

RDA Grampians & Wimmera Development Association

**Intensive lamb production – a
commercial perspective**

Final report

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Table of Contents

1	Introduction	1
1.1	Background	1
1.2	Purpose of report	1
2	Lambs: profit, production systems and risk	3
2.1	Production systems.....	3
2.2	The marketplace for lamb product	4
2.3	A changing production base	6
2.4	A mixed bag: enterprise focus	9
2.5	The impact of scale	9
2.6	The current system of production ‘makes sense’	10
3	Wimmera SWOT for lamb production	13
3.1	Introduction	13
3.2	Strengths	13
3.3	Weaknesses.....	13
3.4	Threats	14
4	The future	15
4.1	Lamb production – the future	15
4.2	Opportunities: intensive lamb production.....	15
4.3	Opportunities: intensive lamb production – an integrated model.....	16
4.4	Alternate Industries	16
4.5	Action Items	17

1 Introduction

1.1 Background

Intensive lamb feeding (feedlotting) is an emerging sector in the Wimmera region of Victoria. The emergence of lamb feedlotting has primarily been driven by two key factors:

- During the recent extended drought many Wimmera-Mallee lamb producers used stock containment areas (SCA) as part of their drought management strategy. This provided experience and interest in lamb feedlotting, and
- The construction of the Wimmera Mallee Pipeline has created a reliable supply of clean water, which had in the past been the most significant barrier to intensive lamb production in the region.

The Wimmera Development Association (WDA) has played an active role over the past two years in promoting intensive lamb production in the Wimmera region. WDA, in conjunction with other agencies (such as the Department of Primary Industries), have also prepared a range of information relating to the establishment and operation of intensive lamb feeding operations in Western Victoria. This work has:

- Identified suitable geographic locations in conjunction with the Wimmera Mallee Pipeline for intensive lamb production¹
- Created a range of planning and technical resources that can be utilised by existing lamb producers or new entrants who may wish to establish a lamb feedlot (e.g. customisable intensive livestock economic analysis tools).

Despite increased knowledge and experience amongst producers, a reliable supply of clean water and a range of planning and technical resources available to support producers to move into the sector; to this point there does not appear to be an increase in intensive lamb production in the region to date. However, there is evidence of opportunistic feedlotting of lambs across the region.

RMCG have been commissioned by the WDA to provide some insights on why lamb feedlotting has not been widely adopted in the Wimmera region.

1.2 Purpose of report

This report investigates the reasons why lamb feedlotting has not been widely adopted in the Wimmera region.

RMCG have compiled this report based on a range of exploratory research and consultation, including:

- Reviewing the Lamb Feedlot Site Suitability Study
- Reviewing planning and technical resources (including the intensive livestock economic analysis tool)

¹ Burger M, Wiedemann SG and Watts PJ, 2008, Wimmera Mallee Pipeline Project – Lamb Feedlot Site Suitability Study, FSA Consulting Report 6872, Toowoomba, Qld.

- Reviewing the Birchip Cropping Group's notes on the Westbrook feedlot at Loxton in South Australia.
- Interviewing Peter Bailey, Lamb Specialist at the Department of Primary Industries
- Interviewing a farmer in the Mallee who has previously operated a feedlot

The results of the research and consultation are presented in this report in three main sections:

Section 2 describes the range of production systems, markets and the associated risks of lamb production in Victoria.

Section 3 describes the strengths, weaknesses and threats of lamb feedlotting in the Wimmera region.

Section 4 describes the opportunities for intensive lamb production in the Wimmera region into the future.

2 Lambs: profit, production systems and risk

2.1 Production systems

The agricultural production systems, including prime lamb production in the Wimmera have evolved over time. The choice of production system is a complex mix of numerous on-farm and off-farm factors, including:

- History
- Skilled Labour
- Climatic conditions
- Soil types
- Capital availability
- Market access
- Topography
- Risk
- Multiple crop enterprises
- Multiple stock enterprises
- Financial return for work effort
- Financial performance

Many of these factors are dynamic, creating a state of flux where production, profit and risk are moving targets and regularly assessed both formally and experientially. The changing production and profit level impacts both individual businesses and the region as a whole.

Agricultural systems in the Wimmera typically have a number of complimentary 'mixed' enterprises that produce grains, oilseeds, sheep meat, wool, beef, hay and other products. This approach goes against basic economic theory where each individual business should be focused on producing a single item in a highly efficient manner. However, these 'mixed' production systems have significant advantages for individual businesses such as:

- **Diversifying market risk:** by producing numerous crops, the chances of all crops and livestock having a poor market price at any one time are reduced.
- **Diversifying agricultural risk:** agricultural is an inherently risky business; numerous crops produced and sold at different times throughout the year help offset environmental vagaries of drought, frost and hail.
- **Chasing a winner:** where a single crop is profitable in the short to medium term, farming businesses have the opportunity to increase production of that particular product, and make more profit.
- **Providing sustainability:** the complementary system mix for labour, resources, crop and stock rotations creates a sustainable system that protects land resources to keep them productive in the long term without degrading the resource.

These mixed production systems are profitable over time, including a return to capital (land and water) and cash profits to allow continued efficiency gains and expansion. Many farms do not achieve this economic imperative, and as such we see a changing business landscape over time with the more profitable farms expanding and the unprofitable farms declining and ultimately sold to more efficient producers.

Successful long-term farming businesses are those that adapt to the constantly changing market and environmental conditions in order to ensure profit. The profit will be made from changing enterprises to protect and enhance the profit across the range of enterprises. In some situations an enterprise may not be highly profitable but it is complimentary to a profitable enterprise (e.g. crop rotation) and hence it forms part of the enterprise mix.

2.2 The marketplace for lamb product

When examining production capacity of prime lamb production in the Wimmera, the most critical aspect is the market for lamb. If there is no market, or an unprofitable market there will be no production. Conversely, if there is a highly profitable market then supply should increase over time as businesses seek profits and adjust their production systems to create profit.

The current market system appears to be driven through production 'push' rather than a processors or consumers 'pull' and this dynamic creates an untidy inefficient supply chain. A productivity improvement is required, which may involve reducing the length of the supply chain to reduce the number of transactions and ensure market signals can move up and down the supply chain efficiently.

A lamb producer has two basic sales alternatives. Although each alternative does have a number of sub-options. The two options are:

1. Sell finished prime lambs through local sale yards where abattoirs, butchers and agents purchase the stock.
2. Sell directly to processors (abattoirs) with a sell method known as 'over the hooks'.

Sale Yards

Selling lambs into sales yards can be expensive and risky. Costs associated with sale yards include agent fees, transport to the yards and statutory charges for using the facility. The 'free market' based on good information and willing buyers and sellers is desirable, however it is rarely achieved. There are frequent distortions in the markets including:

- The number of purchasers attending a sale.
- Data for the weight and condition of livestock.
- The volume of lamb stock for sale on any given day.
- Any external influences, such as stock availability to processors in other regions.
- The weather.
- Any co-operation that may occur between purchasers.

As a result, using the sale yards as a method of realising the value of lambs provides a very uncertain price and profit outcome to a producer, as it is likely to change on any given day.

The opportunity for growers to receive feedback on meat quality is also removed when sale of lambs occurs through sale yards. This prevents growers from learning about the market and how the meat that they supply meets market requirements.

Buyers and abattoirs are reluctant to pay high prices through sale yards as there is a significant risk for them in purchasing stock that may have unseen defects that will impact the sale price of the meat. One example is burrs (weeds) that can enter the skin and are not visible from the outside of the sheep. The skin and some cuts of meat may be downgraded after processing, resulting in a loss to the processor. The buyers of prime lamb typically apply a discount of some 15% to lambs purchased in the sale yards to manage these types of risks.

These issues of selling finished lamb also apply equally to farmers looking to purchase young lambs through the sale yards, where growth performance, unseen defects and market distortions can result in highly variable outcomes.

Over the hooks

The other method of selling finished lambs is direct sales to abattoirs. A producer will transport the livestock directly to an abattoir where the lambs are killed and payment is determined on the carcase weight and any quality parameters that may apply such as dressing percentage and fat score.

Some larger and more specialised lamb producers with a history and proven capacity of producing a premium quality product can achieve fixed (forward) pricing for a period of up to 3 months². However, normal practice provides a very short period of known price, commonly only a number of days or weeks.

The impact of this unknown outcome is similar to that of the sale yards where a producer does not know the final price (hence profit) of the livestock while production occurs. The majority of costs of production are spent prior to there being any firm market price available. This is a significant impediment to confidence of feedlotting lambs, as profit cannot be secured as production occurs.

Achieving a known price (profitable) outcome?

Producers in the Wimmera need an indication that they can achieve a profitable outcome. If there is no chance of a profitable outcome in selling finished lambs, then it is unlikely that they would purchase any sucker or store lambs, as it would only result in loss.

Figure 2-1 is taken from Meat and Livestock Australia's website and shows some of the volatility in price movement for lamb over the past three seasons. At the time when lambs need to be finished (a period of time between 2 months and 6 months generally between September and March) there is a great deal of uncertainty as to the actual sale price.

² P Bailey, pers comm.

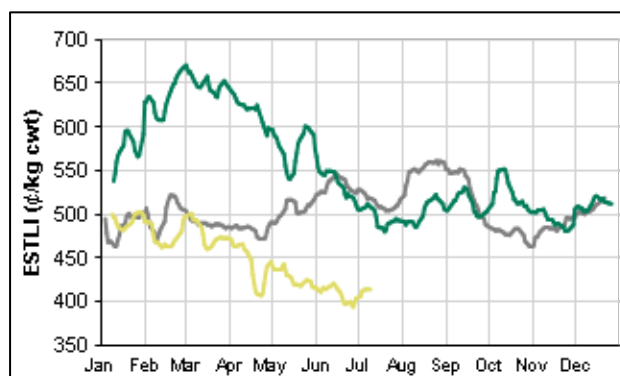


Figure 2-1 – MLA Eastern states trade lamb indicator (2012 – yellow, 2011 – green, 2010 – grey)

However, it is important to note that during periods of price decline, lambs will generally be gaining weight, which can offset some of the decline in market price; this still negatively impacts profit. An increasing market price for lamb can make profits easier to achieve, where as a declining market can make losses more severe.

Conclusion

The price of lambs is constantly changing, which provides no opportunity to lock in a forward sale, and hence make a profit.

Impact

Producers aim to time their production based on a perception of when favourable market conditions occur. Constant production is not possible, as it will inevitably result in a loss in a falling or highly variable market.

2.3 A changing production base

Lamb can be produced using grain, pasture or a combination of the two feeds.

Producers choose a feed supply in any given season based on competing business activities, the cost of production of lamb and which system has the best chance of yielding a profit. Given the variable market for lamb (previous section), a producer will normally adopt the least cost method, as this will allow a better chance of achieving a profit.

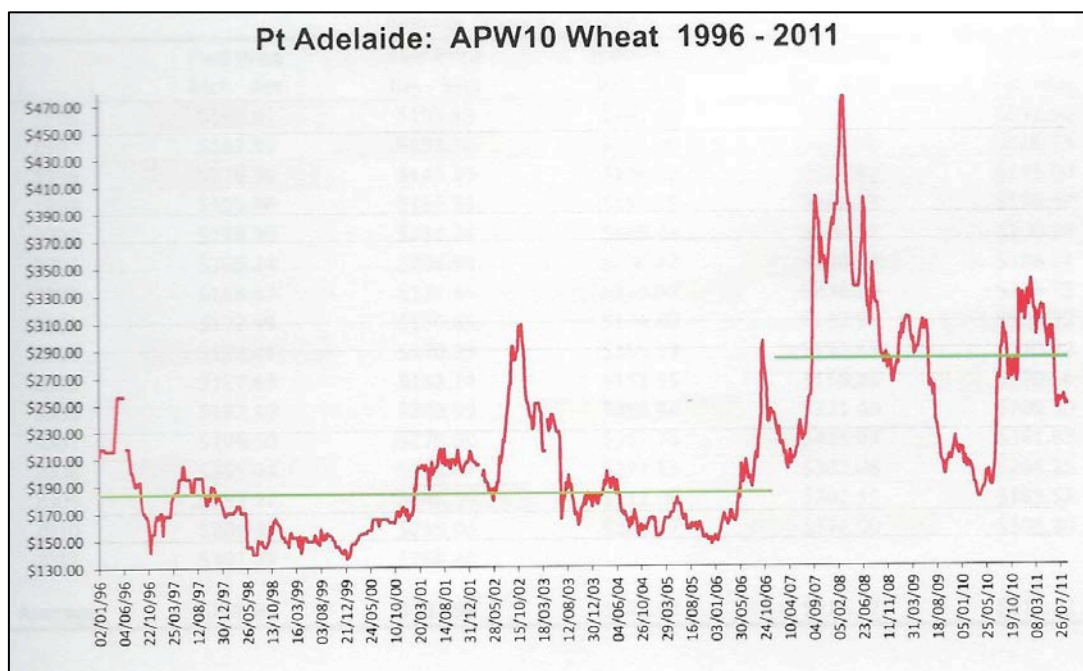


Figure 2-2 – Port Adelaide APW Wheat Price 1996-2010 (Profarmer)

Figure 2-2 shows the wheat price (\$/tonne) and volatility in grain price that occurs over time. In the Wimmera where many farmers will be managing risk by producing livestock and grain, the objective remains to make each enterprise as profitable as possible. When the grain price is high, there will be stronger returns available to farmers through selling or trading grain as opposed to feeding livestock.

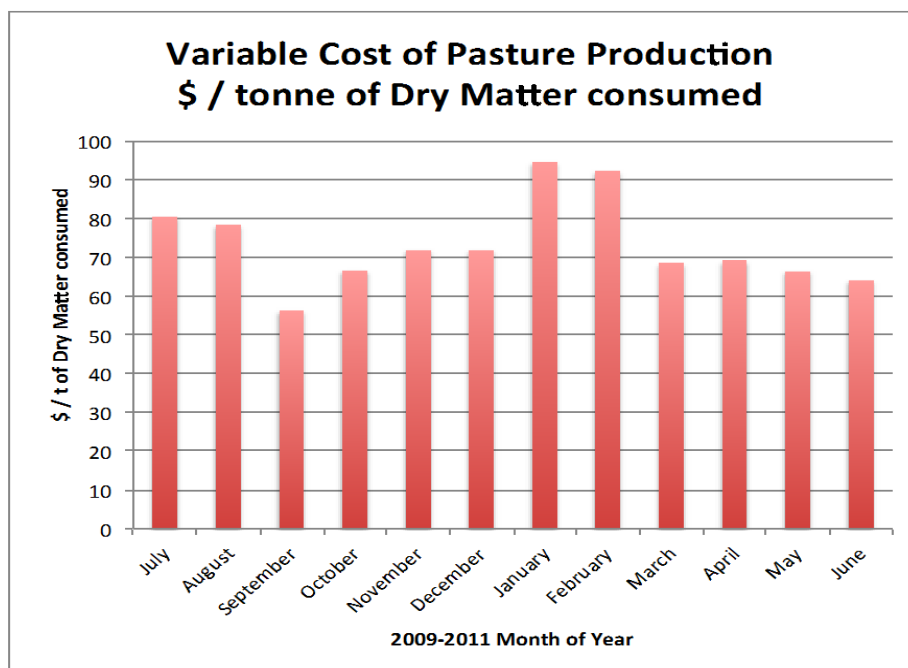


Figure 2-3 – Pasture cost of production for East Gippsland (F Tyndall – consultant)

Figure 2-3 describes the cost of production for 1 tonne of pasture dry matter in East Gippsland. The cost includes seeding, fertiliser, pasture topping, labour and a component of irrigation water. There was no data available to demonstrate the exact cost of pasture in the Wimmera so this data has been used to demonstrate the relative cost of production of pasture, albeit in a different location in Victoria with slightly different environmental parameters.

It is difficult to achieve an ‘apples with apples’ comparison on the cost of alternate feeds due to the dry matter percentage of feed stuffs, the different energy levels of grain types, variability between different batches of grain and the different lamb growth rates achieved between pasture and grain feeding. However, when a farmer in the Wimmera has the choice of feeding pasture or feeding grain there is a cost advantage in adopting a pasture based production system, as it is usually cheaper than a grain based system.

Only when grain prices become significantly cheaper, e.g. less than \$150 per tonne, does the opportunity for lot feeding become a serious large-scale proposition based on cost of production. This may become an opportunity when a farmer has downgraded grain or does not meet certain quality parameters for a grain sale. However, this opportunity also varies widely from year to year, as will the performance of the sheep on lesser quality grain, thus producing a variable outcome for the farmer again.

One approach that some farmers adopt is to feed sheep ‘cheap’ grain or seconds and downgraded product. This approach is common, however it also leads to poor economic and highly variable results. Downgraded grain can provide less nutrition on a dollar per unit basis than high quality grains. Thus, feeding poor quality grain can often provide a less profitable result than feeding high priced, higher quality grain.

There is still a large amount of work to be completed on the actual commercial efficiency of lamb production from the genetics through to feed sources, feed utilisation and meat conversion. The scientific process is understood and documented, however the commercial application of the measurement and management of genetics, feed use and conversion and meat yield is still a work in progress. The refinement of this knowledge will enable more appropriate decisions to be made on production systems that will maximise profits.

Conclusion

Pasture based systems have a cost of production advantage when compared to grain at current prices. The examination of exact costs of production for both pasture and grain are variable and need to be measured and managed accurately to create profit.

Impact

Given the lack of poor data in commercial situations to make robust decisions, it is likely that most lamb producers will adopt a least cost model and utilise pasture when it is available in preference to grain.

2.4 A mixed bag: enterprise focus

The mixed farms in the Wimmera have a number of production components including: wool, lamb, beef, grain, oilseed and hay production. This range allows profit to be more reliable over time as farmers increase production of one enterprise over another to achieve profit.

When considering lamb production and lamb feedlotting, not only is lamb competing on cost of production (as outlined in the previous section), it also competing within an individual business against other enterprises. For example, where grain or canola prices are high, a mixed farming business may operate a larger percentage of the farm in a continuous cropping phase rather than a pasture phase, depleting the resources available to background and finish lambs.

Farmers may also focus attention towards activities that provide a satisfactory return but have a reduced work component. Intensive livestock can have a significantly higher workload than cropping activities.

In addition, some farms are likely to be in a strong financial position from previous years. These farms will have no economic incentive to look at new enterprises to create further profit.

Conclusion

The effort required to intensively feed lambs is not warranted for some farm businesses, as the work life balance and financial rewards are being achieved through alternate crop and stock production channels.

In addition, specialised skills are required in order to achieve maximum cost efficiency in feedlotting (e.g. weighing animals, monitoring growth and health, adjusting feed ratios and general livestock husbandry).

Impact

It is likely that farmers are not achieving optimal financial outcomes from feedlotting because it competes for time against other enterprise activities. This would also explain why a farmer might adopt feedlotting opportunistically when the grain costs are low, lamb prices are high and the feed conversion efficiency doesn't make a large impact. Feedlotting can then occur in a 'no brainer' (i.e. profitable) situation where the fine-tuning of feed conversion efficiency and growth rate is not required.

2.5 The impact of scale

The scale or volume of production is also an interesting consideration for lamb feedlotting. In order to achieve a presence in the marketplace and achieve beneficial sales contracts with a large volume of supply, there is a requirement for large scale of production.

Large-scale production requires a dedicated focus on lamb feedlotting and the necessary land, water and ancillary infrastructure to achieve this production. A scaled up feedlot production facility can achieve efficient production and economies of sale, however it will continue to be subject to two major vagaries of input costs - grain prices and lamb prices.

The impact of scale on profit and loss is simple. If each lamb makes a small profit, then many lambs can result in a substantial profit. However the converse is also true that a small loss per lamb multiplied by a large number of lambs can be catastrophic. Even in a high grain price, low meat price scenario where a feedlot may be vacated due to the prospect of significant losses per lamb, some overhead and capital costs remain to impose a loss.

Thus, scale can provide efficiency and profit, however it also increases risk in a constant production model unless feed cost and sale price can be managed.

2.6 The current system of production ‘makes sense’

The ‘opportunistic’ production of lamb and intermittent feedlotting that is the recent experience in the Wimmera is driven by a combination of low profit, non-specialised production systems and significant market risk.

The Department of Primary Industries have constructed a number of tools in order to assist producers make decisions. One of the major projects has been the ‘Sustainable Agribusiness Opportunities from the Wimmera-Mallee Pipeline Project’, or SAOW project, and calculator. This calculator has been constructed to demonstrate financial outcomes from a range of intensive livestock production systems. The report³ suggests that, based on standard benchmarks of growth rates, feed conversion and grain price, that intensive lamb feedlotting is unprofitable. This conclusion is validated by the experience of the past few years of ‘opportunistic feedlotting’.

In order to further demonstrate the impact of lamb price and feed price on a lamb feedlot, some historical data has been used to generate scenarios using the SAOW calculator.

Grain price has been taken from Profarmer⁴ data for Australian Standard White (ASW) wheat prices to approximate a typical barley-lupin feed ration. Meat price data has been taken from Meat and Livestock Australia⁵ (MLA) to demonstrate the impact on farmers or feedlotters, who have operated in the market environment, as it has existed in recent years.

The assumptions used in the calculator include:

- 35kg buy in, 46kg sell out
- 250g/day weight gain
- Phase in period of 14 days
- Buy in price is 20% less than sell out price for meat yield
- 5% shy feeders and 1% deaths
- Feed Conversion Efficiency of 6.5:1 and hay price of \$150/T

³ 2008 RMCG, p 13 -15, Economic Analysis tool for SAOW Project – Final Report.

⁴ www.profarmer.com.au (RMCG has purchased data – not publically available)

⁵ www.mla.com.au - see reports section on ‘over the hooks’ sales.

Table 2-1 - SAOW Calculator output based on historical data

Time	Grain Price (\$/t)	Lamb Price (c/kg)	Operating surplus / animal	Market direction
Jan-09	290	4.00	\$0.42	
Jun-09	240	5.00	\$9.96	
Jan-10	190	4.95	\$13.10	
Jun-10	190	5.20	\$14.62	Increasing
Jan-11	280	5.40	\$9.66	Steady
Jun-11	250	5.50	\$12.33	Decreasing
Jan-12	220	5.00	\$11.34	Steady
Jun-12	200	4.20	\$7.83	Decreasing

Table 2-1 demonstrates that based on historical data and typical values, there is only a modest operating surplus from intensive lamb feedlotting as a sole enterprise. There are additional business overhead costs that also need to be covered; when these costs are deducted from the operating surplus, the opportunity for regular profit is low. In many circumstances, e.g. less than \$10/head profit, there would not even be an opportunity to pay back the capital invested in containment yards, water supplies and feed out infrastructure.

This analysis is difficult as individual buying, selling and grain price situations will dramatically impact the result. Focusing on 'average' outcomes is not the typical experience for farmers.

When market direction is increasing, the indicative operating surplus is probably lower than stated in Table 2-1. When the market is steady, it would be relatively accurate and when decreasing, the surplus is likely to be overstated.

The opportunities to create profit are realised through:

- Low grain prices.
- Buying opportunistically (buy cheap young lambs based on market price).
- Selling into an increasing market (an increase in c/kg of lamb price).

Conclusion

The evidence of opportunistic feedlotting is supported by the data and decision-making difficulties that we see.

Profit can be achieved, however it cannot be guaranteed while production is occurring. Other intensive livestock production systems have access to beneficial fixed price production systems that can achieve a profit, however the moving market prices for lamb and grain make this impossible in lamb feedlotting. Market fluctuations and grain prices mean that during some periods of time, losses will occur despite the best efforts of producers.

The following table has been constructed to provide a summary of the situation and reasons why large-scale adoption of lamb feedlots has not occurred.

Table 2-2 – Reasons identified that support the existing opportunistic production model

Reason	Impact
Market (purchase)	Purchasing young lambs at a high price will result in a loss. Lambs of poor/unknown progeny may be purchased and will not grow efficiently. These market impacts will result in a loss.
Market (sale)	The inability to lock in a sale price of lambs occurs while injecting cash (feed) into the lambs. This expenditure may not be profitable when the sale is realised depending on the market price. The impact is increased financial risk of making at loss when lambs are sold.
Cost of Production	A grain fed lamb typically costs more to produce than a pasture fed lamb, meaning that there is likely to be less profit to a business that has the option of producing both. The impact is that pasture produced lamb will continue to be produced as the low cost base offsets market (price) risks.
Competing Enterprises	Lamb is typically produced in a mixed farming system and other crops/livestock types will receive preferential treatment from time to time based on profitability.
Workload	Alternate crop types and livestock systems have a reduced workload compared to intensive livestock systems making them more appealing. The impact is that if there is profit in cropping that more crops will be grown and less livestock produced.
Profit	Based on generic modelling, there is only a small profit (if any) due to high grain prices based on previous years experience.
Opportunistic Approach	A profit can be made with cheap grain, buying cheap young lambs at market or picking a rising market. When these conditions do not occur production is not likely to occur.

3 Wimmera SWOT for lamb production

3.1 Introduction

This section outlines a summary SWOT analysis (strengths, weaknesses, opportunities and threats) of lamb feedlotting in the Wimmera. Although there have been significant impediments to large-scale adoption of intensive lamb production, there are opportunities and inherent strengths that exist in the region.

3.2 Strengths

- **Local Supply:** The region currently produces a good supply of first and second cross lambs that are suitable for meat production.
- **Technical resources:** The technical resources through DPI and staff such as Peter Bailey are impressive and can facilitate best practice production.
- **Climate:** The region provides a climate that is suitable and conducive to the backgrounding and finishing of prime lambs.
- **Water:** The advent of the Wimmera Mallee Pipeline has resulted in access to water resources for intensive lamb production.
- **Land and Soils:** The region has highly suitable soils and land for agricultural production. This also means that there are hay and grain resources available locally that can be used for feedlotting.

3.3 Weaknesses

- **Efficiency:** There is a challenge to achieving good feed conversion efficiency and introducing livestock to grain feeds, which includes regular monitoring of livestock weights and adjustment of feed supply. Each business needs to be focused on achieving efficiency of production as inefficiency can quickly result in profit erosion. Long feeding or growout times quickly erode profits.
- **Fragmented supply chain:** The supply chain of breeders, backgrounders, finishers, agents, processors, wholesalers, retailers and consumers is quite fragmented and market signals do not easily move up and down the supply chain.
- **Market difficulty:** The inability for producers to lock in a known outcome through pricing mechanisms makes a constant production system difficult. If producers could purchase young lambs at a fixed price and sell them at a fixed price, margins could be known and constant production achieved. These systems operate in other intensive livestock industries, however with the competition from other regions and from pasture based systems, this is unlikely to occur for lambs.
- **Profit difficulty:** Based upon grain prices and lamb prices achieved in previous years there has not been sufficient profit available to warrant either the capital or operational investment in feedlotting lambs.
- **Competing Enterprises:** The strengths of the region also mean that other crops and industry can achieve strong results and potentially outcompete lamb production.

3.4 Threats

- **Reduced young lamb supply:** If for any reason the supply of first and second cross lambs were reduced then it would be a significant impediment to achieving increased feedlotting due to higher transport costs.
- **Alternate regions:** There are a number of other regions that successfully produce lambs into the marketplace. As some of the domestic retailers continue to consolidate their supply chains an increased focus will be directed towards low cost producers of lamb. Thus any other regions that have a competitive advantage in lamb or less competition from alternate crops and livestock may be able to increase production to the detriment of the Wimmera.
- **Alternate crops and livestock profitability:** If the profitability of grain, oilseed or cattle significantly increases in a sustained trend, then many mixed enterprise farmers will likely tweak the production system towards these crops. Lamb production would likely decline as a result.
- **High grain prices:** Sustained high grain prices will promote an ongoing focus on cropping systems, where higher margins and more manageable on farm workloads can be achieved.

Opportunities – see next section.

4 The future

4.1 Lamb production – the future

The normal ebbs and flows of supply and demand will continue and that the mixed enterprise system will also continue in the Wimmera. This will include a component of pasture production and feedlotting.

It is difficult to see the current systems changing, or a dramatic increase or decrease in lamb production activity, in the future. There is a requirement for an improved and integrated supply chain in the future. Change in the supply chain will require significant effort and need to be driven by the industry.

4.2 Opportunities: intensive lamb production

Given that the market and operating environment is not likely to change in the near future, the existing resources and markets should be exploited to achieve the maximum financial reward to farmers and, ultimately, the Wimmera.

Market knowledge and supply chain relationship

Increasing the volume of lamb sold direct to abattoirs (currently only 20%, varies from time to time)⁶ would enable more feedback through the supply chain. This would provide producers with an opportunity to build longer-term relationships with processors. Improved supply chain management and market knowledge would also likely facilitate improved relationships and opportunities for forward pricing to occur.

Managing grain price

Ability to maximise the amount of cheaper grain available to feedlotting will provide some protection against the market difficulties by offering a lower cost of production, similar to a pasture based system. This must not occur through the use of poor quality grain, however there are price mechanisms available to offer some protection to producers, such as futures trading.

Where a clear profit can be achieved based on a grain price of less than \$180/t then feedlotting should be encouraged, as it is likely to be profitable, even given the vagaries of the market forces.

The modelling of profit can be easily achieved with the SAOW calculator and this should be encouraged so that farmers can make better-informed decisions.

Efficiency improvement

Where farmers are currently adopting inefficient feeding programs and not accurately monitoring genetics and weight gain, there is an opportunity to improve understanding and profit with additional measurement and management.

⁶ P. Bailey, pers comm.

Further work on measurement, monitoring and modelling the price efficiency is likely to provide additional confidence and skill to producers. In particular some robust commercial modelling of the breakeven price and associated sensitivity analysis will provide the opportunity for improved engagement and discussion with opportunistic lamb feedlotters. This could occur in conjunction with Peter Bailey of DPI.

Conclusion

Increasing the opportunistic feedlotting of lamb is not an easy task, given the market difficulties, uncertain profit and current low levels of efficiency. Improvement in each of these areas can provide additional marginal benefit (profit) to farmers.

The risk associated with the lamb price movements and grain price movements means that there are opportunities to increase lamb feedlotting when the 'price is right', however a full time industry is not likely to develop, as mixed farming enterprises will only feedlot from time to time based on the risk and opportunity for profit.

4.3 Opportunities: intensive lamb production – an integrated model

A clear opportunity also exists for a redesign of the supply chain.

A premium offering of feedlot lamb, perhaps similar to the 'angus' beef brand, built on the back of a vertically integrated model that incorporated good genetics, controlled backgrounding, efficient feedlotting, efficient processing and appropriate marketing could be successful and underpin a significant change of industry practice. There is likely to be a premium available to producers, and other in the supply chain, if this were to occur.

This model of production, although in existence in other marketplaces such as New Zealand, is not a simple task and will require significant effort and collaboration throughout the supply chain. A more direct supply chain with less transactions occurring is needed with improved communication through the supply chain and better contractual arrangements for breeders, growers and processors.

4.4 Alternate Industries

The WDA should consider agricultural investment and production systems that provide 'steady state' or continuous production, employment, processing and transport, rather than opportunistic ventures.

These industries will enable investment and retention of investment with ongoing production systems contrary to opportunistic lamb feedlotting that only achieves minor capital investment and sporadic profits, employment and flow on benefits.

The intensive animal industries such as chicken and pork production have historically had long-term contracts available to producers that provide more stable profits and hence confidence to invest capital. Where there is no likelihood of profit, capital will not be spent.

The initial point of focus for the WDA ought to be engagement with the commercial sector to hear from the 'horses mouth' the state of the industry and where the real opportunities exist. Ultimately it will be the commercial sector that complete the research and make the

investment decision so an understanding of their business objectives and operating environment is critical.

4.5 Action Items

In conclusion, it is recommended, in priority order, that the WDA:

1. Research alternate intensive animal industries that have efficient supply chain structures and provide long-term profitable contracts to growers.
2. Continue to work with Peter Bailey and the DPI to facilitate and promote change to the supply chain.
3. Promote resources and improved measurement and management of profit for opportunistic feedlotters.