

CROPPING ZONE MANAGEMENT GUIDELINE RDP00013



**VICTORIAN
HIGH RAINFALL**





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 Meridian on behalf of the Grains Research & Development Corporation.



1. Background

This Management Guideline for the Victorian high rainfall agro-ecological zone has been developed by Meridian Agriculture on behalf of the GRDC and demonstrates that there is a significant gap in financial performance between the Top 20% producer and the average farming business within the zone. The Top 20% producers have been selected based on Return on Equity (ROE).

In the Victorian high rainfall zone, the Top 20% have generated an operational ROE of 4.9% during the three year period analysed between 2012/13 and 2014/15. This is around double the average business in the zone which recorded a ROE of 2.4% during the same time period. During the period analysed, data from other nearby agro-ecological zones demonstrated that operational ROE's of 7% to 9% are also achievable by Top 20% businesses.

Return on Assets Managed (ROAM) is an alternative ratio which can be used to measure financial performance. In the Victorian high rainfall zone the Top 20% recorded an operational ROAM of 5.8%, marginally higher than average business in the dataset at 5.2%.

The Top 20% of businesses in this data set were able to achieve considerably lower overheads, variable costs and depreciation than the average, resulting in them generating net profit before tax levels that were 26% greater than the average business in the dataset.

Most farms in the Victorian high rainfall zone run a mixed system with cropping and livestock. The Top 20% producers run both enterprises in a highly profitable fashion.

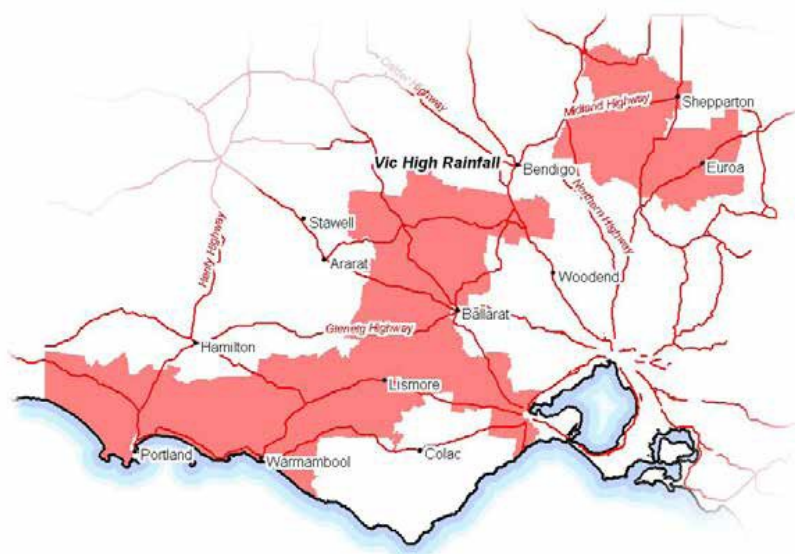
There are a range of important profit drivers that are influencing variation in farm performance. The four primary profit drivers that are driving the differences in long term financial performance have been identified as:

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.

This report will examine each of these profit drivers in detail. At the end of the report is a worksheet that allows individual farmers to compare their own business to the data set to explore areas for improvement.

2. Farm Characteristics of the Zone



Soil types	Sandy loam to light clay
Rainfall	400 mm to 800mm
Average yield	4.2 t/ha for wheat across the dataset collected
Enterprises	<p>The average cropping intensity across the businesses is 66%. On average these businesses have three different crop types in their cropping rotation.</p> <p>The major crop types grown in this Zone are:</p> <ul style="list-style-type: none"> • Wheat • Canola • Barley
Average farm size	2,228 hectares

Table 1 shows the broad operational parameters for the businesses in the dataset.

Table 1: Farm size, percent of land leased or share farmed and cropping intensity.

KPI	Top 20% by ROE	Average of dataset	Min	Max
Average farm size	1,935	2,228	721	4,119
% leased/share farmed	17%	16%	0%	60%
% land to crop	49%	64%	15%	100%

The Top 20% of businesses in this dataset are smaller, farming about 86% the area of the average business.

The Top 20% leased a similar amount to the average however the Top 20% had a lower cropping intensity of 49% compared to the average of 64%.

3. Farm Business Performance

The Statement of Position and Statement of Performance summaries for the businesses benchmarked are shown in Table 2.

Table 2: The Statement of Position for the Top 20% by Return on Equity (ROE) and the average businesses in the dataset.

Item	Top 20% by ROE	Average of dataset	Min	Max
Total Assets	\$ 13,004,184	\$ 11,471,331	\$ 4,250,000	\$ 21,757,248
Total Liabilities	\$ 1,321,958	\$ 3,564,159	\$ 143,700	\$ 10,099,704
Net worth	\$ 11,682,225	\$ 8,995,880	\$ 3,092,000	\$ 19,456,367
Equity	81%	73%	54%	100%

The average total assets managed by the Top 20% was around 13% higher than those managed by the average business in the dataset. Note that a number of corporate farms participating were not prepared to disclose their liabilities and while their assets have been included, the net worth and equity values only include those businesses for which asset and liability values were provided.

Overall the Top 20% businesses have business equity of 82% compared to 73% for the average participant.

Table 3: The Statement of Performance for the Top 20% by Return on Equity (ROE)

KPI	Top 20% by ROE	Average of dataset	Min	Max
Total income	\$ 1,517,650	\$1,743,035	\$ 683,648	\$ 3,406,997
Total variable costs	\$505,351	\$ 798,699	\$ 322,499	\$ 1,785,134
Gross margin	\$ 1,012,299	\$ 944,126	\$285,264	\$2,134,180
Total overheads	\$ 150,211	\$ 218,558	\$ 79,454	\$531,620
Operating surplus	\$ 862,087	\$ 725,783	\$ 141,995	\$1,675,905
EBIDTA	\$ 839,587	\$ 671,447	\$ 130,261	\$1,575,905
Depreciation	\$ 121,031	\$ 93,484	\$10,468	\$ 352,119
Total financing costs	\$ 79,018	\$ 217,654	\$15,035	\$ 621,506
Net profit before imputed labour	\$ 639,536	\$ 422,494	-\$ 304,739	\$ 1,093,392
Imputed Labour	\$ 131,624	\$ 59,532	\$0	\$200,427
Net profit before tax	\$ 507,913	\$ 362,962	-\$ 304,739	\$ 1,093,392
Asset turnover ratio	0.14	0.17	0.09	0.31

Table 4: The Statement of Performance on a per hectare basis

KPI	Top 20% by ROE	Average of dataset	Min	Max
Total income Per ha	\$ 776	\$ 817	\$ 379	\$ 1107
Total variable costs Per ha	\$ 256	\$ 378	\$ 194	\$ 601
Gross margin Per ha	\$ 517	\$ 439	\$ 164	\$ 590
Total overheads Per ha	\$ 76	\$ 92	\$ 50	\$ 132
Operating surplus Per ha	\$ 442	\$ 348	\$ 34	\$ 494
EBIDTA per ha	\$ 429	\$ 325	\$ 32	\$ 489
Depreciation Per ha	\$ 62	\$ 39	\$ 7	\$ 93
Total financing costs per ha	\$ 106	\$ 79	\$ 7	\$ 182
Net profit before imputed labour Per ha	\$ 323	\$ 227	-\$ 74	\$ 464
Imputed Labour Per ha	\$ 72	\$ 28	\$ 0	\$ 113
Net profit before tax Per ha	\$ 252	\$ 199	-\$74	\$ 464

Total income was 5% lower for the Top 20% on a per hectare basis. This could potentially be driven by differences in land class capability or rainfall within the zone, rather than management, as the Top 20% are achieving higher water use efficiency and crop yields for the grain side of their businesses. However significantly lower overheads, variable costs and depreciation for the Top 20% businesses have resulted in

the Top 20% generating net profit before tax levels that are 26% greater than the average business in the dataset.

The various costs and profit as a percentage of whole farm turnover are shown in the following pie charts.

The Top 20% of growers are retaining 25% of turnover as net profit before tax, compared to 17% for the average business in the dataset.

Major differences between the two datasets are the contribution of variable costs (33% for the Top 20% compared to 45% for the average) and overhead costs (9% of gross income for the Top 20% compared to 12% for the average). Total financing costs and depreciation were similar, but imputed labour was higher for the Top 20%.

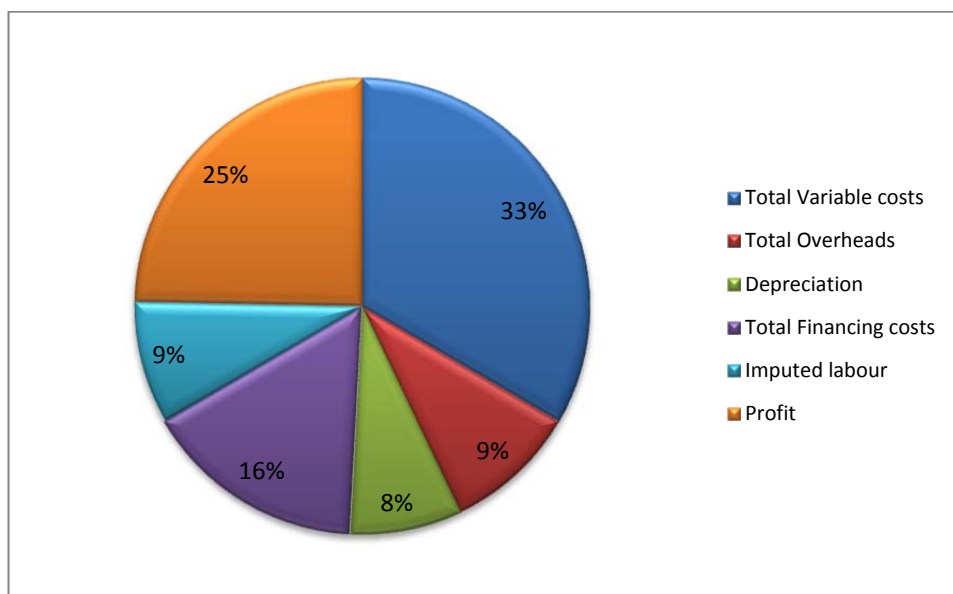


Figure 1: Costs and profit as a % of whole farm turnover for the Top 20% of producers

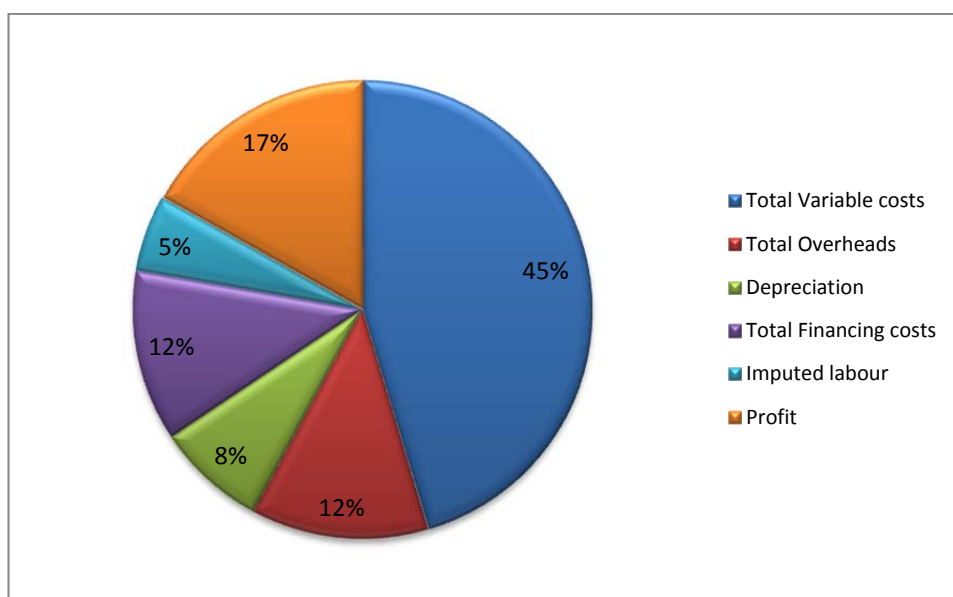


Figure 2: Costs and profit as a % of whole farm turnover for the average of the dataset

Figure 3 shows the relationship between income and costs and the values achieved by the Top 20% of producers on a per hectare basis and as a percentage of gross income.

The percentage figures shown in parenthesis are the figures as a percent of gross farm income.

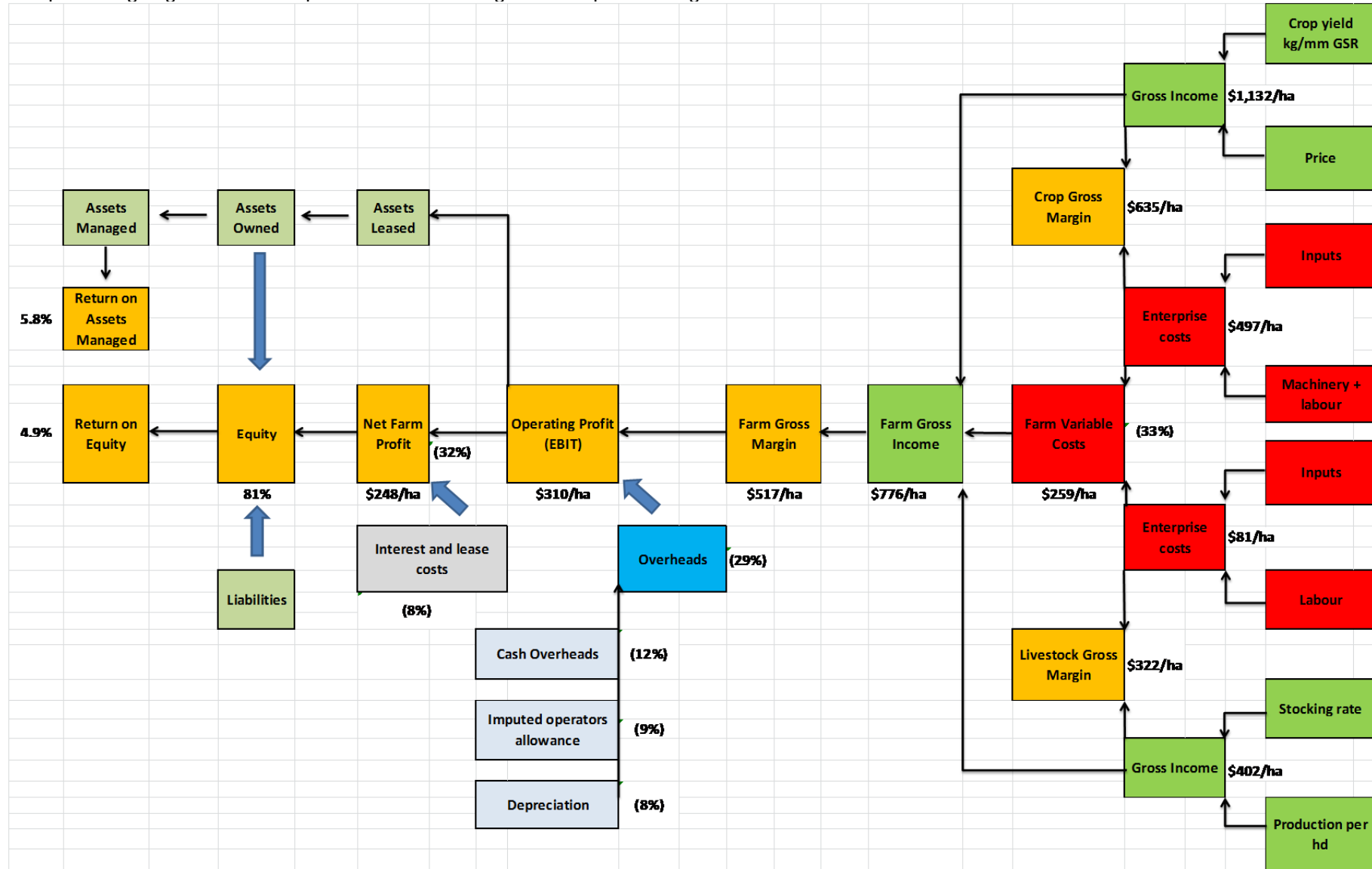


Figure 3: Profit Driver Map for Top 20%

The project considered four areas that drove a profitable farming system. These were:

- Gross Margin Optimisation
- Low Overhead Cost Business model
- People and Management and
- Risk Management

4. Gross Margin Optimisation

The optimisation of gross margins is a primary profit driver in farm businesses.

a. *Whole farm*

Table 5: Whole farm per hectare income, variable costs and gross margin

KPI	Top 20% by ROE	Average of dataset	Min	Max
Farm income/ha	\$776	\$ 817	\$ 379	\$1,107
Farm income \$/ha/mm annual rainfall	\$ 1.36	\$ 1.68	\$ 0.84	\$ 2.21
Farm variable cost/ha	\$259	\$ 378	\$ 194	\$ 601
Farm gross margin/ha	\$ 517	\$ 439	\$ 164	\$590
Gross margin \$/ha/mm annual rainfall	\$ 0.27	\$ 0.24	\$ 0.04	\$ 0.55
Farm variable cost % of income	33%	45%	27%	58%

On a whole farm basis, the Top 20% by ROE are generating 6% less income per hectare than the average. Variable costs per hectare are 32% less for the Top 20%. These differences in income and variable costs have resulted in a 15% increase in gross margin per hectare for the Top 20%.

b. *Cropping Performance*

Table 6: Crop per hectare income, variable costs and gross margin

KPI	Top 20% by ROE	Average of dataset	Min	Max
Crop Income/ha	\$ 1,132	\$ 1,080	\$ 671	\$ 1,229
Crop variable cost/ha	\$ 497	\$ 527	\$ 261	\$ 840
Cropping gross margin/ha	\$ 635	\$ 553	\$ 255	\$ 871
Crop variable cost % of income	44%	49%	27%	77%

The Top 20% of businesses are generating approximately 10% more income per hectare than the average within the cropping side of their business. Combined with 6% lower variable costs, the Top 20% are able to achieve a 13% better cropping gross margin, on a per hectare, basis than the average.

As the gross margin is a reflection of the income generated and the direct costs associated with it, further analysis of the components of these two factors is required to identify opportunities for improvement.

The various components that influence costs and income are shown in *Figure 4*.

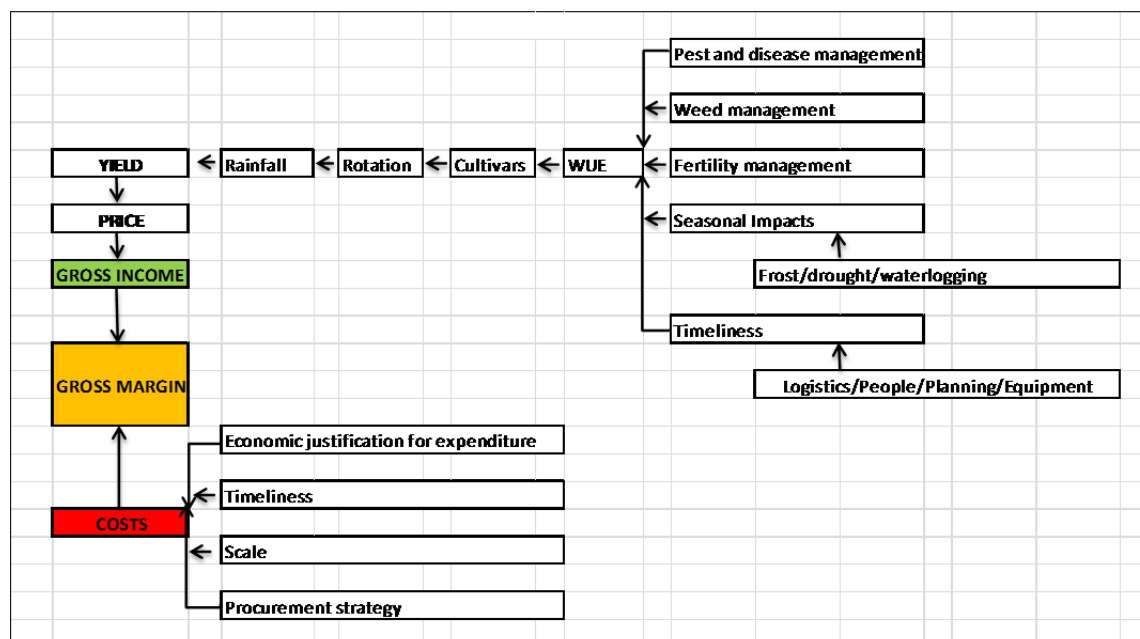


Figure 4: Factors influencing gross margins

Yield factors

Table 7: Crop benchmarks relating to Gross Margin Optimisation

KPI	Top 20% by ROE	Average of dataset	Min	Max
Wheat yield – t/ha	4.6	4.2	2.3	5.6
WUE - wheat kg/ha/mm effective rainfall*	12.81	11.63	8.30	20.00
Wheat cost of production - \$/tonne	\$ 173	\$ 225	\$ 137	\$ 370
Canola yield – t/ha	2.3	2.2	1.4	2.6
WUE - canola kg/ha/mm effective rainfall	6.46	6.17	4.15	10.40
Canola cost of production - \$/tonne	\$ 334	\$ 400	\$ 258	\$ 680

* Effective rainfall in this project has been taken to mean 25% of the rainfall from November to March and 100% of the rainfall from April to October

The Top 20% achieved higher yields for wheat and canola. They recorded wheat yields of 4.6t/ha compared to the average of 4.2t/ha and canola yields of 2.3t/ha, just ahead of the 2.2t/ha achieved by the average. Water use efficiency was also higher for the Top 20% of producers compared to the average.

The Top 20% producers recorded a cost of production of wheat of \$173 per tonne, considerably less than \$225 per tonne recorded by the average of the dataset. Canola cost of production was also considerably lower at \$334 per tonne for the Top 20% against \$400 per tonne for the average producer. Lower cost of production, combined with higher yields are major contributors to the higher profitability of the Top 20% producers

Variable costs

Both the Top 20% and the average had major expenditure on fertilizer and chemicals. Expenditure on contractors was much higher for the average, and combined with lower expenditure on fuel, and plant R&M may reflect a different cost structure to the Top 20%.

Table 8: Cropping variable costs (\$ per cropped hectare)

KPI	Top 20% by ROE	Average of dataset	Min	Max
Contract work	\$ 25	\$ 115	\$ 7	\$ 252
Crop Selling costs	\$ 7	\$ 12	\$ 0	\$ 39
Crop Insurance	\$ 5	\$ 7	\$ 0	\$ 12
Fertilizer	\$ 124	\$ 127	\$ 75	\$ 183
Freight	\$ 12	\$ 39	\$ 0	\$ 88
Fuel	\$ 64	\$ 48	\$ 23	\$ 85
Gypsum/lime	\$ 13	\$ 11	\$ 0	\$ 48
Plant hire	\$ 1	\$ 3	\$ 0	\$ 37
Plant R&M	\$ 45	\$ 38	\$ 0	\$ 186
Seed/seed cleaning	\$ 28	\$ 28	\$ 0	\$ 52
Chemicals	\$ 110	\$ 91	\$ 41	\$ 124

c. Livestock

Most businesses also ran livestock. *Table 9* shows the return per hectare and livestock variable costs as a percentage of gross income (excluding the area of crop grazed)

Table 9: Livestock per hectare income, variable costs and gross margin

KPI	Top 20% by ROE	Average of dataset	Min	Max
Livestock income/ha	\$ 402	\$ 342	\$ 0	\$ 573
Livestock variable costs/ha	\$ 81	\$ 111	\$ 0	\$ 273
Livestock gross margin/ha	\$ 322	\$ 232	\$ 0	\$ 431
Livestock variable costs as % income	20%	32%	18%	57%

The Top 20% of businesses have higher income per hectare and lower variable costs per hectare resulting in a 40% better gross margin than the average. Despite similar rainfall and reliability, the contribution of livestock to farm productivity is much lower than that being achieved in the south west slopes of NSW. This indicates that there may an opportunity to enhance productivity of farming systems in this zone by better integration of cropping and livestock enterprises.

High stock gross margins of the Top 20% are potentially a reflection of the ability to value add the

livestock enterprise through the utilisation of crops.

5. Low Overhead Cost Business Model

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. These factors can have an influence on machinery utilisation, labour utilisation, and maintaining low general overhead costs.

Table 10 shows the benchmarks relating to the Low Overhead Cost Business Model profit driver.

Table 10: Benchmarks relating to Low Overhead Cost Business Model

KPI	Top 20% by ROE	Average of dataset	Min	Max
Overhead costs per ha	\$ 76	\$ 92	\$50	\$132
Overhead costs as a % of income	9%	12%	6%	34%
TPML costs per ha	\$ 236	\$ 277	\$ 167	\$416
TPML costs as a % of income	31%	35%	26%	46%

The Top 20% businesses have about 25% lower overhead costs per hectare. This combined with the higher income per hectare resulted in overheads as a percentage of income considerably lower than that of the average of the dataset.

Total Plant Machinery and Labour (TPML) analysis is used to establish the efficiency of machinery and labour utilisation between businesses. The measure allows for businesses with external contractors to be compared to those businesses that use their own machinery.

TPML is calculated from adding the following:

- Contract work
- Freight
- Fuel (net of rebate)
- Hire of plant
- Machinery repairs and maintenance
- Wages and on-costs
- Imputed labour
- Machinery depreciation
- Machinery finance

The Top 20% recorded a 15% lower TPML costs per hectare compared to the average and are 10% more efficient than the average business in relative terms when TPML costs are considered as a % of income.

Machinery investment as a ratio of income is shown in *Table 11*.

Table 11 Machinery investment to income ratio

KPI	Top 20% by ROE	Average of dataset	Min	Max
Machinery Invest/ crop income ratio	0.7	0.7	0.2	1.9

Both groups have similar machinery investment ratios (0.7 to 1). These values are well below the industry average for strong businesses (less than 0.8). The low ratios most likely reflect the influence of the use of significant income from livestock enterprises in businesses analysed.

While the investment in machinery needs to be monitored, it needs to be adequate for the tasks to ensure operational timeliness targets are met to ensure strong revenue generation. Some rules of thumb about machinery capital investment suggest that machinery should be capable of sowing the crop in 21 sowing days and that machinery should be capable of harvesting the crop in 21 harvest days. Source: GRDC.

6. Financing costs/debt

Table 12 shows the debt levels and associated finance costs for the businesses in this zone.

Finance costs for the Top 20% are 40% (\$35/ha) lower than for the average business in the dataset while leasing costs are fairly similar. Finance costs will be higher when properties are expanding. Provided the debt can be serviced and principle repayments can be made regularly, higher finance costs can be justified in the short term.

Table 12: Debt and Finance Cost KPIs

KPI	Top 20% by ROE	Average of dataset	Min	Max
Debt to income ratio	1:1	1.9:1	0.1:1	3.5:1
Finance costs per ha	\$ 44	\$ 91	\$ 7	\$ 157
Finance % income	7%	14%	1%	26%
Lease cost/ha (allocated across the whole farm)	\$25	\$ 32	\$ 0	\$ 79
Lease costs % income	4%	5%	0%	12%
Lease + finance costs/ha	\$ 106	\$ 123	\$ 7	\$ 182
Lease + finance costs % income	16%	19%	1%	30%

The Top 20% have a debt to income ratio of 1 to 1 compared to 1.9 to 1 for the average business in the dataset indicating a higher level of debt serviceability amongst the Top 20% by ROE. Finance costs per hectare for the Top 20% are about half those of the average business and are a reflection of the higher equity of the Top 20%. Similarly the leasing costs are higher for the average business reflecting the greater proportion of land leased by the average business in the dataset.

7. Overall farm performance

Table 13: Summary of Business performance

KPI	Top 20% by ROE	Average of dataset
Operating costs as % of income	45%	58%
Overhead costs as % of income	9%	15%
Depreciation costs as % of income	8%	9%
Imputed labour cost as % of income	9%	6%
Finance and lease costs as % of income	16%	19%
Profit as % of income	31%	21%

The Top 20% are retaining 31% of turnover as net profit before tax, considerably more than the 21% of turnover retained as net profit by the average of the data set.

Table 14: Return on Equity (ROE) and Return on Assets Managed (ROAM).

KPI	Top 20% by ROE	Average of dataset	Min	Max
Equity	81%	73%	54%	100%
Return on Equity (ROE)	4.9%	2.4%	-3.0%	5.7%
Return on Assets Managed (ROAM)	5.8%	5.2%	0.8%	8.0%

Growers were surveyed about their approaches to people and management and also their risk management practices.

8. People and Management

People management which includes the management of family members, employees, contractors and advisors as a profit driver, is driven by the leadership and communication skills of the business owner/manager

Getting jobs done on time and to the appropriate standard is a key outcome of good staff management.

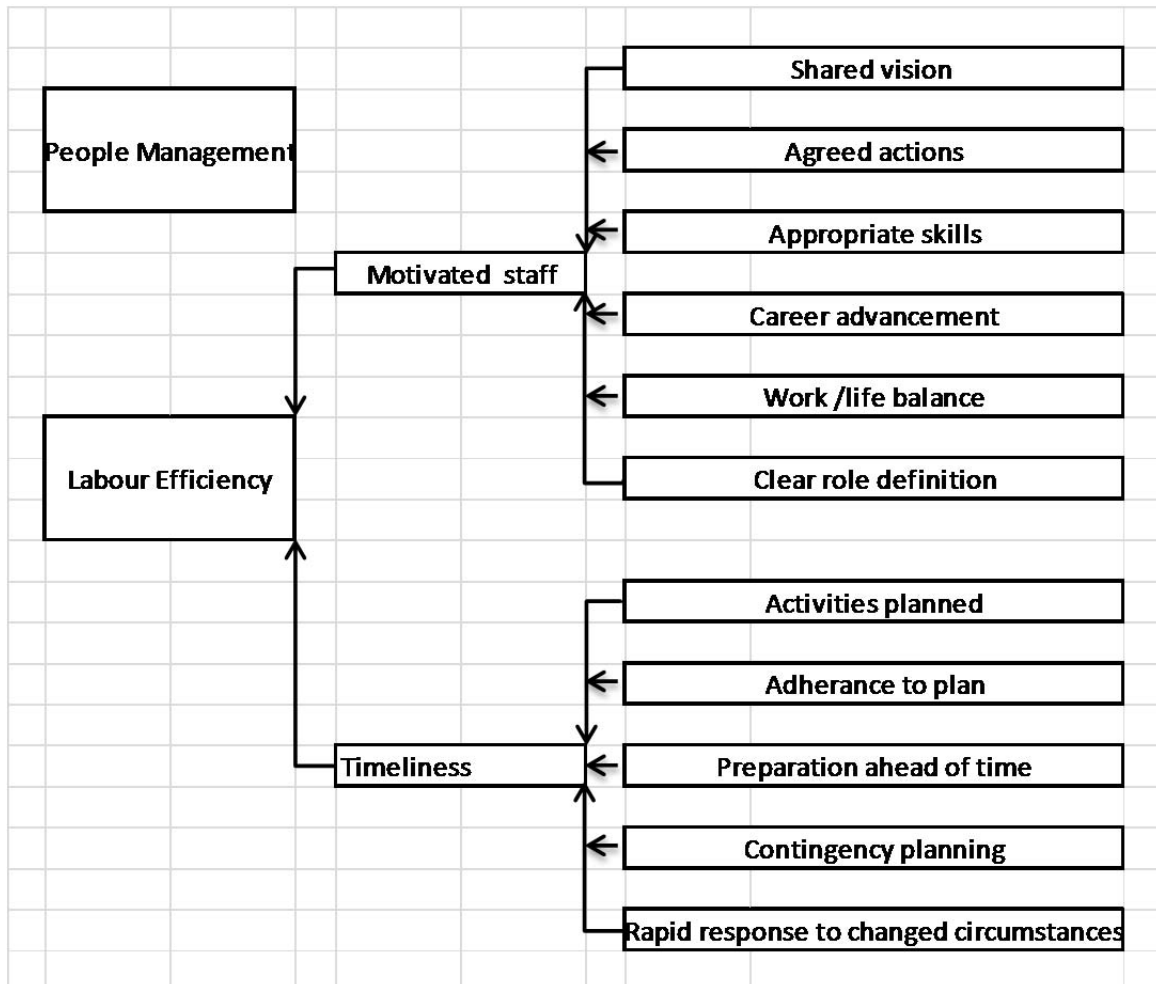


Figure 5: Factors influencing people management

Producers that fell into the Top 20% mentioned job satisfaction, love of the job and the ability to do jobs well as key motivating factors.

The Top 20% also focussed on net profit as a major driver of farm decisions.

There needs to be a clear understanding of the strategic direction of the business. Key strategic decisions are the enterprise mix, rotations, if, and how, the business will transition from its existing management structure and/or scale, etc. Strategic decision generally involved the use of decision support tools and often outside professional involvement.

Once a strategic plan is agreed then documentation of annual operational plans will enable the business to focus on achieving a profitable outcome.

Timeliness was a key profit driver mentioned by growers in the Top 20%.

Because timeliness is critical, contingency plans need to be in place to accommodate likely risk events. Decision need to be made quickly and often without all the information. Growers interviewed stated that while these decisions may not be the absolutely correct decision, procrastination can often lead to a worse outcome through the loss of timeliness. Often these decisions are made on intuition, but which in reality such intuition is likely to be based on experience and prior technical knowledge.

The commitment of appropriately skilled people to undertake operations is critical. This impacts not only on how well a job is done, but also on the timeliness of operations. There are many factors that influence job satisfaction and dedication and retention.

Except in senior management roles, generally retention for longer than two years is a good result. If the average is less than two years, further investigation is required. One aspect may be workload. Some guidelines for hours worked are shown in Table 15 noting that award hours are 1,976 per year and any hours worked additional to that would need to be appropriately compensated.

Table 15: Guidelines for hours worked per employee

Hours worked per year	Interpretation
< or = to 2500 hours	Acceptable amount of working hours
2500 – 3000 hours	Acceptable with caution*
3000+ hours	Alert, consider how hours may be reduced*

9. Risk Management

Management of risk is an integral component of farming operations, influencing all aspects such as production, staff management, and even long term business viability

Risks can be grouped into strategic, business and operational risks. Too often the focus is on the operational risks with the other two being ignored or taking a lower priority.

Strategic risks are those that influence the long term direction of the business and which are often outside the control of an individual business. These include factors such as changing climate, changing markets etc. Business risks are those which are present but which are inherent in the business, but often require a medium view of the impact on the business. Examples of business risk the need to adequately cover debt, choice of enterprise, scale of operation and future ownership structures.

Operational risks are those that impact over a shorter time frame and include factors such as anticipating the impact of seasonal weather conditions.

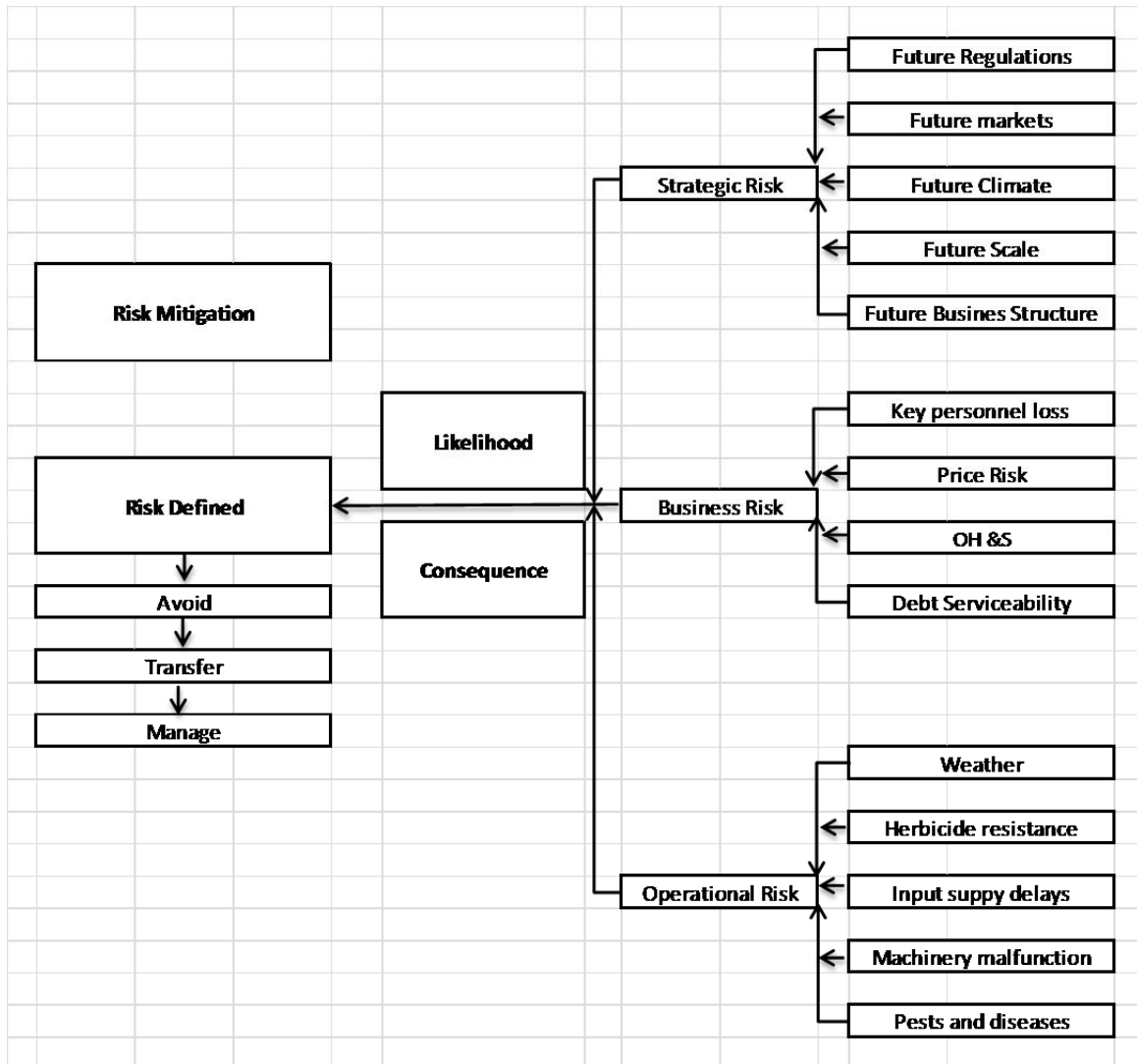


Figure 6: Risk Components

Good risk management involves the development of a risk register that categorises events according to their likelihood (rare, unlikely, moderate likely or certain) and according to their consequence (insignificant, minor, moderate, major or catastrophic). An attempt should be made to quantify the categories for the individual business to determine the business's risk appetite. What, for example does "rare" mean: once every 5 years, 10 years? The tables below show examples of risk and consequence ratings

Table 16: Frequency categories

Rating	Score	Description
Almost Certain	5	Expected frequency once a year or more. May happen several times a year with the defined consequence
Likely	4	Expected frequency every 1 – 2 years
Moderate	3	Expected frequency once every 2 – 5 years
Unlikely	2	Expected frequency once every 5-10 years
Rare	1	Expected frequency less than once every 10 years

The consequence assessment should consider not only financial consequences, but also other

impacts such as personnel and reputational effects. Again it is important to put some objective measures around the criteria for the consequence categories. What, for example, would an extreme financial, personal or reputational consequence be for the farm?

Table 17: Consequence rating table.

Rating	Score	Cost to Business	Personnel	Other
Catastrophic	5	>\$250,000	Loss of prime operative	
Major	4	\$50,000-\$250,000	Staff loss for period of 3-6 months	
Moderate	3	\$20,000 - \$50,000	Serious injury	
Minor	2	\$2,000 - \$20,000	Injury	
Insignificant	1	<\$2,000	Minor injury	

Identify the risks the business faces and categorise them according to the individuals risk appetite. eg Decile 1 rainfall year. – major cost to business, and expected to occur once every 10 years.

Use the highest score in any of the consequence categories and plot the risk assessment on a “Heat Map”. This system focuses attention on those risks which are high in terms of impact, allowing plans to be developed to mitigate the risks. Management strategies need to be in place for at least the orange and red sectors and ideally also the yellow sectors.

Table 18 Heat map

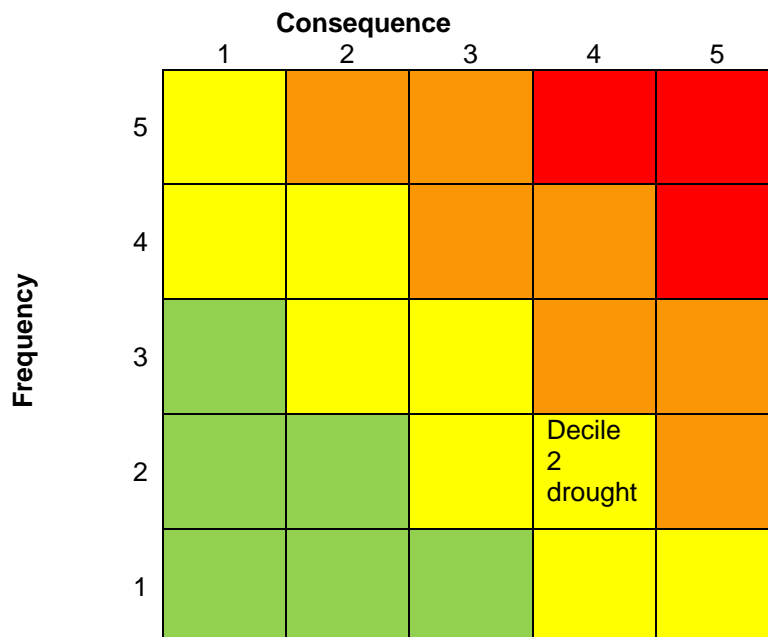


Figure 7: Heat Map

There are three options for risk management:

- Avoidance – eliminate the risk
- Transference – outsource the risk eg insurance
- Mitigation – develop strategies to minimize the risk should it occur or be likely to occur.

Business Health Check

1. Gross Margin Optimisation

How do you compare?

	Your Figures	Benchmark	Stretch Target
Useable farm area (ha) A			
Gross farm income B			
Gross farm income/ha B/A = D		\$1,100	\$1,300
Farm variable costs C			
Farm variable costs/ha C/A = E		\$350	\$400
Farm gross margin/ha D-E		\$750	\$900
Variable costs as % income C*100/B		35%	30%

Use the following worksheet to compare your crop production figures with the data from the survey.

	Your Figures	Benchmark	Stretch Target
Area cropped(ha) A			
Crop income B			
Crop income/ha B/A = D		\$1,100	\$1,400
Crop variable costs C			
Crop variable costs/ha C/A = E		\$450	\$500
Crop gross margin/ha D-E		\$650	\$900
Variable costs as % income C*100/B		41%	36%

Use the following worksheet to compare your crop production figures with the data from the survey.

	Your Figures	Benchmark	Stretch Target
Rainfall Nov - Mar A			
Rainfall Apr - Oct B			
Growing season rainfall A*.25+B = C			
Wheat yield/ha D			
Wheat WUE D/C		11 kg/mm GSR	16 kg/mm GSR
Canola yield/ha E			
Canola WUE E/C		6.5 kg/mm GSR	7.5 kg/mm GSR

Use the following worksheet to compare your crop production figures with the data from the survey.

		Your Figures	Top 20%
Wheat yield (t/ha)	A		
Area cropped	B		
Total Fertilizer cost	C		
Fertilizer cost/ha	$C/B=D$		
Fertilizer cost/t wheat	D/A		\$27
Total Chemical cost	E		
Chemical cost/ha	$E/B=F$		
Chemical costs/t wheat	F/A		\$24

a. Gross Margin Optimisation Diagnostics

Are you short of the benchmark or looking to hit your stretch target? – Use this 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:	
Does your seeding completion date compare with best practice?	
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 competitive weeds such as ryegrass to be effectively managed?	
- fit your skill set and machinery capability?	
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?	
- Poor drainage?	
- Lacking in macro nutrients?	
- Lacking in micro-nutrients?	
- hard pan to be addressed?	
Does your farming system promote storage of out of season rainfall?	
Does your farming system build soil health and organic matter over time?	
Does crop nutrition and agronomy match crop yield potential?	
Are you proactively monitoring crops for early disease and nutrition intervention?	
Does your harvest capacity allow crops to be harvested in a timely manner with minimal losses?	
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 greater than 40%? If so:	
Are you over investing in fertiliser inputs?	
Do you seek an independent perspective with crop agronomy?	
Does your crop rotation promote more modest investment into chemical and fertiliser?	
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)	
Do you limit storage fees and charges by proactively managing grain marketing before and during harvest?	

4. Are you investing more than \$25 per tonne of wheat yield per hectare into chemical costs? If so:	Yes / No / Comment
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)	
Do you control weeds in a timely manner when they are small and easier to kill?	
Do you save expensive chemistries for when they are really needed only?	
Do you seek an independent perspective on chemical inputs and cost effective weed control strategies?	

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

10. Low Cost Production

How do you compare?

Calculate your overhead costs in the following table

	Your Figures	Benchmark	Stretch Target
Farm area (ha) A			
Farm income B			
Total overheads (exc labour) C			
Overhead costs/ha C/A		\$80	
Overhead costs as % income C*100/B		12%	10%

Use the following worksheet to compare your crop production figures with the data from the survey.

	Your Figures	Benchmark	Stretch Target
Farm area (ha) A			
Farm income B			
TPML Components			
Contract work			
Freight			
Fuel (net of rebate)			
Hire of plant			
Machinery rep and maintenance			
Wages and on-costs			
Imputed labour (family labour @ \$50,000/full time equivalent)			
Machinery depreciation (10% of current value) E			
Machinery finance			
TOTAL TPML C			
TPML cost/ha C/A		\$240	\$180
TPML cost as a % income	C/B	31%	25%

Calculate your machinery investment ratio in the following table.

	Your Figures	Benchmark	Stretch Target
Farm income A			
Value of machinery Investment B			
Machinery Investment ratio B/A		0.7:1	0.6:1

a. Low Cost Production Diagnostics

Consider these questions if your machinery investment to income ratio is higher than 0.8 to 1.00.

	Yes / No / Comment
Have operating costs, such as fuel and repairs, been unusually low or high	
Have there recently been one-off or abnormal repair or fuel bills, or are they likely to stay at current levels?	
Are you a new, growing or stable business?	
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?	
Does your investment in machinery match the scale of your cropping enterprise?	
Do you have any machinery that is rarely used and surplus to your requirements?	
Does every piece of machinery that you own perform an essential function for your business?	
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	
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 go 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?	
Can you cost effectively increase shift length during peak periods rather than upsize?	
Have you simplified your enterprise mix and number of crop types to avoid unnecessary duplication in machinery capital?	
Can you cost effectively access more land to achieve a greater level of utilisation from your machinery?	
Can you delay your next machinery upgrade and get by comfortably with your existing kit?	
Do you give adequate planning and thinking to logistics management and how to get more from each existing piece of equipment?	
Are you able to observe and review machinery logistics during peak periods, identify bottlenecks, and effectively overcome them?	

b. Debt and Finance

Use the following worksheet to compare your debt and finance figures with the data from the survey.

		Your Figures	Benchmark	Stretch Target
Farm area (ha)	A			
Farm income	B			
Debt level	C			
Debt to income ratio	C/B		1:0	0.7:1
Finance and lease costs	D			
Finance costs per ha	D/A		\$45	\$30
Finance costs as a % of income	D*100/B		16%	10%

Use the following worksheet to compare your farm performance with the data from the survey.

	Your Figures	Top 20% (Target)	Average
Variable costs as % of income	A	33%	40%
Overhead costs as % of income	B	12%	15%
Depreciation costs as % of income	C	8%	9%
Imputed labour cost as % of income	D	9%	6%
Finance and lease costs as % of income	E	16%	19%
Profit as % of income	100 - (A+B+C+D+E)	31%	21%

** Unpaid labour at \$50,000 per full time equivalent.

Calculate your return on equity below.

	Your Figures	Benchmark	Stretch Target
Total Assets	A		
Total Liabilities	B		
Equity	(A-B)/A = C	80%	85%
Farm income	D		
Profit as % of income	E		
Profit	D*E=F		
Return on Equity	F*100/C		

11. People and Management

a. People and Management Diagnostics

	Yes / No / Comment
Do you have a strategic plan for the next 5 – 10 years?	
Is it written down?	
Do you have advisor(s) that help review your business on a regular basis	
Is there a written plan for the year	
Do you undertake annual staff reviews	
Do you have job descriptions for all employees in the business?	
As an owner are you satisfied with:	
Your work load?	
Farm performance for the effort you put in?	
Your amount of leisure time?	
If we asked your partner the same questions about yourself, would we get the same answers?	
What do your employees think about	
Their work load?	
Farm performance for the effort they put in?	
Their amount of leisure time?	
When employing staff do you have trouble	
Attracting any applicants	
Attracting good applicants	
Retaining staff for a reasonable length of time	
Do staff have the opportunity to undertake skill development?	

12. Risk Management

a. Risk Management Diagnostics

	Yes / No / Comment
Do you have a formalized risk management plan	
Do you have the appropriate insurances in place	
Public liability	
Workcover	
General insurance	
Do you understand the impact of a production loss on your debt structure	
Do you understand the impact of a production loss on your cash flow and debt serviceability	
In how many years would your cost of production allow you to make a profit in the light of variable grain prices?	
Do you have strategies in place to manage the absence /death of key operatives	
Is there a succession plan in place to ensure the continuation of the business	
Do you have a vision about what the business should look like in 5 – 10 years	



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