



HOW TO FARM PROFITABLY IN THE EASTERN WHEATBELT

A GRDC Funded Project

An investigation by Planfarm Pty Ltd on how high performing farmers achieve profitability in the Eastern Wheatbelt and what can be done to lift profitability in the region

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How to Farm Profitably in the Eastern Wheatbelt of Western Australia

A GRDC funded project investigating what can be done to improve the profitability of farming in the low rainfall eastern wheatbelt region of WA.

Project led by Greg Kirk, Director of Planfarm Pty Ltd

ACKNOWLEDGEMENT

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GRDC for funding the project, Rabobank and the consulting firms Agvise and AgAsset for identifying clients to participate in this study and of course the farmers themselves for giving up their valuable time to share some of the secrets of their success. We hope you find something from their experience which you can apply in your business.

EXECUTIVE SUMMARY

As in every region, there are a group of high performing farm business managers that produce financial returns that are considerably better than average in the Eastern Wheatbelt (EWB). Over the seven year period 2006-2012 this top group produced operating surpluses that were 60% above average which equates to an additional surplus of \$243,000 pa.

Businesses in this group range in size from 2234 ha to 12200 ha, and typically were larger than average size. Despite receiving no more growing season rainfall, they outperformed their peers financially and in higher yields per ha in both good and bad seasons. Like the average eastern wheatbelt farmer, in poor seasons as a group they were unable to meet all financial commitments, however they had the financial strength to overcome these challenging years.

When asked about the reasons for their success, common responses were preparedness to work hard, a conservative approach, low cost, getting the big decisions right and paying attention to detail. The notion of “near enough is not good enough” was a common sentiment expressed. In practice this translated into some management choices such as never harvesting canola in the heat of the day so as to substantially reduce losses, using cheap domestic labour to do the housework while the (skilled) partner drives the header, seeding in the same furrow to maximise crop emergence in dry conditions and preparedness to invest in soil improvements such as lime on a targeted basis.

When asked about what cost savings they had introduced in recent years, the most common areas were reduced fertiliser inputs and lower machinery replacement costs. The top performers ranked avoiding losses in poor years as being equally important as making the most of the good seasons.

The average land use for this group was 65% cereal crops, 20% pasture (for sheep) and 8% canola, with the balance made up of oats, lupins, fallow, triticale, peas. On average the group sowed 25% of their annual cropping programme dry. While 95% of the group used autosteer technology, few had yet adopted controlled traffic and/or variable rate technology.

When asked to rank their biggest concern for the coming year, seasonal rainfall was at the top of the list, followed by low grain prices and high input costs.

Researchers and extension people active in the region were asked to identify key management practices with potential to increase profit which could be more widely adopted. Practices identified included Controlled Traffic Farming (CTF), Variable rate technology (VRT), liming and fallow. Future profit opportunities were likely to come from continued rapid advances in technology driving both labour and machinery efficiencies. Corporate farming was also identified as potentially offering risk management opportunities via contract farming.

Using the seven year financial performance of this group as a base, a financial analysis was undertaken to determine what impact changes in various costs have on overall farm profitability. The purpose being to demonstrate where the best opportunities lie for improved profitability and what might the top and average farm businesses look like if certain practice changes are adopted.

While both grain yield and price dominate the components of farm profitability and offer greatest potential for gains, improvements in water use efficiency may not translate into additional yield if growing season rainfall continues to trend downwards. For this reason, cost savings across all aspects of the business need to be a key priority as they present low risk opportunities to make significant improvement in overall profitability. Prospective areas of cost savings are identified and their impact on overall farm profit calculated.

RESEARCH OBJECTIVE

By understanding the strengths and weaknesses of businesses currently operating in the Eastern Wheatbelt and integrating this with the best research knowledge develop a farming business model that sustainably generates the required level of profit.

Methodology

1. Establish what is currently being done - What do the top and bottom performing businesses look like in the Eastern Wheatbelt of WA?

It is recognised that despite the difficult seasonal conditions in the region, some farm businesses have a history of trading profitably and building successful businesses.

To identify those characteristics that have led to farm business success, 14 selected farmers were interviewed on farm in Spring 2013. These farmers were selected via referral from their farm management consultant, who was familiar with their farm business performance over the past decade. Selection was based on, farm financial performance, the consultant's opinion on business management skills and a willingness of the farmers to be involved in the project.

Farm performance records of this group for the period 2006 – 2012 were analysed and each participant was interviewed to seek their views on what has made them successful and why. Questions asked of each farmer are detailed in Appendix A.

For comparative purposes, a desktop study of poor performing businesses was also carried out using data from twenty low performing farm businesses ranked on return on capital over the 2006-2012 period.

2. Establish what can be done better - What current practices could be more widely adopted to improve profitability and sustainability in the EWB?

Answers to this question were sought from invited participants to a full-day workshop and also from direct one-on-one discussions with key research and extension people closely involved with agriculture in the Eastern Wheatbelt.

Where possible, the financial benefits from adoption of these practices were researched from published literature and where not possible these were estimated.

3. Use whole farm economic analysis to answer the question - "What could it look like if changes are made to key drivers of profitability?"

A what-if type financial analysis was carried out to determine what profitability might look like if all currently known but not widely adopted practices were adopted.

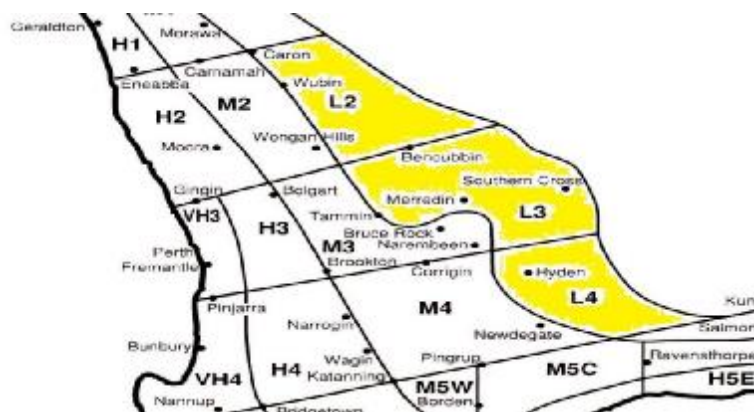
ABOUT THE STUDY REGION

- Boundaries
- Recent rainfall history,
- Soil types,
- Farmer Numbers
- Farm Size and Equity
- Business conditions 2006 - 2012

Boundaries

The low rainfall region of the WA wheat belt specified in this project is shown in Fig. 1. It is located south of Latitude 29.6 S and north of 33.2 S. The western boundary is the 325mm rainfall isohyet, and the eastern boundary is the edge of the wheatbelt. Location wise, the regions stretches from the locality of Caron in the North to Mt. Madden in the South. The isohyet is loosely described as a line starting from Bunjil in the north, heading to Tammin. The dividing line then heads east to Muntadgin, and from Muntadgin heads south to Karlgarin, before turning south east to Newdegate.

Fig 1. Map of the WA Wheatbelt with study region indicated in Yellow



Recent Rainfall History

Table 1. shows average monthly rainfall over the past thirty years at six locations within the study zone. Average growing season rainfall (May to October) varies from 188 to 228 mm with an average of 203 mm. Over the seven year period 2006 – 2012 rainfall has been even less than the 30 year average. The average across both top and bottom performing businesses in this period was 165 mm and 164 mm.

30yr avg.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Tot	GS
Kalannie	20	17	28	22	39	40	50	38	24	12	14	15	310	203
Bencubbin	20	18	21	20	35	40	43	36	25	14	19	15	307	193
Merredin	22	18	18	23	41	42	47	37	27	15	19	19	325	207
Bullfinch	22	27	29	29	40	38	41	33	22	13	19	18	332	188
Hyden	24	16	20	24	39	44	48	43	32	21	23	20	353	228
Holt Rock	22	22	20	22	34	37	43	36	27	20	24	18	325	197
Average	22	20	23	23	38	40	45	37	26	16	20	17	325	203

Predominant Soil Types

Typical soils of the EWB include;

Gravelly Soils – containing greater than 20% gravel or ironstone within the first 15cm of the soil profile. Encompasses shallow gravels, Sandy gravels, and loamy gravels. Neutral to acid pH and low soil water storage are common characteristics

Deep Sands– Identified by having at least 80cm deep to parent material. Encompasses Sand, loamy sand and clayey sand. . Neutral to acid pH, Wind erosion, water repellence and low soil water storage are common characteristics.

Sandy Earths & Sandy Duplex Soils – Characterised as sandy soils with a loamy or clay/gravel base at 30-80cm. Ranging from yellow sands through to red and brown sands. pH ranges from strong acidity to neutral pH and are susceptible to subsurface compaction.

Clay Surfaced Soils – Identified as Grey, Red and Brown non-cracking clay with a hard setting surface, with calcareous subsoil. Prone to waterlogging and salinity due to location in the landscape and soil structure. These clay soils can contain toxic levels of Boron.

Farmer Numbers

CBH have indicated that there are 1503 active grower entities across the 3 regions. 425 in L2, 520 in L3 and 558 in L4. As this data is compiled by postcode and these do not exactly align with agzones (L2, L3, L4) the exact number of growers in each zone is unknown. It is likely that some growers also have multiple entities so we expect that the total number of businesses in the region is well less than 1500.

Farm Size and Equity

The Planfarm Bankwest Benchmarks in these regions have an average farm size of 5,389 effective hectares. On region by region basis these benchmarks indicate an average of 6,455, 4,357 and 5,356 effective hectares in the L2, L3 and L4 agzones respectively. From a financial point of view, farm businesses in these agzones had average farm business equity of 68% as at the start of the 2013 season.

Recent seasonal conditions 2006 - 2013

The eight years 2006 – 2013 have been categorised into poor, average or good seasons in the region on the basis of effective rainfall (Table 1). Effective rainfall being growing season rainfall + 30% of summer rainfall. This is not an exact science as in any year, one district may experience different seasonal condition to another 200 or 300 km away. So the assessment in Table 1 is our rating of each season taking an overall view of the EWB in that year.

Table 1. Categorising 2006 – 2013 seasons in the EWB according to effective rainfall.

	Poor Season	Average Season	Good Season
Effective RF (mm)	< 150 mm	150 < RF < 200	RF > 200 mm
Years	2007, 2010, 2012, 2013#	2006, 2009, 2013#	2008, 2011, 2013#
Wheat yield t/ha	0.3-1.0 t/ha (say 0.8 t/ha)	1.0 – 1.8 t/ha (say 1.5t/ha)	1.8-3.0 t/ha (say 2.4 t/ha)

2013 was > 200 mm in the south of the region (L4) and became gradually drier as you moved north in the L3 and L2 < 150 mm.

So in recent times, approximately 40% of seasons have been poor, 30% average and 30% good. However to tell all of the story we need to also look at grain prices in each year (Table 2).

Table 2. Categorising 2006 – 2013 seasons in the EWB according to typical wheat price \$/t

	Poor Price	Average Price	Good Price
Wheat price \$/t FIS	< \$250/t	\$290 - \$310/t	> \$320/t
Years	2006, 2009, 2011	2008, 2010, 2013	2012, 2007

Price \$/t vary with variety and grain quality. In this period prices tended to fall into three distinct groups; Less than \$250/t, \$280-\$310 or above \$320/t.

Wheat price \$/t is a good proxy for overall grain price given it makes up 50% of farm income and has a some correlation with prices of barley and canola.

So in the last eight years for the broad EWB region;

- The best case outcome of good price and good yield has not happened nor in fact has it occurred in the past 15 years. On the other hand, over this time frame the region has not experienced the worst case scenario of poor price and poor yield.
- The very best prices occurred in 22% of years and these all just happened to coincide with poor production years.
- An average price and an average yield has only occurred once in the past eight years – so much for the average year!
- A good season and average prices have occurred twice in the past eight years.

- A good season and poor prices have occurred only once in the past eight years.

The conclusions from this simple analysis covering the period 2006 – 2013 are;

- About 60% of seasons were good or average. These were the seasons where progress could be made. (In poor seasons, price has much less impact on overall profitability) and
- In about 60% of seasons wheat prices were either good or average.
- So in only about 36% of years did the combination of average or better price coincide with average or better season. These are the years which must be capitalised on.

RESULTS

The top performers - What did these businesses look like at the start of 2013?

Table 3. Key numbers for the top performers at the 1 Jan 2013.

	Average	Range
Farm Area (ha) 2012	6140	2234-12220
Crop Area (ha) 2012	4698	1549-10145
Labour units FTE 2012	2.1	1.0 – 3.0
Asset Base \$ 2013	\$8.1M	\$3.5-\$16.4M
Debt level \$ 2013	\$1.8M	\$0.2M - \$3.6M
Business equity % start 2013	84%	61-100%
% Land in Crop 06-12	75%	59-95%

In comparison to the average of the Planfarm Bankwest Benchmarks, these selected businesses were on average 13% larger in area however there was a wide range of farm sizes in the group, indicating that small scale by itself did not preclude a farm business from being successful.

Equity at the start of 2013 averaged 84% which was indicative of a strong average financial position particularly considering 2012 was a poor year across the region. Interestingly although income from sheep and wool was not a large component of average farm income, 80% of farm businesses in the top group still had a sheep enterprise. Half of the families surveyed had two generations actively involved in the business.

How have these top businesses performed over the 2006-2012 period?

To answer this question we looked back over the production and financial records for these businesses over the seven year period to 2012 and the key results are shown in Table 4 below.

Over this period the average farm size was 5721 effective ha and the annual average growing season rainfall was 165 mm, clearly demonstrating that this is a low rainfall environment. Despite this, two years 2008 and 2011 saw average wheat yields of close to or better than 2.0 t/ha.

Table 4. Rainfall, wheat yield and operating surplus 2006 – 2012 top performing group

	2006	2007	2008	2009	2010	2011	2012	Avg
Grow Season RF mm	139	134	240	174	120	228	123	165
Summer RF mm	162	47	67	38	32	91	28	66
Effective RF mm – average	188	148	260	185	130	255	131	185
Effective RF mm – highest	251	183	339	214	157	306	154	208
Effective RF mm - lowest	137	94	219	130	99	214	112	164
Wheat yield t/ha – average	1.60	1.15	1.99	1.56	0.92	2.08	1.17	1.49
Wheat yield t/ha – highest	1.80	1.77	3.05	2.20	1.31	2.46	1.50	1.75
Wheat yield t/ha – lowest	1.02	0.42	1.17	1.01	0.46	1.75	0.62	1.10
Avg Operating Surplus \$/ha	\$124.12	\$119.60	\$207.91	\$38.04	\$39.52	\$168.33	\$83.79	\$112.28
Highest Operating Surplus \$/ha	\$169.85	\$263.17	\$443.69	\$150.74	\$93.48	\$226.47	\$164.34	\$170.39
Lowest Operating Surplus \$/ha	\$95.27	-\$50.92	\$96.87	-\$43.54	-\$28.69	\$124.56	-\$16.74	\$90.56
Planfarm Bankwest avg op surp \$/ha	\$62	\$89	\$132	\$30	\$13	\$130	\$32	\$69.72
Change Bus Equity 06-12 \$M	\$6.92M						\$8.48	+\$1.56M

These top businesses generated on average \$42.56/ha more than the Planfarm Bankwest benchmarks Eastern Wheatbelt group every year from 2006-2012. At an average farm size of 5721 ha this translated into an additional \$243,485 pa of operating surplus.

The top operators were not however immune from operating losses with some farmers in this group experiencing operating losses in one or more of the years 2007, 2009, 2010 and 2011. On average 48% of the group's total 7 year operating surplus was generated in just two years, 2008 and 2011.

It is important to explain the difference between average operating surplus and farm profit.

Operating surplus = Farm Income less farm operating costs

Farm Profit = Operating surplus less;

- Finance costs (interest, fees and leases)
- Personal costs (as a proxy for owners wages)
- Machinery repayment costs (as a proxy for machinery depreciation)

In the 2012 year for the top performing group, finance costs were \$23.38/ha, personal drawings were \$23.37/ha and repayments were \$18.63/ha, giving a total of \$65.38/ha. This figure needs to be met from operating surplus before it can be considered that any profits have been earned from the business.

What did the poor performing businesses look like over the 2006-2012 period?

This question was answered by reference to Planfarm data for the twenty farm businesses with the lowest return on capital over the period 2006-2012.

Average farm size for this group over the period was 4201 effective ha, significantly smaller than the top performers above.

Average growing season rainfall, at 164 mm was almost identical to the top group (165 mm) while average summer rainfall at 66 mm was the same as the top group. Unlike the top performers,

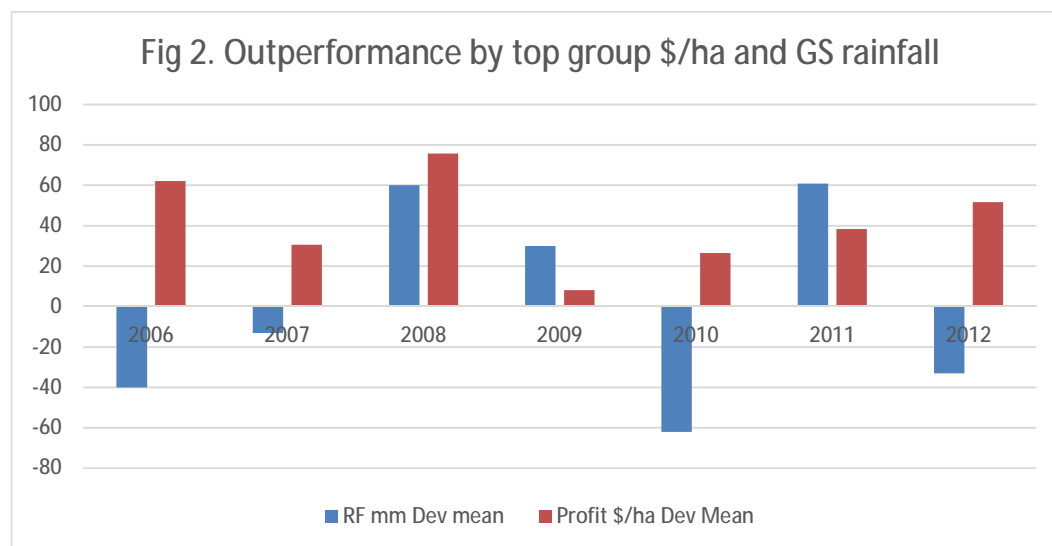
average wheat yield did not exceed 1.70 t/ha in any year and was below the average of the top group in every year irrespective of rainfall received.

Table 5. Rainfall, wheat yield and operating surplus 2006 – 2012 poor performing group

	2006	2007	2008	2009	2010	2011	2012	Avg
Grow Season RF mm	124	151	224	194	102	225	131	164
Summer RF mm	201	32	57	45	25	61	42	66
Effective RF mm – average	184	161	241	207	110	243	143	184
Effective RF mm – highest	211	207	245	243	137	276	179	201
Effective RF mm – lowest	153	101	182	184	88	192	111	165
Wheat yield t/ha – average	1.11	1.00	1.40	1.15	0.48	1.70	0.84	1.28
Wheat yield t/ha – highest	1.58	1.60	1.96	1.54	0.83	2.25	1.38	1.64
Wheat yield t/ha – lowest	0.74	0.33	0.78	0.71	0.19	1.38	0.42	0.86
Avg Operating Surplus \$/ha	\$24.20	\$71.58	\$107.60	-\$10.20	-\$32.75	\$104.84	\$35.14	\$42.92
Highest Operating Surplus \$/ha	\$80.88	\$210.04	\$189.25	\$57.07	\$2.29	\$150.84	\$121.37	\$64.45
Lowest Operating Surplus \$/ha	-\$16.01	-\$30.84	\$32.06	-\$60.71	-\$72.63	\$61.44	-\$60.01	\$23.50
Change Bus Equity 06-12 \$M	\$4.15M						\$3.51 M	-\$0.60M

The poor performing businesses produced an average operating surplus of \$42.92/ha across the seven year period. This compares to the Planfarm Bankwest benchmark average for the region of \$69.72/ha.

When comparing the outperformance by the top group as compared to the average of the Planfarm Bankwest benchmarks (Fig.2) it is clear that this was consistent across all seven years which included three poor seasons (2006, 2010, 2012), two average seasons (2007, 2009) and two good seasons (2008, 2011).



Common issues with poor performing farm businesses included;

- Lower grain yields on similar rainfall. The poorer performers were unable to use of growing season rainfall, as well as the most profitable group. This reduced water use efficiency

(WUE) was most likely due to a combination of less favourable soil types, more frost damage and management factors such as timeliness, crop husbandry etc.

- 78% income from crop v 84% for the top performers.
- 27% smaller in scale than the top performers
- An overly aggressive approach to expansion through lease or land purchase, mostly debt funded.
- 68% equity (@1.1.13) v 86% Top performers
- A higher frequency of operating deficits and their best years were well below the top performers. They were unable to make the most of the good years when they came.

What did the top performers have to say about themselves? - key findings of the farmer survey.

Australians in general and farmers in particular are notoriously low key about success. While you may hear plenty of bragging at the pub about crop yields, it is not considered good form to talk about how well you have done and it is very rare to hear anyone in country WA talking up their success.

This survey was designed to allow successful Eastern Wheatbelt farmers to anonymously express their views on farming and in particular what they saw as the key factors which had contributed to their success.

What the top performers enjoy about farming?

- The farming business provides good financial returns for the family
- The challenge of running and improving our own business
- The rewards that come from achieving results
- The satisfaction of running a family business
- Enjoy the planning and all aspects of growing crops
- Being a part of a small community
- The variety of tasks and responsibilities throughout the year
- The thrill of success – when it all comes together, it is very satisfying.
- The way of life
- Taking care of and improving soils and landscape
- Enjoy working with animals
- Working for myself/ourselves

What did the top performers enjoy least about farming?

- Risk and cost of failure
- Small margins
- At the mercy of the seasons
- Damage from frosts
- Attitude and negativity in the industry
- Lack of professional image for farming in the general community
- 24 x 7 commitment

- Not being able to see the sea!
- Difficulties attracting and retaining labour in more remote areas
- Office work
- Variability in grain prices

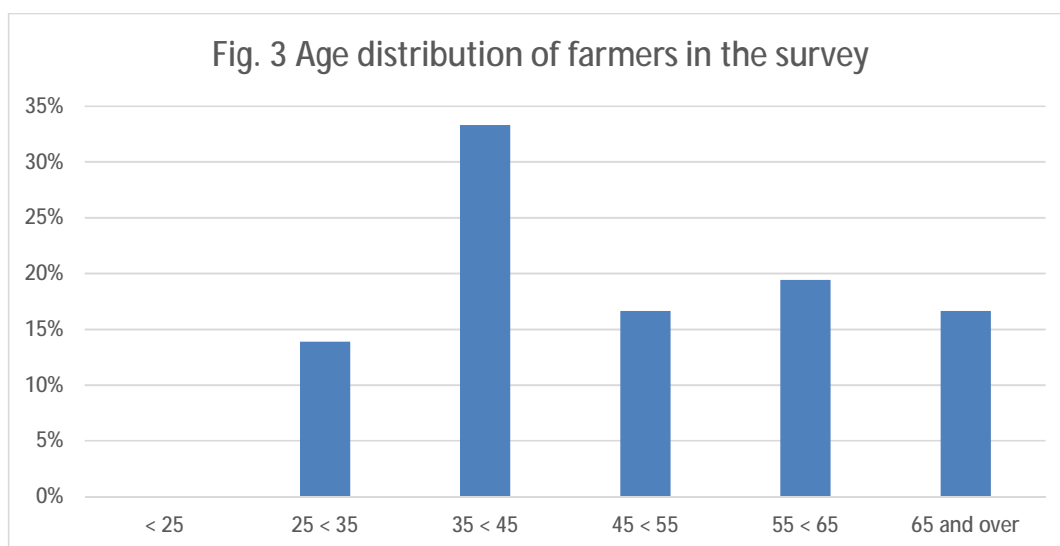
What did the top performers believe were the key reasons for their success?

- Attention to detail – near enough is not good enough
- Prepared to take calculated risks
- Getting the big decisions mostly right
- A passion for the business
- Low operating costs
- A conservative approach to debt but not afraid to use debt when genuine opportunities present themselves
- Prepared to look critically at what we do and learn from our mistakes
- Hard work
- Attitude
- Being organised and having a plan of where we want to be
- Keeping it simple
- Doing the job properly – no half measures tolerated
- Timing and preparation
- The discipline to stick to good management practices both financial and operational even in poor years.
- Commitment and focus
- Education
- Setting priorities and get the big things right
- Making well timed and well-priced land purchases
- Flexibility
- Work well as a team

Age distribution of surveyed farmers

The ages of the business partners actively involved in farming are shown in Fig. 3

One half of all those involved were aged less than 45. Exactly half of the businesses had two generations actively working on the farm.

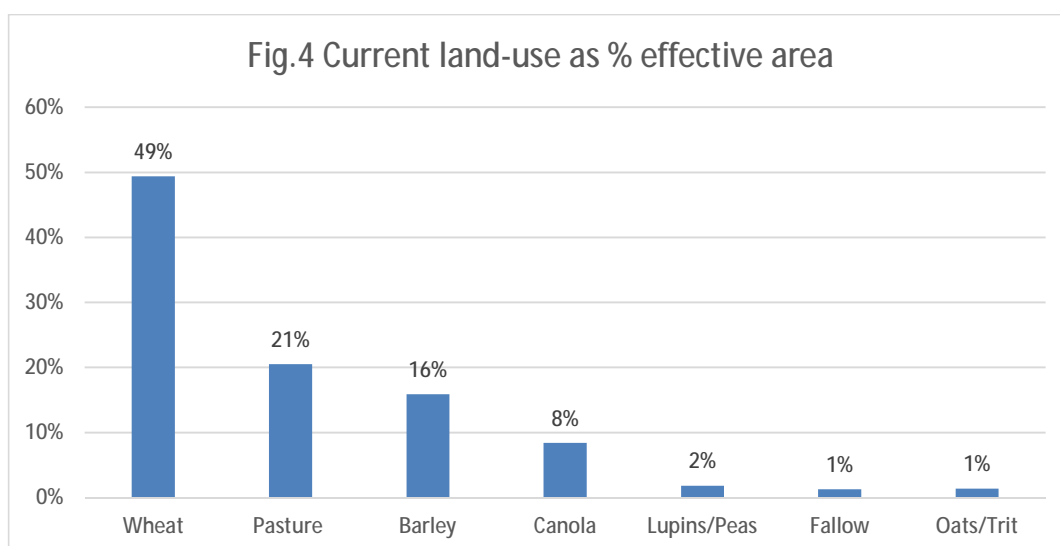


Did the top performers have better farms than average?

Survey participants were asked to rate the percentage of their farm area that they considered was better, worse or equal to district average soil types. Overall, the top performers considered their farms to be made up of 60% average country, 26% better than average and only 14% worse than average for the district. 11 of the 15 farmers considered that at least 80% of their farm was made up of average or better soils in comparison to their district as a whole. While it was not possible from this data alone to determine how the soils of the top performers compared to the overall district, there is an indication that the top performers at least thought their farms were average or better.

What about crop rotation?

Wheat was the predominant crop of the top performers in the low rainfall eastern wheatbelt taking up just under 50% of the arable land on average (Fig 4.). This was followed by pasture (grazed) at 20%, barley at 16% and canola at 8%. Lupins, Peas, Fallow, Oats and Triticale combined made up the just 4% of land use.



What percentage of the cropping programme is typically sown dry each year?

Dry sowing has been an effective strategy for bringing average emergence date forward and for improved crop emergence on marginal autumn rainfall events. On average the top performers sowed 24% of their annual crop dry ie. Before the opening rains. Only two did not routinely sow any crop dry.

Fertiliser applied to cereals and canola crops

The average P rate quoted by the participants was 8.6 kg P/ha and the average N rate was 28 kg N/ha. Average nitrogen rate does need to be considered in the context that many answered that in at least some years no additional nitrogen was applied post seeding.

When asked about their nitrogen application strategy, one third of farmers applied no nitrogen at seeding (other than that in the compound fertiliser) and 27% applied all of their nitrogen up front. The majority (40%) typically applied some at seeding and some post seeding.

Why did the top performers run livestock?

A surprising 80% of the most profitable farmers ran livestock, predominantly sheep. As livestock income was only a small proportion of total income we asked them why livestock were important to their farm operation. Their responses were;

- Due to the impact of frosts and lack of profitable pulse crop
- Additional income/work during the off-season
- Weed control
- To provide cashflow in poor years
- Enjoy working with livestock
- Opportunistic trading
- Complimentary to cropping enterprises
- Diversify income
- Important part of the rotation
- Have the skills and infrastructure
- Reduce risk
- Rotational benefits
- Sheep force me to make more conservative seeding decisions

Flexibility with the annual crop programme

Every dry land farmer wants a crystal ball to see what the coming season holds and adjust his programme accordingly. We wanted to see if the top farmers were flexible in their approach to the season and if they had any hard and fast seeding decision rules that gave them an edge when it came to the vital decision of how much of the programme to seed.

When asked if they routinely sowed all of their planned programme every year, 57% of those surveyed said yes, indicating that more or less the whole crop went in as planned each and every year.

When asked about whether they used any decision rules about when you would or would not commit to seeding a paddock, they provided the following responses.

- No strict rules – depends on season, soil moisture, gut feel (12)
- 15th June cut-off date (2)
- Last paddocks to be sown are weedy/frosty/lower yield, will be the high risk paddocks that get dropped if season starts poorly.
- Heavier Morrell country not sown unless min 15mm rainfall event
- High red country fertiliser cut right back – must be sown no later than 24 hrs. after rain.

Interestingly while there were a couple of farmers whose records showed they made significant reductions in their cropping area in dry years such as 2006, 2007 and 2010, no one did this consistently across all dry years and the group averages gave no indication that the top performers owed their success to being able to reduce crop areas based on seasonal conditions at seeding. As expected in most years, most of the crop was sown with only a limited number of marginal paddocks being left out if opening rains were late.

What did they believe was the greatest impact on their business?

It is our anecdotal experience that successful low rainfall farmers are particularly good at minimising losses. Their low cost structure ensures that they experience fewer loss years and they seem to be adept at minimising the size of losses in poor years at least in comparison to the average farm business.

So we asked the top group which they saw as having the most impact on their business – good performance in the poor seasons or in the good seasons. The answers were as follows with several people indicating both as their answer.

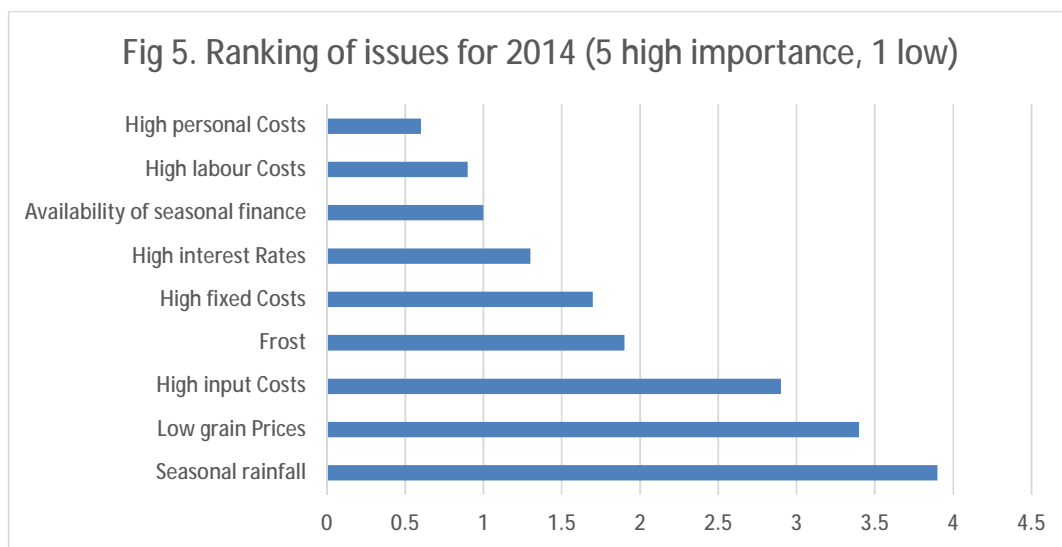
Avoiding or Minimising losses in poor years	Making every post a winner in good years
11	8

What was their biggest concern with respect to their business at the present moment?

- Debt & Continued access to seasonal finance (3)
- High input costs relative to returns (2)
- Exposure to risk – undiversified asset base (2)
- Health
- Availability of good seasonal staff (3)
- Burnout – taking on too much
- Complacency
- Seasonal rainfall trends (5)
- Motivation

Looking at the coming year what are the major threats to your business?

Participants were asked to rank the following issues in order of importance to them over the coming year, 2014 with 5 being most important and 1 the least important. The results are shown in Fig 5.



How would you describe your financial management skills?

The top performers are as a group good financial managers with 93% indicating they always spend less than or no more than 5% over budget.

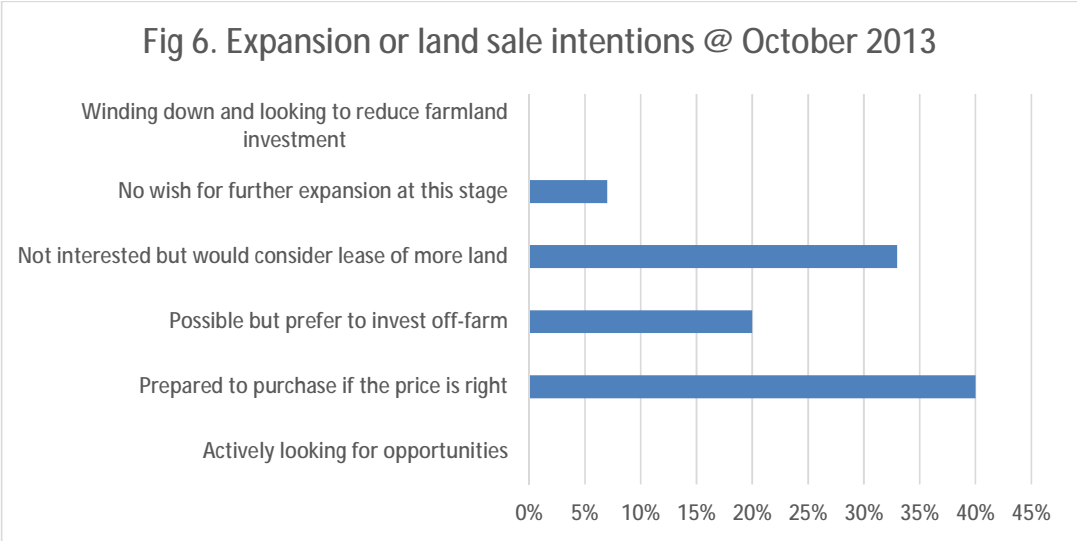
Always spend less than budget	22%
Usually spend within 5% of budget	71%
Usually find actual expenditure exceeds budget by >5%	7%

What do you do differently to district practice?

- Deep ripping, no knife points, don't skimp on fertiliser
- Run more sheep & lend money to the bank
- Run more sheep, trade livestock, prepared to travel to lease land
- Run more sheep, work harder, maintain infrastructure
- Run more sheep, prepared to reduce crop area if season not promising
- Livestock, work harder, use casual labour not full time
- Own grain cartage, on farm storage, no legume crops, ruthless with summer weed control
- No legume crops, consistent summer weed control
- Concentrate on doing everything as well as it can be done. Avoided canola in two poor years.
- Attention to detail. Avoided the temptation to expand at all costs.
- No dry seeding, use mostly casual labour, lupins, store more grain on farm for sale later.
- 100% contract spraying, RTK guidance to seed in furrow year after year – gets crop emerged on less rainfall, more barley (on good country).
- More dry seeding, more soil testing and more lime.

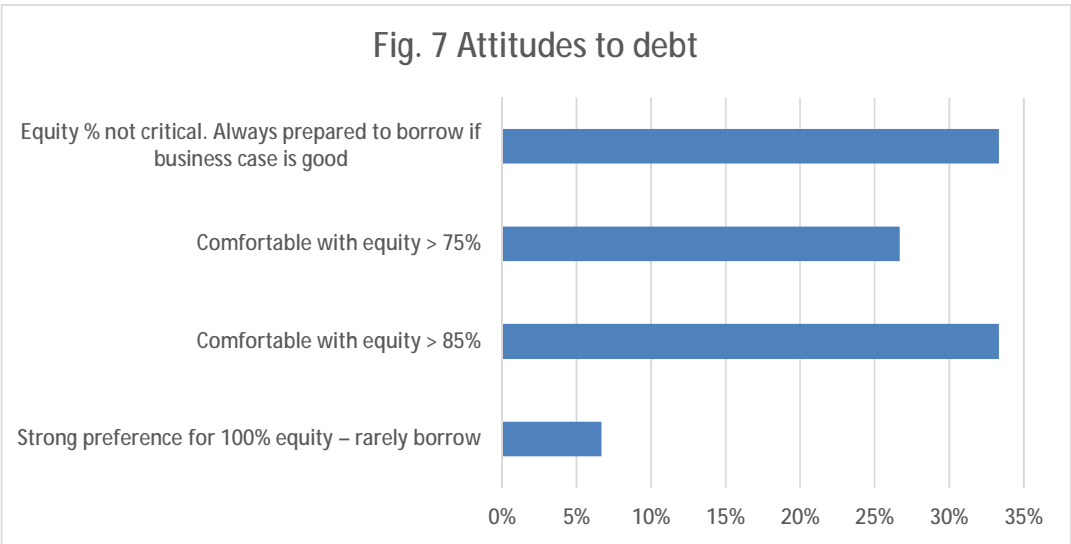
What sentence best describes your attitude to purchase of additional farmland in your district within the next three years?

Over 70% of the survey group were interested in expansion via lease (32%) or purchase provided the price was right (40%). At the time of interview (Oct 2013) no one was actively looking for expansion opportunities. The balance had no wish to expand at this stage or would prefer to invest off farm.



Attitude to debt.

Each farmer was asked “What sentence best describes your attitude to debt? The responses are shown in Fig. 7.



What do you see as important to improving the profitability of farms in your region?

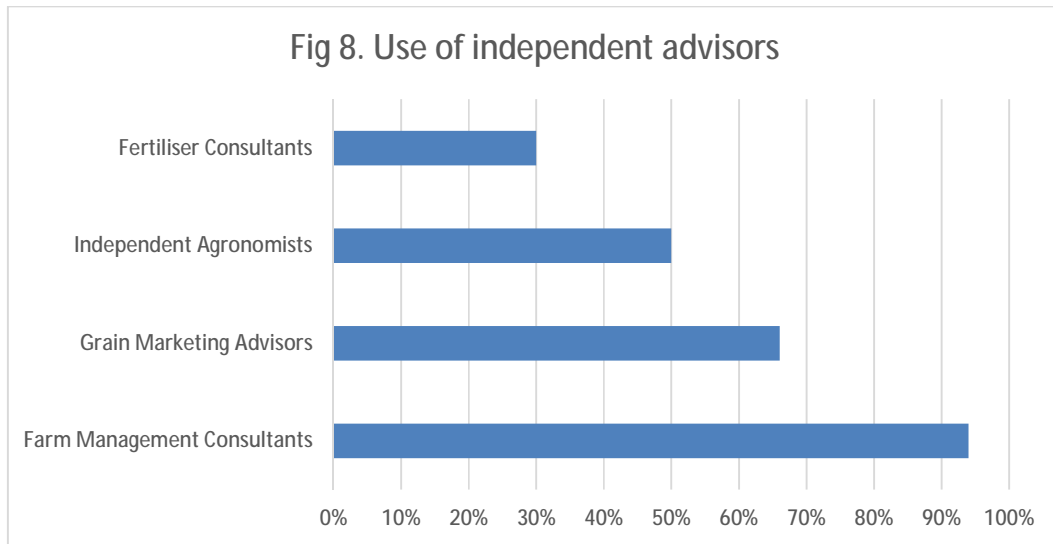
- Innovative ways of moisture retention
- Drought tolerant crops/varieties (3)
- More rain, more consistent (4)
- Better prices (2)
- Lower input costs (2)
- Recognition that this is a low rainfall region and needs to be farmed accordingly
- Grazing crops for frost management
- Improved road and rail infrastructure
- Anything that improves water use efficiency
- Improved adoption/education of business management principles especially risk mitigation
- Improved information sharing
- Improved farm management skills
- Improving soil pH
- Reduce business compliance burden – time and cost
- Tax concessions for farm businesses

Describe your weed control strategy

- Remove summer weeds (5)
- Balanced crop rotation – control grass in pasture/canola/lupin phase (9)
- Selectively windrow and burn (2)
- Chemical fallow every 4-5 years
- Spend what is needed – no restrictions.
- Weed diary kept in header to make notes for following season (2)
- Take no prisoners approach. Bad weed paddocks into YiYo or Pasture+Canola (2yrs)
- Use good robust rates – no shortcuts (5)
- Don't crop paddocks that are not clean
- Keep numbers under control
- Prefer to spray early on small weeds

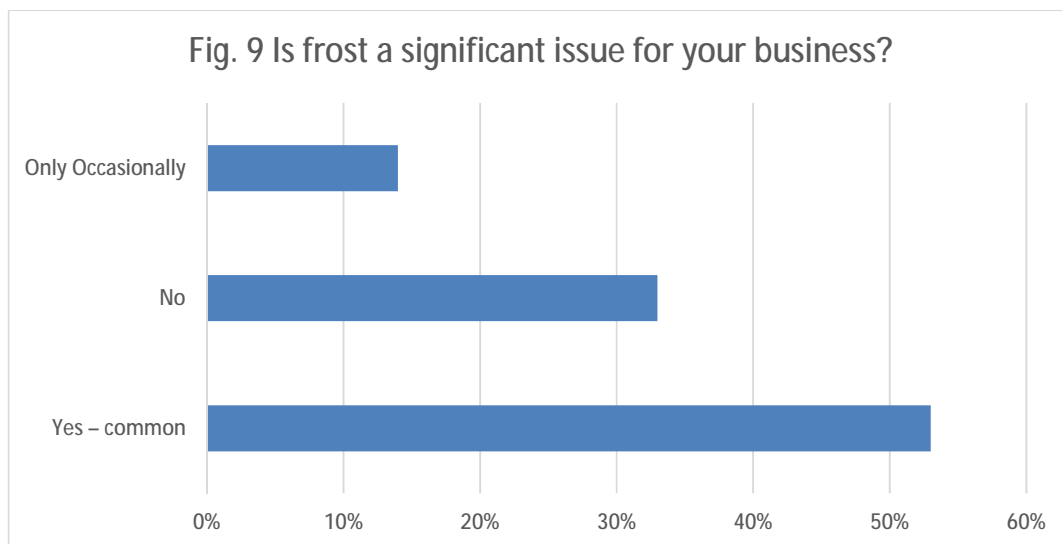
Use of external advisors

One of the key success factors is the capacity to look critically at your own operation and seek advice on ways in which improvements can be implemented. While the survey sample is biased by virtue of how farmers were selected – predominantly clients of farm management advisory firms, a significant percentage of the top performers also employed agronomy, fertiliser and grain marketing advisors (Fig. 8).



Is frost a significant issue to your farming business? And if so, how do you manage it?

Frosts are a regular occurrence in Spring in the EWB. Coming late in the season their impact can be devastating and while there are management options available including some promising work on grazing crops, as yet there are no sure ways to protect a crop from a bad frost over the flowering and grain fill period. We wanted to know how significant frost was for the most profitable farmers (Fig. 9) and how they managed it.



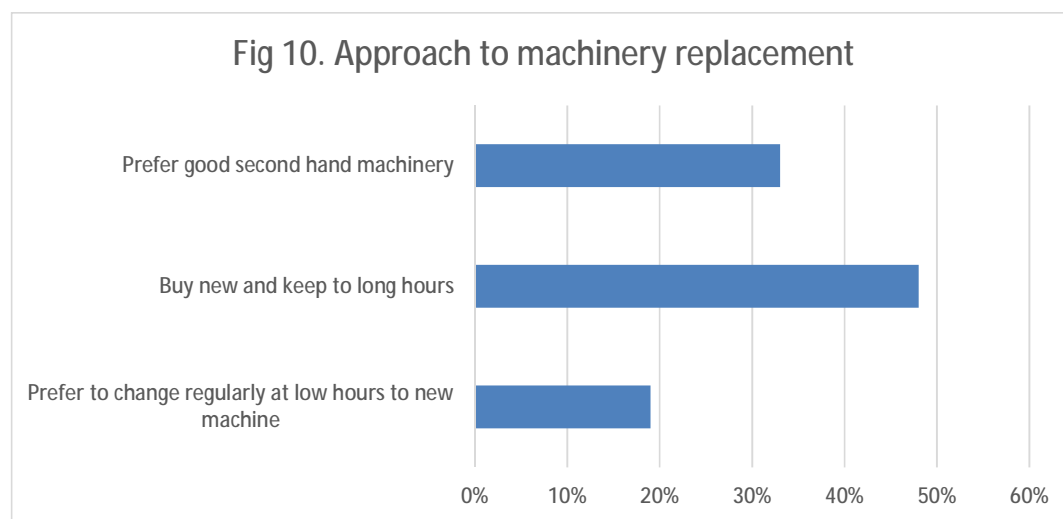
Management practices employed included;

- Prayer (2)
- Delayed seeding (but not sure it works).
- Sheep and pasture in the rotation (4)
- Less N upfront and less total N
- Susceptible paddocks sown to barley – not all at the same time (2)

- Susceptible paddocks never sown to just one variety at one time.
- Care with crop + variety choice + seeding dates on susceptible paddocks (5)
- Aim to finish seeding where you started from with frosty or weedy paddocks
- Sow oats on susceptible paddocks
- Shandy of varieties in frost prone paddocks

What sentence best describes your approach to machinery replacement?

Machinery costs are a major component of farm profitability so we wanted to know how the most profitable farmers tackled this cost and their philosophy regarding replacement machinery (Fig 10).



A number of farmers indicated more than one answer depending on the specific item of plant, with a preference for keeping harvesters and vehicles relatively new while being prepared to keep tractors, seeding equipment and sundry support gear for longer periods.

What are the areas where you have had the most success at reducing costs in recent years?

- Reduced Fertiliser rates (8)
- Reduced herbicide and fertiliser prices by better negotiation and out of season purchases
- Machinery HP – kept for longer (4)
- Machinery repairs – do it ourselves (2)
- Move all heavy vehicles to seasonal licences
- Herbicide costs reduced – continual crop
- Herbicide costs reduced – wider points
- Herbicide costs reduced – due to canola and (cheap) fallow.
- Contract spraying
- Seed costs – rationalise uptake of new varieties
- Use backpacker labour for house duties, wife works as seasonal labour at busy times
- Repairs/fuel and personal costs all kept low as a result of scale.
- Machinery costs – aim to be in financial position to upgrade in poor seasons and willing to walk away if suitable deal not on the table.

What steps do you take to protect your business from the impact of poor seasons?

- Off-farm investments – prepared to sell if needed (has not happened yet)
- Vary crop areas depending on seasonal prospects
- Use FMD's in good years (3)
- Conservative approach to debt (3)
- Investing in soils – lime, deep ripping.
- Shut the cheque book – reduce spending (8)
- Low cost structure
- Contracting or off-farm work (2)
- Off-farm business
- Keep two years supply of hay/feed grain for stock enterprise/trading opportunities
- Be prepared to make the most out of livestock opportunities

What did the researchers and extension experts have to say? – Key findings

A workshop was held to canvass ideas of leading researchers, consultants, extension staff and farmers in the region. The aim was not to deal with the problems but to brainstorm current and future practices which can lift profitability and sustainability in the region but are not yet widely adopted.

Responses to the question of what current technology or practices could be more widely adopted to improve the profitability of farming in the Eastern Wheatbelt are summarised in Table 6.

Table 6. Currently available technology or practices that could be more widely adopted and result in short and medium term improvements in profitability in the EWB.

Practice	Improve WUE	Lower Costs	Benefit
CTF - Assuming autosteer already used	Yes	Yes, fuel, machinery and labour via allowing lower HP and higher speeds	\$30-\$50/ha crop
Variable Rate Technology with yield mapping	Yes	Yes via reducing inputs to low performing areas and avoiding lime application where soil pH is above 5.5	Benefit is via targeting inputs for maximum economic response. Can be \$10-\$40/ha crop.
Liming	Yes if pH is restricting root growth and you can get the lime down to the problem zone.	No, overall higher costs although P rates can often be reduced where pH is the limiting factor.	Lime is expensive in the EWB at \$80-85/ha on paddock for 2t/ha. VRT combined with accurate soil pH maps provides opportunity to target greatest benefit/cost.
Autosteer – <i>widely adopted already.</i>	No	Yes, fuel, fertiliser, chemical	\$7-\$10/ha crop
In furrow seeding	Yes potentially via better emergence in dry autumns	No if already autosteer	Effectively a time of seeding benefit – can be from \$0 - \$100/ha crop depending on season.

Table 6 (cont.) Currently available technology or practices that could be more widely adopted and result in short and medium term improvements in profitability in the EWB.

Practice	Improve WUE	Lower Costs	Benefit
Weed-it or weed-seeker technology	Yes potentially via making fallow more cost effective and via making summer weed control less expensive	Yes via reducing herbicide usage. Common to find 80% reduction in area sprayed. But beware – manage herbicide resistance.	Main benefit is in fallow paddocks and summer weeds so benefit depends on % fallow and current weed management of summer weeds. Can save up to \$10/ha crop across the whole programme.
Dry seeding	Yes by moving the date of latest sown crop forward	Yes – allow more hectares to be sown with existing machinery providing economy of scale	Time of sowing benefit as the last crop is sown earlier. Needs good weed management and \$/ha benefit depends season and frost.
Fallow	Possibly via improved PAW depending on soil type	Little reduction over the rotation and often can be an increase in chemical costs over the rotation.	Lower weed seed numbers, improved soil N, lower seasonal risk. Cost is lower overall grain yield across the rotation including the fallow phase.
Harvest at higher moisture contents above 12.5% MC combined with aeration and blending	Yes via lower harvest losses. Yield reduces at 0.5% DM per day delay in harvesting#	Yes via better utilisation of machinery. Shorter harvest period	Grain quality improved due to less exposure to weather. Most growers already do some form of harvest moisture management via blending.
Focus on efficiency	Not directly	Yes – prospective areas include fertiliser, labour, machinery, fuel.	Will vary for individual farms. Need for clear benchmarks to allow performance review at the individual farm level.

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When asked about what developments they saw as offering potential in the future e.g., blue sky, the workshop participants provided the following responses;

- Continued innovation in technology which is reducing dramatically in cost. Examples mentioned included;
 - Remote sensing and soil moisture sensing to provide cheap reliable information to assist with strategic and tactical management decisions.
 - Further advances in robotics for labour saving including driverless tractors and robotic weed destructors.
 - Advances in seeding technology allowing greater speeds and exceptional productivity per labour unit and per \$ of plant/machinery investment.
- Advances in breeding with early sown frost tolerance being the holy-grail offering significant yield benefits in frost prone paddocks.

- Finding uses for the marginal land through new crop species. There is a considerable portion of farmland which is currently of low productivity primarily due to soil constraints which are currently considered too difficult or expensive to correct. e.g. shallow soils, soils that are naturally acidic, difficult heavy textured soils etc. Turning these areas from a cost to a benefit would be a major boost to the region. Adoption of new crop species may provide an opportunity to do this. For example; Switch grass (*Panicum virgatum*) a hardy perennial grass which has shown good potential as a low cost biofuel.
- Further research and improvements in water harvesting to de-risk the cropping operation.
- Corporate farming offering contract farming opportunities to existing operators. Benefits would include allowing the farmer to use their machinery and skills to earn a portion of their annual income from a business which is not tied to seasonal conditions. In turn investors/corporates secure grain supply and gain exposure to farm business operations using experienced local contractors, without the need to employ staff or outlay capital on machinery.
- Improved seasonal forecasts. Although it presently looks likely that only incremental improvements will be made in this field, we can't discount the possibility with new technology and advances in computer power and modelling that a break-through will occur. Having seasonal forecasts which were reliable enough to base management decisions on would transform the region by greatly reducing losses in poor seasons.
- The potential for the long term trend of declining real grain prices to reverse as has been seen for many other commodities over the past ten years. There are indications that this is happening although many who have been in the industry a long time are not holding their breath.

When asked what they believed were the key success factors for individual farm businesses in the region a wide range of responses were provided however the following were the most common.

- Running a low cost/low risk operation
- Having above average business management skills
- Gathering and assessing available information before making major decisions
- Critically looking at each aspect of the business
- Monitoring, analysing and a commitment to improve

What might farming in the EWB look like if profitable changes are made?

We have looked at the full range of profitability currently being produced in the EWB from the low to the high. What is clear from this review is while the top performers are well ahead of average, even the financial returns they have produced over the past seven years have by no means been exceptional reward for their work and risk involved. This being the case, clearly the average farmer in the region has not been able to generate adequate returns over this period.

With rainfall in apparent decline, something urgently needs to change. This report may not provide answers that suit or are palatable to all, however the ideas and concepts raised are not just of academic interest. The problem is real and while we all hope for more rain and higher prices, the reality is that businesses cannot survive and prosper on hope alone.

In the short term what will change and has already been happening is that land prices will adjust to reflect the investment returns on offer.

In this part of the study, we ask the question;

“What could the profitability look like in the EWB if existing management practices and technology identified above were more widely adopted?”

To do this we have developed a financial model based on the top performing group. This model identifies each of the income and cost components of a well-managed EWB farming operation.

We know from our top performing farmer survey that a strong business in the region needs to;

- Have a low break even yield at average grain prices
- Be able to capitalise on good seasons/prices when they happen
- Be conservatively geared to cope with the inevitable poor season.

So before looking at what may be done at the individual farm level to move towards these goals it is worthwhile looking at the top EWB farm businesses to see where the costs lie and what magnitude of change might be required.

The financial model – top performing EWB farm.

The key assumptions in this model are based on the averages for the top performing farmer group and are detailed in Table 7.

Table 7. EWB Financial model – key assumptions

<u>Farm area</u> (effective ha)	6200 ha
<u>Land Use</u>	
- Wheat	4100 ha (50%)
- Barley	1000 ha (16%)
- Canola	500 ha (8%)
- Pasture for stock	1250 ha (20%)
- Balance (fallow, oats, unused)	350 ha (6%)
<u>Grain prices</u>	Based on current 5 yr. averages
- Wheat	\$295/t FIS
- Barley (part malt/feed)	\$280/t FIS
- Canola	\$540/t FIS
<u>Grain yields</u>	Based on group averages
- Wheat/Barley	1.50 t/ha
- Canola	0.70 t/ha
<u>Sheep enterprise</u>	2 dse/pasture ha and net margin of \$35/dse
<u>Chemical costs</u>	
- Wheat/Barley	\$42/ha crop
- Canola	\$50/ha crop
- Pasture	\$6/ha pasture
<u>Fertiliser rates</u>	
- Phosphate	8.5 kg P/ha crop
- Nitrogen	28 kg N/ha crop
- Lime	2t/ha across 7% of the crop area annually

<u>Fertiliser prices</u>	Current list prices plus freight to farm \$30/t less typical discounts \$30/t
<u>Input costs</u> Labour, Fuel (net of DFR), Repairs	As per average for top performing group
<u>Freight costs (grain)</u>	\$23/t CBH bin to port \$3/t paddock to bin – assuming 33% is carted contract, balance carted by farmer.
<u>Levies and recieval fees</u>	Levies @ 1.02% Net farm gate prices + \$0.30/t BAMA CBH recieval fees - \$10/t wheat, \$11.30/t barley, \$16.40/t canola less 2% prompt payment discount
<u>Seed costs</u>	Net farm gate value of grain kept for seed + EPR costs on grain delivered for sale + grading/pickle.
<u>Overhead costs</u> Admin, insurance, power, professional fees, shire rates, licences	As per average for top performing group
<u>Non-operating costs</u> - Drawings - Finance costs - Depreciation costs	As per average for top performing group As per average – includes costs of farmland leased. Based on 8% pa of plant/machinery market values.

In preparing these calculations we have also made the following general assumptions.

1. Soil fertility must at least be maintained over time. The implication being that any system that applies less than maintenance levels of the major nutrients over time is not sustainable in the long term. This is not to say that savings or efficiencies cannot be found in the area of fertiliser costs. These can come from better efficiency or recovery of applied nutrients. In fact the majority of the top performing farmers in this study had already reduced fertiliser rates in recent years to more closely match realistic yield expectations.
2. Soil acidity is a major issue for the region and any financial analysis needs to make allowance for some investment in correcting this problem. Many farmers are attempting to fund their liming programme out of the existing fertiliser budget by cutting back particularly on P fertiliser rates. This has some merit but needs to be applied with care and based on good soil test and pH data. The majority of the top group have applied lime to varying extent in the past ten years.
3. Drawings are based on actual drawings in the top performing group which at \$21.50ha amount to \$133,000 pa. In arriving at this figure where a business has more than 1 family on the farm we have deducted from drawings an amount of \$60,000 pa and added this to farm wages so effectively the figure of \$133,000 reflects combined family drawings less a notional figure of \$60,000 for the extra labour unit. While some may see this as high, it should be seen in the context of education costs of \$30,000 pa per child, and what would need to be paid to employ a top manager in this position.

What does the model tell us?

The major components of profit as calculated by the model are detailed in Table 8. For further details on profit calculations in the model refer to Appendix B.

Table 8. Components of farm profit in the Eastern Wheatbelt and impact on average farm profit

Component	Value of 10% improvement	Impact on average farm profit
Income components		
Grain price	\$30.67/ha	+64%
Grain yield	\$27.81/ha	+58%
Sheep margin or dse/ha	\$1.41/ha	+2.9%
Expense components		
Fertiliser cost	\$5.05/ha	+10.5%
Freight and post farm gate	\$4.01/ha	+8.3%
Labour, contract and drawings	\$3.80/ha	+7.9%
Plant repairs & depreciation	\$3.56/ha	+7.4%
Weed and pest control	\$3.30/ha	+6.8%
Overhead costs	\$2.37/ha	+4.9%
Finance costs	\$2.33/ha	+4.8%
Fuel costs	\$1.65/ha	+3.4%
Seed costs	\$1.29/ha	+2.7%

In calculating these values we have assumed that there is no additional cost to achieve the 10% improvement other than in the case of grain yield where we have allowed for cartage and post farm gate costs to get the extra grain to port. In many cases this is unrealistic however savings generated from improved efficiencies need not necessarily be costly to implement and some are even free.

It should also be pointed out that the impact on farm profit of a 10% improvement in each case is based on the average top performing profit over the 2006-2013 period of \$48/ha (after all costs including family drawings, finance and depreciation). For the average EWB these % increases would be substantially higher as they currently earn much lower profits than the top performers.

Let's look at each of these components in the context of implementing some of the practices identified in Table 6 and how that might lift overall profitability.

Grain price

Many producers understandably feel that grain pricing is beyond their control and the large swings in prices of recent years have only reinforced this view. Fortunately the trend in grain prices has been upwards over the 2006-2013 period and we may well see this continue although no doubt with plenty of peaks and troughs along the way. However there are some management practices that do have proven impact on overall grain price and are of little or no cost to implement. These include;

- Practices that improve grain quality such as
 - o Earlier harvesting
 - o Fallow and VRT offer potential to reduce screenings by more PAW at grain fill and by less nitrogen on poorer yielding regions of paddocks.

- Good grain marketing practices.
 - o Maximising the value of what you sell by knowing where the market is and taking advantage of opportunities as they arise e.g. deferred delivery using existing on farm storage and back-loading lime or fertiliser.
 - o Adopting a professional approach to the marketing task. This includes having a strategy, sticking to it and promptly optimising and nominating contracts.
 - o Niche markets. As an example, there is often value in holding additional seed which will regularly demands a premium at seeding. While tonnages are not large, the premium can be as high as \$50-\$60/t due to nil freight, storage and handling and levies.
 - o Using the most appropriate grain marketing product for the time. E.g. pools, cash, swaps etc.
- Best practice harvest management
 - o Good grain hygiene practices
 - o Preparation of bins and silos
 - o Engagement and instruction of contractors and carters.
 - o Correct header set up for the conditions

So while a 10% price lift may seem a high target, there is most likely 5% on the table at minimal cost for those who devote the time and attention to detail into their grain quality and the marketing of their grain. A mere 5% improvement in grain prices would deliver a large 32% lift in farm profit even based on the relatively high numbers of the top performers. Better still it may well require minimal investment to achieve, other than a commitment to adopt best practice for your harvesting and marketing operations. Definitely fertile ground for many farmers to consider.

Grain yield

The \$27.81/ha lift in profit shown in Table 8 from increasing grain yield by 10% assumes you get there as if by magic at no additional cost using existing inputs and getting the same average seasonal rainfall you have been. While this would be nice, I don't know any EWB farmers whose management is so far off the pace that they can pick up 10% grain yield on average at no cost. So this 10% target is going to require some investment.

From the management practices identified in Table 6 above, two stand out as most useful for lifting grain yields.

We are talking here about lifting grain yield in the context of lower rainfall (is it stable yet or still declining?) so it is no easy task. To get there we need to improve water use efficiency and the two practices most likely to assist with this are CTF and Lime, both of which offer the prospect of improving the amount of plant available moisture by making the root zone a friendlier place for root growth. CTF by reducing compaction and lime by increasing soil pH.

Both practices work well and offer good economic returns BUT...

- They will require investment. Ball park, lime at around \$85/ha for 2t/h applied without any cost for deep incorporation. CTF varies but for someone already on auto-steer it can be relatively inexpensive to modify gear to get most of the benefit.

- The pay-off in terms of yield/water use efficiency are not immediate so the payback period may be some years, especially if you are trying to correct sub-soil acidity.

The way to approach these decisions at the farm level is to know exactly what your soil limitations are. That way CTF benefits can be assessed in the light of your own circumstances and lime can be targeted at those paddocks with the largest yield response and quickest payback period.

In the case of lime, to get a more immediate return on the high cost investment, some incorporation is required. In the low rainfall environment, movement of lime down the profile can be very slow. With precision seeding, deep banding of lime may be an option to open up a new zone of root growth. Rather than 2 t/ha spread across the whole soil surface, how well would 100 kg/ha banded in furrow from 0 – 15cm work? Maybe the type of lime would need to be different? Maybe seeding would need to be offset slightly. The benefits of lime are large, the costs also – looking for cheaper ways would seem a worthy topic for farm trials.

In some cases, I have no doubt that there will be whole farm yield responses available to both lime and CTF well in excess of 10%. For others the benefits will be restricted to just certain paddocks as not every paddock in the EWB suffers from both low pH and soil compaction.

The other practice that also offers potential to lift yields via improved water use efficiency is fallow. While fallow is popular in the Northern Wheatbelt it is not widely adopted in the EWB possibly due to a greater incidence of duplex soils which are known to be less responsive to fallow. However on soils which are responsive, fallow offers not only better WUE but also reduced risk because crops sown on fallow have higher PAW and less risk of crop failure in any one year. In very dry years (less than 120 mm) we often observe overall WUE to be very poor because total growing season rainfall is just too low for normal crop growth. If the 120 mm of GS rainfall can be supplemented by 30-40 mm of additional stored moisture from fallow, not only will yield be improved because of higher PAW but WUE will also improve – in effect some of the water which was not well utilised in the dry season gets carried forward to be better utilised in the next season.

While fallow does require careful management to avoid glyphosate resistance, many operators in the EWB also have sheep so there is the opportunity to do a “fuzzy fallow” which provides good seed-set control, some grazing and some stored moisture benefit.

Given the investment required, the fact that not all paddocks are responsive to lime, CTF or fallow and that responses are seldom immediate, my best guess is that by wider adoption of these techniques we could see a net 5% gain in grain yield – assuming growing season rainfall does not fall further.

Costs

Why costs are important. Poor seasons happen regularly in the Eastern Wheatbelt and it is fair to assume they will continue to do so.

Those businesses with high break-even yields experience more loss years than their neighbours with lower break-even yields. Loss years are not just financial events. They are stressful for farmers, their families, workforce, suppliers and communities. This stress is not only difficult for those involved but a deterrent to attracting the next generation back into the business. While farming has some

definite lifestyle benefits, so too does working for a multinational oil company or building your own business closer to good schools and the coast. The next generation of future farmers are in the main well educated and certainly not without career choices. A farming system which reduces the number of loss years will help retain and attract the next generation of farmers in the region.

It is our belief that the frequency and severity of loss years is equally as important as the overall profitability achieved across a period of time.

Quite simply, adjustments to the business that lower overall break-even yield reduce pressure by ensuring that losses occur less frequently and are less severe when they do happen. The peace of mind of going into a season knowing that you can comfortably withstand an average wheat yield of 0.8 t/ha versus knowing that you need 1.4 t/ha just to break-even, is worth a lot.

While grain price and yield swamp all other components of farm profit, increasingly farmers are looking to savings they can make across the whole range of farm costs. The attraction of doing so is fourfold.

- Firstly a dollar saved is a dollar you do not need to earn
- Secondly in an environment of declining rainfall it is not unusual to see years where there is no response to crop inputs. For example response to P and N fertiliser in 2006, 2007, 2010 and 2012 on many EWB farms.
- Savings often do not involve any additional investment. They are free!
- Savings carry-on each year. The saving stays no matter how much rainfall you get.

Let's look at each cost component in turn.

Fertiliser

If we could improve fertiliser efficiency by 10%, there is \$5.05/ha on the table and that translates into a 10% improvement in farm profit for the top producers and even more for the average EWB farmer.

So by a 10% efficiency gain we want the same crop yield using 10% less fertiliser. Impossible? I don't think so, and many of the top producers told us that reduced fertiliser rate has been their major cost saving in recent years.

With respect to the technology and management practices to help achieve this the following offer the best prospects.

- Autosteer – widely adopted by the top performers and also common amongst the wider EWB farming community. Provides cost savings via reduced overlap of 4-7% plus less operator fatigue and opportunities for good paddock data.
- VRT. Putting more fertiliser or lime where it is needed most and less where it is not required. Many farms have paddocks or more commonly parts of paddocks that are just prime land – they deliver the grain good year and bad, they germinate on less rainfall and hang on during the dry spells. On the other hand, that stoney rise or shallow gravel country that struggles to go 1.5 t/ha in a good year and will fall over completely in a dry year. VRT lets you treat both soil types as if they were in completely different paddocks. In practice you may well find the

poor performing area has excess phosphate due to years of over-fertilising for the production, while the better country needs a bit more. VRT can be expensive to implement but there are also well established ways of getting most of the benefit for a very modest cost.

In addition to the above techniques, there is plenty of information to be gained by doing your own trials. With yield monitors and autosteer it is very easy to do some solid replicated paddock trials, which will give you annual feedback on whether your current fertiliser regime is close to impacting on yield or still well in excess of requirements.

Freight and post farm gate costs

It will surprise some people to learn that their second highest expense involves what happens to the grain after it leaves the paddock. In this category we have;

- Grain freight from the paddock to the bin (66% of the total)
- CBH grain recieval and handling costs (26% of the total)
- Federal research levies and BAMA levies (8% of the total)

Grain freight is high due to the distances involved, while both CBH fees and levies are standard across the wheatbelt.

While it is difficult to see a 10% decline across all three areas, we have just this year seen CBH provide investment and operation rebates totalling over 14% which were used to reduce grain recieval fees.

In the grain freight area there can be some savings involved in back-loading although this is a limited tonnage due to on-farm storage. Often the grain is stored short term in the fertiliser shed so logistics can be difficult. Good paddock grain handling equipment and paddock access will also help price negotiations with your grain freight contractor.

Labour/Contract/Drawings

The third largest cost of grain growing in the Eastern Wheatbelt is labour including owners drawings. Before we look at the opportunities here, I should make a comment about owner's drawings. In our consulting role we see a wide range of family drawings. Some folk live cheaply, some less so. In this study we have taken the view that a grain growing business in the EWB if it is to be viable, must be capable of paying the owners a commercial salary for the job they do. Some owners will no doubt say, they don't need the amount we have costed for drawings, however we don't believe that paying yourself less is the first place we should be looking in order to improve profitability.

While a 10% improvement in this cost component will only increase profit by \$3.80/ha, this cost can be greatly impacted by scale and efficiencies. In general the family farming operation in the EWB gets good efficiency of labour. The average labour component of the top performers was 2.6 Full Time Equivalents plus some contract work.

We do however see a wide range of performance in terms of farm income per labour unit and operating surplus per labour unit. The top operators are great logistics managers and have their

labour well matched to crop area. At the individual farm level, if your labour/contract/drawings are well above average per ha, the options include;

- Leasing more land
- Contract work to use a full-time labour unit that is underutilised.
- Auto-steering reducing operator fatigue

Plant repairs/depreciation

The key to driving efficiencies in this area is having machinery well matched to the scale of operations or vice versa.

Autosteer and dry seeding are two management options to assist with reducing this cost. Autosteer by improving the hectares seeded per hour and dry seeding by expanding the area that can be seeded with a given investment in machinery.

Investment in removing fences and strategic trees will also improve efficiency in this area.

At the individual farm level, farmers have existing machinery and a certain amount of available land. It is usually not desirable or practical to downsize the cropping plant so the most common way to reduce plant repairs/depreciation is to increase the area sown each year. There are two ways this is typically done;

- Leasing more land
- Increasing the percentage of farm under crop

Two less common options which may be worth considering include;

- Sharing machinery
- Contract farming

Sharing machinery could at least in theory allow 2 or 3 farmers who had spare capacity to work together using perhaps 50% or 60% of their combined plant. Surplus plant could be sold to reduce overall farm debt, further increasing farm profit.

While this would require some thought to work out the detail, it does have potential given that dry seeding, auto steering and increased size of seeding and spraying gear means that some farm businesses in the EWB have excess plant capacity and could handle significantly more crop area.

Contract farming is where an investor buys land or more likely leases land and plants a crop using full contract labour. The investor gets financial exposure to grain farming and physical control of the grain at harvest. The contractor gets a set income for performing the operations and managing the cropping business of the investor. It's major attraction to EWB farmers is that it provides a source of income unaffected by seasonal conditions, that is an income line in the cashflow that won't be significantly reduced by lack of rain. The investor gets good skills and timely operations without needing to employ staff or invest in machinery.

While this is not common in the EWB, it may be something that develops with increasing overseas interest in WA agriculture and a shortage of good farm managers/operators on the ground.

The other aspect about driving efficiencies in both labour and machinery is that farmers are great innovators and adopters of technology. The most successful are also often great logistics managers – they are organised and productive. If an EWB farmer did an audit of his or her business and concluded that the best and maybe only way to dramatically reduce costs was to be 50% more efficient in plant and labour costs, I would bet that many of them would just find a way to do it.

Weeds

Weed control costs per hectare across the wheat-belt have been stable over most of the survey period from 2006-2012. However in the last year or two, costs have started to climb as new more expensive chemistry has been adopted for both grass and broad leaf control.

Table 8 shows there is \$3.30/ha on offer if you can improve chemical efficiency by 10%. Not huge but enough on its own to lift profitability of the best operators by 6.8% pa. While we do not see any obvious savings in this area, the adoption of weed-seeker or weed-it technology does offer potential for significant savings in one aspect of weed control – that is summer weed and fallow weed control. Chemical application rates can be as low as 10% as compared to conventional spraying of summer weeds, although 20% is more typical.

At a capital cost of approximately \$190,000 the technology is not cheap and its value to any individual grower will depend on how much summer spraying and fallow spraying they typically do. An analysis of the investment returns from a unit is shown in Table 9. This type of machine is an ideal candidate to share with a neighbour which will reduce the ownership costs while still providing all of the chemical savings.

Table 9. Example of investment returns from weed-seeker/weed-it technology

Area sprayed	Cost savings from weed-it/weed seeker
1000 ha of fallow – sprayed 3 times @ \$15/ha costing \$45/ha	\$36,000 based on using 20% of standard chemical (\$9/ha)
5000 ha of summer weeds – sprayed once @ \$15/ha costing \$15/ha – every second yr.	\$30,000 based on using 20% of standard chemical (\$3/ha)
Total saving in chemical	\$66,000
Capital cost	\$190,000
Annual cost	
- Depreciation 8%	\$15,200
- Interest cost 8%	\$15,200
- Maintenance 2%	\$ 3,800
	\$34,200
Return on investment	\$66,000 - \$34,200 = \$31,800 = 16.7% pa

Overhead costs

If overhead costs can be reduced by 10% they offer a saving of \$2.37/ha. The major components of overheads are;

- Insurance costs
- Admin costs which include professional fees, subscription, GPS signals etc.
- Power
- Shire rates
- Water rates and usage
- Phone and internet
- Licences

This cost component has been climbing in recent years due to quite large increases in insurance, power and water costs. While you may think there is little you can do about these costs, there is.

All overhead costs are by definition are relatively fixed, e.g. your accounting fees, farm consulting costs, power costs or shire rates won't go up if you crop another 1000 ha. So the first way to drive overhead costs down per ha is to increase the scale of your operation. Of course this depends on whether you have spare labour & plant capacity and access to finance.

In addition to increased scale there are ways of saving costs in each of these areas;

Insurance premiums are based on the value of what you are insuring. Are your plant, vehicle and crop insurance values accurate? Many people routinely over-insure the value of their crop by accepting the standard grain prices. If you lose income through fire or hail you will only lose the delivered port price which is generally \$40/t+ below the price quoted by your grain merchant. So you can lower your crop insurance premium by approximately 13% just by making this adjustment each year.

Admin costs should also be assessed just like any other cost. Firstly are you paying for something you don't need?, secondly are you getting value? and thirdly are there cheaper alternatives that are acceptable to you?

Power, water, phone and internet costs are all usage based so reducing waste and selecting the ideal plan can lead to significant savings. How many pipes/tanks/troughs do you have that are connected to scheme water? Any leaks?

Licences costs can be reduced by using concessional licences where appropriate for prime movers or trailers and ensuring that you only licence what is necessary. And if you are in the habit of paying the kid's car licences make sure you code these as personal so that when you come to your review at year end you are not diminishing the farm's financial performance by counting non-farm costs.

Shire rates, discounts are available for early payment and if you seriously don't think they are value, then there is always the option of standing for council.

Finance

A 10% reduction in finance costs is worth \$2.33/ha on average for our most profitable farmers. The average EWB farmer carries more debt per ha so the savings would be even greater.

Finance costs are driven by debt levels and interest rates. In our calculations, farm lease costs are also included in this cost.

Reducing this component of your cost base can be done by;

- Keeping your debt to a conservative level. No rash expansion or capital items.
- Negotiating with your bank. But know what is achievable and how your funding costs compare. You may already be on the best deal you can get for your financial position however you may also not be. Dropping your overall interest rate by just 0.50% pa alone equates to about a 7% reduction in your interest costs for the year. You only need to find another 3% to get the full \$2.33/ha and increase your overall annual profits by 4.8% - even more if your debt levels are high.
- Taking advantage of cheap funding opportunities that arise from time to time from various sources. E.g. deferred payment options providing the saving is not wiped out by paying higher product cost than you needed to.
- Be aware of the interest costs of decisions to hold grain or delay nomination of grain to contracts. Interest costs on delayed grain sales costs about \$1.65/t/month at current interest rates and prices.
- Ensure you have the right financial products for your pattern of seasonal finance. For example you don't have periods of cash in the account while still having short term debt unable to be repaid e.g. commercial bills.

Fuel

Fuel costs are a product of fuel efficiency and price. Not a lot of attention has historically been paid to fuel efficiency although this is changing.

While fuel is one of the smaller costs, with a 10% reduction in cost translating into only \$1.65/ah of increased profit, there can be large variations in fuel use between different machines and also different configurations of the same machine e.g. speed, engine speed, tyre pressure and so on. In addition the averages hide the fact that some farmers run their own trucks while others don't so the importance of fuel can vary considerably from farm to farm.

The other area to be watchful of is fuel losses. A good approach is to ensure that you have gauges on all tanks and monitor accordingly. The old adage, what you can measure you can manage applies equally to fuel.

Seed

Seed costs comprise seeding rate, grading costs, treatment such as pickle and fungicide, EPR paid on grain sales plus the cost of purchasing seeds of new varieties for bulking up. A 10% saving in seed costs adds \$1.29/ha or 2.7% pa to the profit of the most profitable farmers in the EWB.

Reducing seeding rates often has minimal impact on crop yield at the sorts of yields we see in the Eastern Wheatbelt. However seeding rate is a vital component of competition with ryegrass so lower rates need to be applied with caution depending on weed burden.

Strategies for reducing seed cost include rationalising the changeover to new varieties. Having too many varieties and being the first adopter of every new variety will ensure that your seed costs are high. This is particularly relevant where new varieties are tried for a year or two and then discarded. Make sure you are changing variety for a valid reason based on good data.

Doing your own grading and using cheap canola seed are two well established practices of successful operators in the Eastern Wheatbelt.

So what might farming in the Eastern Wheatbelt look like if these improvements in profitability can be made?

Table 10 shows the impact of various % improvement in the income and costs on both the top EWB farms and the average EWB farm.

What can be achieved on individual farms will depend on firstly where their current profitability is and then on their capacity to identify those profit components in their enterprise which offer the best prospects for profit improvement. They also need to be able to fund any investment or if this is not possible to focus on those efficiency gains which can be implemented with minimal cost.

Clearly the initial focus of each business will be on those areas which offer the most immediate improvements in profit.

Table 10. How various small % changes in profit components can result in big change in farm profit?

Component	Top EWB farm		Average EWB farm	
	% Improvement	\$/ha profit gain	% Improvement	\$/ha profit gain
Income components				
Grain price	+ 3%	\$9.20/ha	+ 5%	\$15.35
Grain yield	+ 5%	\$13.90/ha	+ 7%	\$19.46
Sheep margin or dse/ha		\$1.00/ha		\$1.00
Expense components				
Fertiliser cost	+ 8%	\$4.00/ha	+ 8%	\$4.00/ha
Freight and post farm gate	+ 2%	\$0.80/ha	+ 2%	\$0.80/ha
Labour, contract and drawings	+ 15%	\$5.70/ha	+15%	\$5.70/ha
Plant repairs & depreciation	+ 15%	\$5.34/ha	+15%	\$5.34/ha
Weed and pest control	No change	No change	No change	No change
Overhead costs	+ 5%	\$1.18/ha	+5%	\$1.18/ha
Finance costs	+ 5%	\$1.16/ha	+5%	\$1.16/ha
Fuel costs	+ 5%	\$0.82/ha	+5%	\$0.82/ha
Seed costs	+ 5%	\$0.65/ha	+5%	\$0.65/ha
Total		\$43.75/ha	\$55.46/ha	\$55.46/ha
Current profit \$/ha/yr.		\$48.21/ha	\$4.34/ha	\$4.34/ha
Future profit \$/ha/yr.	+91%	\$91.96/ha	\$59.80/ha	\$59.80/ha
Current ROE %		4.4%	0.4%	0.4%
Future ROE%		8.3%	5.4%	5.4%

If these relatively small changes can be achieved, the overall return on equity would lift to levels that would be much more likely to attract investment both from outside the district and from existing farmers within the EWB. With more robust financial results, it would also be easier to attract and retain the interest of the next generation as well as fund the retirement/succession of the older generation. There are many rewards to demonstrating that changes of this magnitude can be successfully implemented.

Taking the messages from this study and implementing changes on your farm

This project was never intended to provide a recipe for how to farm profitably on your farm in the EWB. The project had its origins in the recognition that many farmers in the EWB in recent years have spent a lot of time, money and effort for not enough reward. Making more profit is important for so many reasons. It pays the bills, but it also provides options, reduces stress, allows succession to occur and maintains the interest of the next generation in farming as a business.

So the project asked three questions;

- What do the best operators do to generate more profits?
- What else can be done that we already know about but could be more widely implemented?
- What difference would it make to farm profitability?

Key messages from the most profitable operators are;

- Adopt a conservative approach to debt
- Efficiency of labour & machinery is important
- Sheep if you and they are compatible
- Pay attention to your costs every year.
- Attention to detail – develop a culture of doing things well.
- Hard work
- Take the opportunities when they come along.

The key practices or technologies that offer prospects for increased profit include;

- Autosteer
- Controlled Traffic Farming
- VRT particularly for lime and perhaps for fertiliser
- Liming – but targeted
- Fallow
- Dry seeding
- In furrow seeding
- Weed-it, weed-seeker technology
- Harvest moisture management to reduce losses and lift quality
- Improvements in efficiencies across a range of cost areas

The answer to what difference will these make can only be answered at the individual farm level. What we have shown here in our financial model of top performing farmers is that relatively small percentage changes in key areas can make large percentage changes in overall profitability.

While some of these changes will require investment and careful consideration, many of them will not require any extra cost and can be implemented easily.

For those who are already at the top of their game – where to now?

- Continue to search for even better machinery/labour efficiencies
- Drive higher water use efficiency through,
 - Strategic liming – targeting this expensive input where it works best.
 - VRT – better fertiliser efficiency through placement
 - CTF – better water use efficiency through less compaction
- Don't get complacent
- Carefully assess opportunities for lease or expansion
- Look to low cost canola as a genuine option to broaden your rotation

For those who are currently back in the pack and looking to move to a higher level of performance.

- Know your numbers
 - How do you compare with best practice?
 - How far off the pace are you?
 - Which areas are ripe for improvement in your business? This is where you need to start.
 - Don't neglect the detail, it will get you every time you do.
- Don't get side tracked. The weather and prices will do whatever – there will still be top and average performers in 20 yrs. time but by then the really top operators will be even further ahead. Joining them is a choice – your choice.
- Consider novel approaches especially to machinery/labour/debt issues but be wary of large capital investments with long pay back periods.
- Question everything and be prepared to look critically at your operation – it's what the top operators in any business do and a sure way to make progress.
- Constantly look for new ways to drive your costs per tonne down. If a management decision is not doing this for you – what is it doing and more importantly why are you doing it?

For those who are way behind the average at the back of the pack.

- The good news is the easiest/quickest gains are in your businesses and it's all upside.
- Know your numbers
 - How big is the task ahead?
 - Is it worth the effort, risk and stress?
 - Are there other options for you right now?
- If you have enthusiasm and are prepared to make changes you are on the right track but it is not going to be easy.
- Make sure you and the rest of the family are on the same page. Financial pressure puts everyone under pressure.
- Low equity and shortage of finance make every decision critical and no-one gets it right every time.
- Make an honest assessment of your position and decide what's best for you.

For those looking to invest in the region.

- Adopt a conservative debt structure
- Acquire property that will allow you to drive efficiencies in labour and machinery use
- Utilise management that understands the key success factors in the region and is profit focussed.
- Consider joint ventures with top performing local operators to secure top management skills.
- Be prepared for poor years and make the most of good seasons.
- Be prepared to pay a premium for good soil types
- Be patient

Appendices

- A. Survey Questions asked of Farmers
- B. Details of financial model of top performing farmers

Appendix A

How to Farm Profitably in the EWB – a GRDC funded Project

Survey Questions for selected profitable farmers in the EWB of WA

1. What do you enjoy about farming?
2. What do you like least about farming?
3. How long have you been farming?
4. How old are the family members involved in the business?
5. You have been invited in to this survey because of your success. What do you believe are the main reasons for your success?
6. Can you describe in comparison to what you know of the district, what percentage of your farm soils are;
 - 1) Better than average
 - 2) Average
 - 3) Worse than average
7. In a typical year describe your land use as % of total arable area (including any leases).

1) Wheat	%
2) Canola	%
3) Barley	%
4) Lupins or peas	%
5) Pasture (for stock)	%
6) Fallow	%
8. What percentage of your cropping programme is usually sown on fallow?
9. What percentage of your crop do you routinely seed dry each year?
10. If you use fallow, what in your experience is the average yield benefit (t/ha) you gain from wheat sown on fallow compared to continuous wheat?
11. If you have pasture, what in your experience is the average yield benefit (t/ha) you gain from wheat sown on legume clover pasture compared to continuous wheat?
12. What is your average P rate kg P/ha for crop?
13. Do you apply P to pastures?
14. If so at what rate kg P/ha pasture?

15. What is your average N rate kg N/ha for cereals/canola?
16. What is your average wheat seeding rate kg/ha
17. What is your N application strategy?
 - 1) All up front
 - 2) Nil up front (except compound)
 - 3) A percentage up front (what %) then balance post seeding depending on seeding.
18. How do you make your post seeding N application decisions?
19. Do you run livestock? If so Why?
20. If so what is your flock structure?
21. Do you usually sow all of your planned cropping area each year?
22. If not, what percentage of your programme only gets sown if conditions are favourable?
23. Do you have and use decision rules about when you will and won't commit to seeding a paddock? What are they?
24. What are the 2-3 areas/items you have had most success at in reducing your costs?
25. How do you do this?
26. What cost saving ideas have you implemented in recent years that have been successful?
27. What steps do you take to protect your business from the financial impact of poor seasons?
28. What sentence best describes your approach to machinery replacement/upgrade?
 - 1) Prefer to change over regularly to new machinery e.g. header < 1500 hrs., FWA tractors < 3000 hrs., vehicles < 100,000 km
 - 2) Buy new and keep for the longer term e.g. headers 3000 hr., FWA tractors 6000 hr., vehicles > 200,000 km
 - 3) Prefer to look for good second hand machinery
 - 4) Other – please specify.

29. When making machinery replacement decisions which factors are most important to you.
Please rank 1 (most important) to 5 (least important).

- 1) Brand of machine
- 2) Changeover price
- 3) Capacity/suitability to do the job
- 4) Finance rates offered as part of the deal
- 5) Reliability of the existing machine

30. How would you describe your financial management skills

- 1) Always spend less than budget
- 2) Usually spend within 5% of budget
- 3) Usually find actual expenses exceed budget by more than 5%

31. If you typically spend more than budget

- 1) Does this apply across most budget items or
- 2) Is it usually only 1 or 2 items that blowout and if so what are these?

32. Describe your weed control strategy.

33. Do you engage the services of;

- | | | |
|---------------------------------|-----|-------------|
| 1) Independent agronomists? | Y/N | Years _____ |
| 2) Farm management consultants? | Y/N | Years _____ |
| 3) Fertiliser consultants? | Y/N | Years _____ |
| 4) Grain marketing advisors? | Y/N | Years _____ |

34. Do you usually negotiate prices for all your chemical and fertiliser requirements or go with the deal you are offered?

35. Is frost a significant issue to your farming business?

36. If so, how do you manage your frost risk?

37. How important is grain price variability to your business success? 1 – very5 – little

38. Looking at the coming year how would you rank the following threats to your business. 1 most severe, 5 least severe?

- 1) Low grain prices
- 2) High input costs (fret, fuel, chem.)
- 3) High fixed costs (rates, admin, insurance, power)
- 4) High labour costs
- 5) High personal costs

- 6) High interest rates
- 7) Frost
- 8) Poor seasonal rainfall
- 9) Availability of seasonal finance

39. What strategies do you use to help you cope with a poor year?

40. Which do you believe has the greatest impact on your business?

- 1) Avoiding or minimising losses in a poor year
- 2) Making every year a winner in the good years

41. What do you do differently to district practice?

42. What sentence or sentences best describes your attitude to debt?

- 1) Rarely take on debt, strong preference to be 100% equity
- 2) Comfortable with equity level above 85%
- 3) Equity % not critical always prepared to borrow providing the business case is good
- 4) Comfortable with equity level above 75%

43. Your preferred equity level is

- 1) 100%
- 2) Above 85%
- 3) 75% - 85%
- 4) 65% - 75%

44. What sentence best describes your attitude to the purchase of additional farmland in your district within the next three years.

- 1) Actively looking for opportunities
- 2) Prepared to purchase if the price is right
- 3) Possible but would prefer to invest off-farm
- 4) Not interested but would consider additional lease land.
- 5) No wish for further expansion in this period
- 6) Winding down and looking to reduce farmland investment
- 7) Other...give details

45. What is your biggest concern with respect to your business at the present moment?

46. What do you see as important to improving the profitability of farms in the region?

47. Can you think of anything else we should be considering, or you would like raised in relation to profitable farming in your region?

48. If you could change one thing in your farming business right now what would it be?

Appendix B: Details of Financial Model of top performing EWB farmers

Appendix B: Eastern Wheatbelt Farm Financial Model				Area:		6200		Ha effective
Farm income								
Crop income								
Wheat - sold	50%	3100 ha	1.50 t/ha	\$ 295	/t FIS	\$ 1,326,025		
Wheat - kept seed				\$ 253	t on farm	\$ 39,254.70		
Barley - sold	16%	1000 ha	1.50 t/ha	\$ 280	/t FIS	\$ 406,000		
Barley - kept seed				\$ 238	t on farm	\$ 11,924.91		
Canola	8%	500 ha	0.70 t/ha	\$ 540	/t FIS	\$ 189,000	\$ 1,972,205	
Sheep income								
Sheep	20%	1250 ha @	2 dse/ha @	\$ 35	/dse net	\$ 87,500	\$ 87,500	
				Based on cash prices			\$ 2,008,525	
				Per effective ha			\$ 323.96	
Farm Expenses								
Fertiliser								
Agstar Extra		4600 ha	60 kg	\$ 630	/t on farm	\$ 173,880		
Urea		4600 ha	43 kg	\$ 555	/t on farm	\$ 109,779		
Lime (6% of effective area pa)		322 ha	2000 kg	\$ 46	/t applied	\$ 29,624	\$ 313,283	
Seed and treatments								
Wheat	Kept for seed	3100 ha	50 kg	\$ 253	/t	\$ 39,255		
Wheat	EPR + new seed	4495 tonne		\$ 3.00	/t	\$ 13,485		
Wheat	Grading/pickle	155 tonne		\$ 25	/t	\$ 3,875		
Barley	Kept for seed	1000 ha	50 kg	\$ 238	/t	\$ 11,925		
Barley - EPR	EPR + new seed	1450 tonne		\$ 1.65	/t	\$ 2,393		
Barley	Grading/pickle	50 tonne		\$ 25	/t	\$ 1,250		
Canola - seed	Seed	500 ha	3.5 kg	\$ 4,500	/t	\$ 7,875	\$ 80,057	
Weed & Pest Control								
Wheat/barley		4100 ha		\$ 42	/ha	\$ 172,200		
Canola		500 ha		\$ 50	/ha	\$ 25,000		
Pasture		1250 ha		\$ 6	/ha	\$ 7,500	\$ 204,700	
Freight & Post Farm Gate								
CBH Rec Fees	Wheat	4495 tonne		\$ 9.80	/t	\$ 44,051		
	Barley	1450 tonne		\$ 11.07	/t	\$ 16,057		
	Canola	350 tonne		\$ 16.07	/t	\$ 5,625		
Federal Levies	Wheat	4495 tonne		\$ 2.94	/t	\$ 13,233		
+ BAMA	Barley	1450 tonne		\$ 2.78	/t	\$ 4,028		
	Canola	350 tonne		\$ 5.38	/t	\$ 1,883		
Freight bin-port		6295 tonne		\$ 23.00	/t	\$ 144,785		
Freight paddock-bin		6295 tonne		\$ 3.00	/t	\$ 18,885		
							\$ 248,547	
Fuel		6200 ha		\$ 16.50	/ha		\$ 102,300	
Repairs/upkeep		6200 ha		\$ 18.50	/ha		\$ 114,700	
Farm Labour & Contract		6200 ha		\$ 16.50	/ha		\$ 102,300	
Overheads								
Insurance crop				1.2%	crop value	\$ 23,666		
Insurance farm/plant/vehicle/PL		6200 ha		\$ 4.70	/ha	\$ 29,140		
Admin/professional/subs/GPS		6200 ha		\$ 5.70	/ha	\$ 35,340		
Power/phone/inet		6200 ha		\$ 2.90	/ha	\$ 17,980		
Shire rates/licences/water		6200 ha		\$ 6.60	/ha	\$ 40,920	\$ 147,046	
				Operating Expenses			\$ 1,312,933	
				Op Expenses per ha			\$ 212	
				Net Margin Op Surplus			\$ 695,592	
				Operating Surplus/ha			\$ 112	
Less								
Personal costs		6200 ha		\$ 21.50	/ha		\$ 133,300	
				EBITDA			\$ 562,292	
				EBITDA \$/Ha			\$ 91	
				AVG ASSETS \$/Ha			\$ 1,319	
				ROA %			6.9%	
Finance costs Incl lease		6200 ha		\$ 23.28	/ha		\$ 144,336	
Plant/machinery depreciation		6200 ha		\$ 19.20	/ha		\$ 119,040	
-				NET PROFIT			\$ 298,916	
				NET PROFIT \$/Ha			\$ 48	
				EQUITY \$			\$ 1,108	
				ROE %			4.4%	