from year to year
- Lower long term cost of production by commodity
- Lower variability in profit from year to year
- A greater ability to withstand a business or production shock

Businesses which have effectively identified and mitigated key production and business risks will generally have less income variation from year to year and much lower long term cost of production for the range of commodities that they produce.

Key risks to be managed in the SA Vic Mallee agro-ecological zone include the following, understanding that there is land type and climate variability within the zone.

Production risks include:

- Frost risk
- Dry or failed springs
- Late breaks
- Enterprise conflict that creates compromise (i.e. poor integration of livestock and cropping)
- Waterlogging (in some parts of the zone)
- Herbicide resistant ryegrass
- Cereal rusts
- Heat shock during grain fill
- Lodging

Business risks include:

- Catastrophic events (fire, flood, hail etc)
- Debt serviceability
- Price risk
- Workplace Health and Safety
- Key person risk
- Wills/succession/asset protection
- Human resources (employee turnover is a risk that requires management)

The graph (figure 4) is an @Risk visual representation of risk for both an average business versus a Top 20% business. Based on the data analysis undertaken of the Top 20% producers and their enterprise choices, the @Risk analysis demonstrates the effect that volatile factors have on each different business. The analysis demonstrates that the Top 20% business is a much more resilient business with a much lower probability of incurring a loss.

It is important to note that crop yields are about 12% to 15% higher for the Top 20% while scale is fairly similar between the two representative businesses. The enterprise mix between the average and Top 20% by ROE differs according to the proportion of livestock in each system. Livestock enterprises are generally considered to be more stable, resulting in less volatility in returns. The Top 20% by ROE have less livestock and more cropping within their enterprise mix. By having this enterprise mix, it has allowed the Top 20% by ROE to harness much greater upside potential.

A Top 20% business (red) has an 80.8% (8 in 10 years) chance of achieving profit and an 19.2% chance of making a loss based on the analysis applied. Conversely, an average business (blue) has a 64.6% chance of achieving profit and a 35.4% chance of loss, effectively profitable 7 years in 10.

There is a considerable difference in the risk profile of the two businesses. The bell curves highlight that an average business has a much steeper, narrower bell curve compared to a Top 20% business. The bell curve for the average business is also positioned to the left in comparison to the Top 20% business. This means that a Top 20% business is much more capable of harnessing upside or potential risk where an average business is considered to be more open to downside or exposure risk.

This is further demonstrated in the analysis by examining the probability of achieving breakeven to a 75th percentile result for a Top 20% business. The average business will fall between these lines 61.6% of the time yet has only a 3% chance of achieving greater than this. A Top 20% business will fall between these lines 55.8% of the time but has a 25% chance of achieving a more favourable upside result than this.

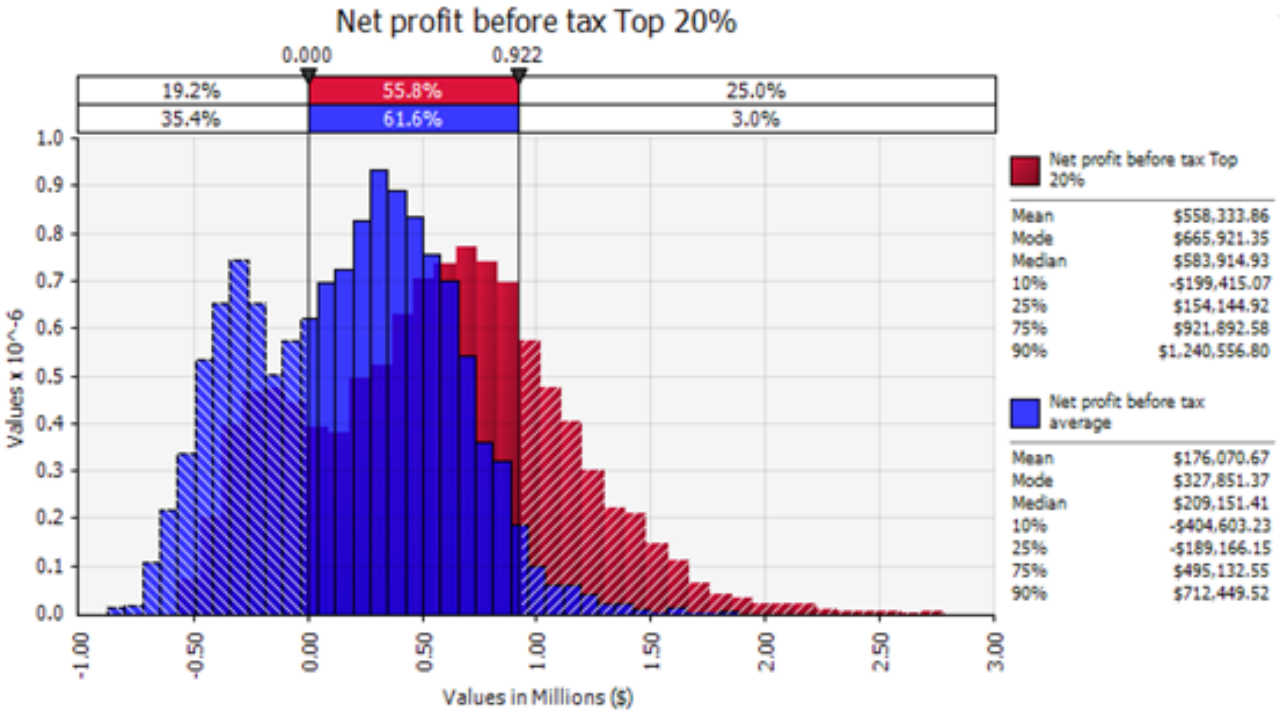


Figure 4 - @Risk representation for net profit before tax between Top 20% businesses and average businesses in SA Vic Mallee

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