12. Wool Growing as a Business

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Lecture 1: Overview of wool growing businesses

Learning objectives

On completion of Lecture 1 you should have developed an understanding of:

- the interaction between the social (people), biological (farming) and business management aspects of wool growing
- the different 'views' individuals may bring to, and work through, in the farming enterprise
- the importance of considering these views to ensure effective communication and innovation within the wool industry

Key terms and concepts

wool demand, consumer choice, 'lifestyle' vs 'business' outlook, farm family business

Introduction to lecture 1

This lecture provides an introduction to the concept of wool growing as a 'business' and considers the interaction between the social (people), biological (farming) and business management aspects of the wool enterprise. The content of Lecture 2 and 3 will examine the issues introduced here in further detail.

12.1 Background and context

While there is little certainty in farming, one thing of which we can be sure is that farming, as a business, will get more difficult over time. The intuitive sense that many farmers share, i.e. that farming is getting 'harder' (financially), is supported by the data in Figure 12.1 (Wool Industry Future Directions Task Force 1999), which shows a long-term downward trend for wool prices. This overall trend is supported by the more detailed data shown in Figure 12.2 (Wool Industry Future Directions Task Force 1999) for both the 19 and 23 µm categories.

Figure 12.1 Long Term Real Prices of Wool.
Source: Wool Industry Future Directions Taskforce (1999).

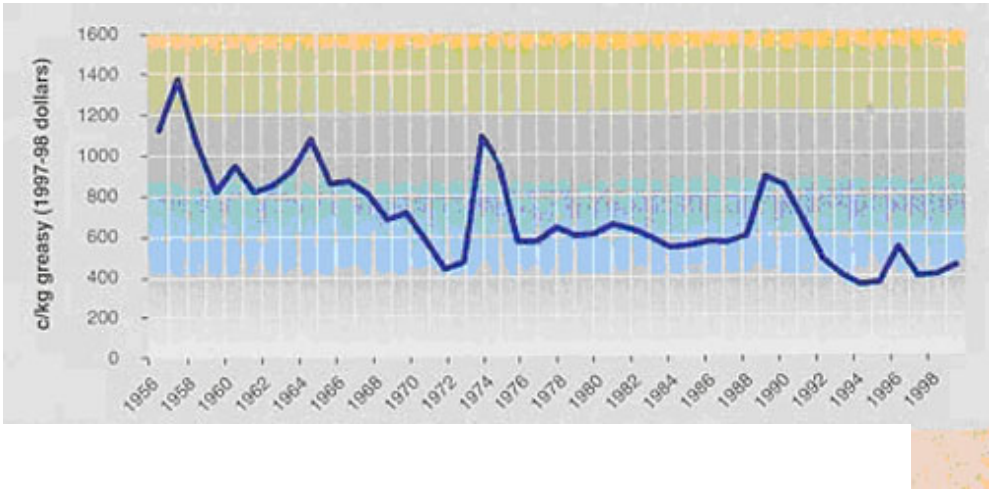
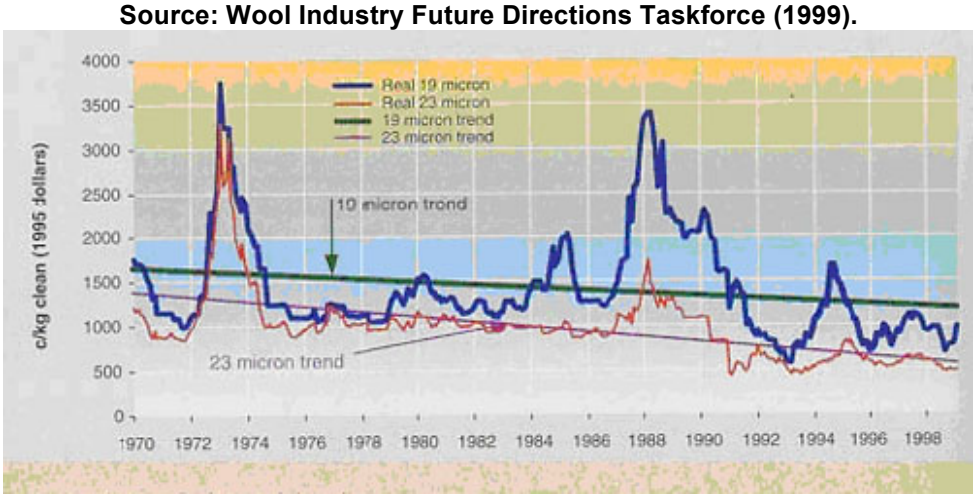


Figure 12.2 Real Prices for 19 and 23 µm Wool.
Source: Wool Industry Future Directions Taskforce (1999).



The Australian wool industry has experienced a decade of difficulty during the 1990's. Poor wool prices, high stockpile volumes generated during the late 1980's, and alternative land-use pressures and farm diversification, have all contributed to a decline in the Australian wool industry with respect to both sheep numbers and wool volume. Table 12.1 details these changes.

Table 12.1 Australian Wool Production and Production Forecasts
Sources: ABS, AWI Wool Production Forecasting Committee. Note: (f) = forecast

	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07 (e)	2007/08 (f)
Opening sheep numbers (million)	117.9	115.5	118.6	110.9	106.1	99.2	101.2	101.1	97.1	94.2
Sheep shorn (million)	148.0	144.4	139.6	127.0	118.0	105.0	106.0	106.5	103.7	99.1
Average cut per head (kg/head)	4.32	4.30	4.31	4.38	4.25	4.51	4.49	4.33	4.10	4.24
Total shorn wool prodn. (mkg greasy)	641.0	620.0	602.0	555.0	499.0	475.0	475.0	461.0	425.0	420.0

Coupled to the overall changes in wool production and industry size, there has been a fundamental shift in the composition of the wool clip, as can be seen in Table 12.2.

Table 12.2 Historical Micron Profile (%) of Wool Produced in Australia Source: AWTA (greasy weight basis). Source: Figures prepared by K. Stott (Woolmark Company) on behalf of the Australian Sheep Industry CRC, from AWTA data.

Year	<=19	20	21	22	23/24	25/26	27/28/29	>30
1993/94	8.84	12.09	18.76	20.84	25.72	7.42	4.67	1.66
1994/95	12.79	15.22	20.86	19.89	19.98	4.70	4.82	1.73
1995/96	12.06	15.30	20.75	18.48	21.35	5.96	4.54	1.57
1996/97	14.52	15.31	20.05	18.26	20.55	5.29	4.22	1.80
1997/98	15.70	14.81	19.42	18.26	20.54	5.35	4.41	1.51
1998/99	14.28	14.57	19.60	18.62	21.62	5.13	4.71	1.46
1999/00	14.60	14.39	19.10	18.22	21.24	5.21	5.35	1.88
2000/01	17.81	15.71	18.53	16.39	18.13	5.13	6.43	1.86
2001/02	23.88	19.91	18.90	12.90	11.82	3.72	6.95	1.93
2002/03	30.31	18.93	17.59	12.00	9.50	3.36	6.65	1.66
2003/04	31.40	17.97	15.98	11.41	10.65	3.62	7.13	1.84
2004/05	32.71	18.47	15.67	10.48	9.32	3.76	7.55	2.03
2005/06	30.99	18.70	17.14	11.50	8.74	3.93	7.42	1.60

These competitive pressures and the changing structure of the wool industry's production base were highlighted in the most recent review of the Australian wool industry, the 'Wool Industry Future Directions Taskforce' (Wool Industry Future Directions Task Force 1999). A key recommendation from the review was the need for Australian woolgrowers to take a more business oriented approach to wool growing and to work effectively towards improved rates of productivity and genetic gain. The revised industry-good research and development structure created following the review, has as a key goal "to provide tools to producers to aid their business operations" (AWI 2002)

But what is required if wool production systems are to become more business focussed? What factors influence demand for wool fibre? How do farmers view the practice of wool growing? What does this mean for the application of information and technology which can drive the efficiency and productivity improvements many believe the industry requires to survive and prosper? This topic examines some of these issues and the factors impacting on woolgrowers and wool enterprises as businesses.

12.2 Wool production's business context: What influences wool demand?

Perhaps more importantly, the wool industry's share of the global textile trade has declined significantly due to increasingly cost-competitive and better performing synthetics. Market share data is shown below in Table 12.3.

Table 12.3 Wool's share of the global textile trade and images of contemporary fashion. Source: Figures compiled from IWS (1985); WDI (1993); IWTO (2003).

Year	**1951**	**1961**	**1971**	**1981**	**1991**	**2001**
Market share (%)	9	9	6	5	4	2.6

A number of factors have influenced the changing demand environment for wool over recent times. Currently (mid-late 2003), poor economic conditions in the major wool consuming economies are having a depressing effect on demand, but this is being counterbalanced by reduced supply due to structural change and reduced sheep numbers, coupled to a severe drought. The impact of these factors for both the sheepmeat and wool industries is clear from recent Australian Bureau of Statistics data showing that closing sheep numbers at 30th June 2002, were the lowest since 1948 (ABS 2003).

However, these are not the only changes impacting the wool industry. Lifestyle and fashion changes are also impacting on wool demand in a more strategic and long-term way. These strategic issues include (Wool Industry Future Directions Task Force 1999):

- increased levels of environmental control in buildings and in transport decreasing the need for heavy, warmth-giving apparel
- successive and significant improvements in the cost and properties of synthetic fibres
- a decrease in wearing of more formal, traditional apparel
- a decrease in the proportion of disposable income spent on apparel purchases.

What these factors highlight, is that consumer choice, at both a macro- and micro-level, drive the apparel fibre industry, and hence impact on wool.

As mentioned above, the proportion of income spent on clothing is decreasing, from approximately 10% in the late 1960's to only 5% in the late 1990's. Clothing now competes with other lifestyle items such as holidays and entertainment (Seaman 1998). For example, for the last decade in Italy, a key wool consuming country, growth of apparel sales has lagged behind growth in other consumer expenditure and apparel prices have lagged behind average inflation (Woolmark 2000). The result has been poor growth and reduced margins in the apparel business.

Additionally, changing consumer lifestyles and increased time pressures have increased the demand for 'easy care' wool garments. Easy care describes a product that has been designed or processed/treated in a way that adds properties such as (Woolmark Europe 1999):

- machine washability
- machine dryability
- minimum iron
- permanent crease
- stain/water resistance
- stain release
- deodorant.

Consumer research undertaken by Woolmark in 1996 found that across 12 countries, 64% of consumers rated machine washability properties as either very desirable or essential. Further driving the need for wool to come to be seen as an easy care fibre as the heavy investments by its competitors, cotton, silk and synthetics, in stressing the easy care nature of their fibres (Woolmark Europe 1999). However, wool still struggles to gain acceptance in the minds of many consumers as an 'easy care' fibre choice, with high proportions (~50%) viewing wool as "difficult to care for" (Woolmark Europe 1999).

12.3 A 'lifestyle' vs a 'business' outlook: What's the difference?

Given the short- and long-term challenges for wool detailed above, how can the industry respond to ensure it remains viable and prosperous into the future? The Australian Wool Industry Future Directions Task Force was very clear on where the industry needed to move to address the difficulties of the recent past. It stated that is was up to the focus of the individual business (Wool Industry Future Directions Task Force 1999):

Although frequently advocated, "industries" cannot implement visions, strategic plans, blueprints or the like. Only individual businesses and the people who run them can do so. And so it should be in the case of wool.

Drawing on high quality benchmarking and survey data, the Taskforce's authors identified a clear case for a 'business' approach to wool farming. To understand how they and others might have arrived at this conclusion, let's examine some

Individual's approach to wool growing and business outcome

In the wool industry, there appears to be a direct thread between the aspirations of the farm family, farm business objectives and strategies, and the adoption of new practices (O'Keeffe & Fletcher 1998). A recent study examining reasons for the differences between high and poorly performing wool producers (see Readings, Samson 1999.pdf) found that a number of characteristics were associated with high performance. These included (Samson 1999):

- leadership and decision-making based on an analysis of business value
- the presence of production and business plans
- the use of active risk management and product marketing
- the holding of a customer focus
- managing sustainability with a high stocking rate
- participation in groups and the use of consultants
- the use of information on new practices and farming techniques
- a focussed breeding strategy
- the use of quality control strategies and efficient management of labour.

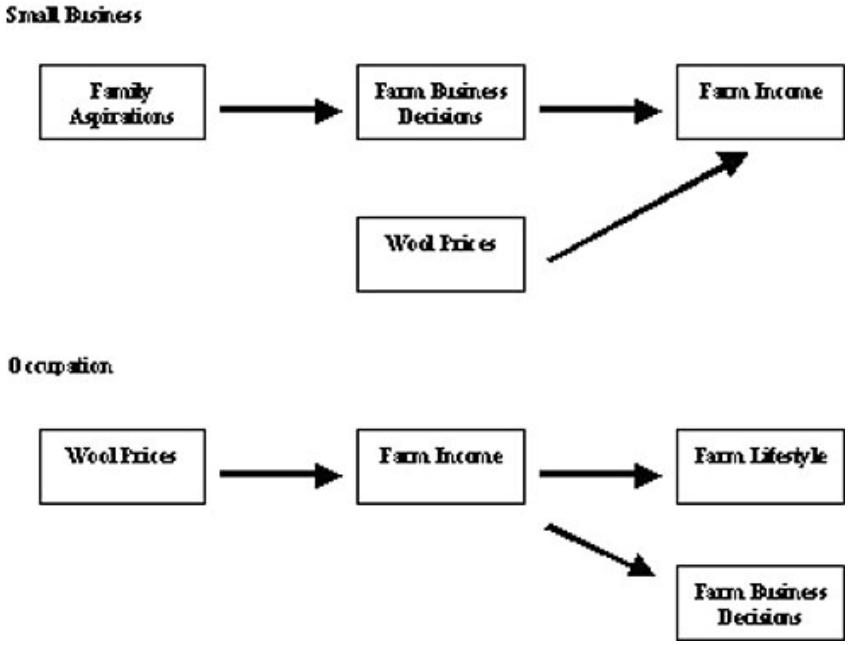
Perhaps most importantly, the ability of an enterprise to be a high or low performer was found to be independent of land, rainfall and scale of wool-growing enterprise. O'Keeffe and Fletcher (1998) captured the difference between these high and low performing groups by describing them as 'occupation' and 'small business' focussed. However, they will be termed 'lifestyle' and 'business' for these purposes. Their description of the broad characteristics of the two groups are outlined and considered in Table 12.4.

Table 12.4 Characteristics of the woolgrowing 'approaches'.
Source: O'Keeffe and Fletcher (1998).

Lifestyle (Occupation)	Business (Small Business)
Passive	Active
Males (father and sons) provide labour	Farm family provides management
Future is owning land	Future is management ability
Commodity prices determine income	Decisions (largely) determine income
Income determines investment and expenditure decisions	Expenditure and investment decisions are business decisions
Little value in information – closed information networks. New information is often introduced by the rural retailer, stud breeder and/or stock agent.	Value information – open information networks
Minimising costs is the only profit drive under control	Productivity leads to profitability.
Never consider changing the grazing system	Interested in developing more intensive grazing systems.
Waiting for the next wool price hike	Managing wool price volatility and links with customers is an important challenge
Farm stops at the farm gate	Farm extends beyond the farm gate
Time has low value	High value on time
Few alternatives	Alternatives

Within the 'lifestyle' group, farm business decisions and family expenditure are driven by farm income which in turn is a function of commodity prices and farm profitability. These factors are beyond the control of the individual grazier, and as a result they become a passive player in the system. Contrasted to this are those who see woolgrowing as a business. Here the aspirations of the farm family drive farm management strategies and their willingness to go into debt. As a result, farmers feel more in control of their own destiny (O'Keeffe & Fletcher 1998) (see Figure 12.3).

Figure 12.3 Drivers of wool production enterprise in the two groups.
Source: O'Keeffe and Fletcher (1998).



The 'lifestyle' group appears to be comparatively homogeneous within regions. Traditional district practices are not questioned with respect to their applicability for a specific farm, and there is usually consensus on what this local practice is. Little new information is brought into the system and views are rarely challenged. Wool growing is seen as being their only lifestyle with little opportunity for other uses of labour (O'Keeffe & Fletcher 1998).

In contrast, the 'business' group are heterogeneous, seek new information and are interested in the strategies pursued by others. They see themselves as land managers rather than woolgrowers and as a result they may be more likely to diversify into other enterprises. For example as pastures and pasture management improve, they may be more likely to shift from woolgrowing into prime lamb production (O'Keeffe & Fletcher 1998). This presents an interesting problem and opportunity for the wool industry as it means that these highly skilled growers are more likely to diversify out of wool production should it not be the most financially attractive opportunity for their assets and resources.

O'Keeffe and Fletcher (1998) noted that despite the significant changes in the wool industry throughout the 1990's, the occupation group appear not to have made any significant management changes or to have considered that they may increase profitability through innovation (O'Keeffe & Fletcher 1998).

Within these broad categories ('lifestyle' and 'business'), there are possibly four strategic groups with respect to woolgrowers (O'Keeffe & Fletcher 1998). The characteristics of these groups are summarised in Table 12.5.

Table 12.5 Characteristics of woolgrower subgroups. Source: O'Keeffe and Fletcher (1998).

	Grower subgroups		
The grazing system manager	**The marketing woolgrower**	**The land and asset manager**	**The cost minimisers**
Believes pasture drives profitability Most likely to understand the grazing system and profit drivers Most innovative group with respect to new farm practice	Similar to the pasture grower but seeks to be a more integrated part of the fibre system Seeks market feedback as an input to production Systems	Interested in land use options and irrigation etc Focus on the most profitable enterprise mix Willing to invest off-farm Little time and interest devoted to their wool enterprise under current commodity prices Likely to be over 50	The woolgrowing as an occupation group who believe that minimizing costs is the secret to success and is the only management variable under their control The largest group Animal orientated Slow to change and conservative

12.4 Wool growing from a 'social' perspective

Adopting the business approach to farming described in the previous section has social/human implications. If we are to bring about the type of changes identified above as being important for farm and industry survival, then it is through the 'human' element that this change must be driven. So what is involved in moving from the 'lifestyle' to the 'business' approach?

Firstly, there must be a shift from a traditional to an open family, the latter characterised by multiple decision-makers. This encourages the incorporation of different perspectives and concepts. For example, it broadens the time period when graziers are open to new ideas on grazing systems and as a result has a positive influence on the adoption of new practices (O'Keeffe & Fletcher 1998). However beyond this, a further understanding of the sociological environment of woolgrowers helps us understand the key drivers of farmer behaviour. Fulton and Champion (1999) argue that these key drivers are the goals of the parties involved, and the division of labour, decision making and quality of human capital on the farm.

It is important to understand that the woolgrower is part of a network of individuals, organisations and forces which all impact on the decisions made on-farm. The components of this network are detailed by Fulton and Champion (1999) and include:

- The woolgrower
- His/her partner
- The family (offspring, siblings, parents and other relatives)
- The farm

- Farm labour
- Farm and family service providers
- Personal, family, farmer, community and industry networks
- The wool industry and other agricultural industries of which he/she is part
- The farming, rural and urban communities
- Forces for economic, social and political change.

These components create what might be described as the sociological environment of the woolgrower.

Perhaps most importantly, each component of this sociological environment differs for every wool grower – not all are married, each has a different family structure, a different farm, a different mix of farm enterprises, different networks, different communities and different forces for change. Each of these components interacts with the others. The way in which these components interact will influence the strategies that farm families adopt to cope with the external forces impacting on the woolgrowing business (Fulton & Champion 1999), described earlier.

The farm family business and its place in the Australian wool industry

Before we start this discussion about the family farming business, it is important to distinguish between the context in which 'business' is used here, compared to the meaning attributed to 'business' earlier in this lecture. In this section, 'business' is used to describe the family farming unit. This unit may, or may not, have a 'business' outlook or approach to farm management. This latter definition, i.e. business outlook, was described in more detail earlier in this lecture.

It can be argued that wool growing is, typically in Australia, a family business. Gasson and Errington (1993) define the 'ideal' farm family business as having five defining characteristics:

- The combination of ownership and management
- Business principals related by kinship or marriage
- Family members providing capital and labour
- The family lives on the farm
- Intergenerational transfer of assets and control.

To identify the extent to which wool growing businesses are family businesses, Fulton and Champion (1999) assessed them against the five components of Gasson and Errington's definition. They found:

- Of the 46,300 wool growing operations in Australia, 98% are family businesses (Garnaut & Lim-Applegate 1998)
- The majority of owner-managers are male, averaging 52 years of age, with 16% having a tertiary education or equivalent
- On Australian broadacre agricultural properties, 98% of which carry sheep (Martin 1998), 81% are run by two or more family business partners (Garnaut & Lim-Applegate 1998)
- Owner managers, their relatives and other members of the farm business accounted for at least 85% of the hours of on-farm work in 1994-95, excluding contract and paid shearing work. Owner managers themselves provided an average of 50 per cent of the hours worked on broadacre farms. Spouses and adult sons were next in importance (Garnaut & Lim-Applegate 1998)
- Australian woolgrowers provide most of the capital they need to run their businesses with equity ratios at 88% and 87% for specialist wool producers and mixed enterprise wool-producers, respectively
- There was intergenerational transfer of the farm business and most families live on the farm. A 1994/95 survey showed that 73% of broadacre families lived on the farm (Garnaut & Lim-Applegate 1998).

From the above, it is clear that the operational unit of Australian wool growing is a family farming business. The question then is how to get more of these operational units to change their thinking and management processes towards those described in the 'business' approach in Table 12.3. One approach is to engage various technologies to assist with improved farm performance. Samson's (1999) work shows that a key differentiator of high performing wool production enterprises was their selection of farming practice (management) based on the value it created for the business. To do this however, the interface with agricultural extension and service providers becomes important.

While it is not the focus of this topic to discuss agricultural extension, brief consideration is useful, given that many of you may end-up working with or in, wool growing businesses, and are likely to have an inherent interest in their long-term viability and sustainability. A key question then becomes how agricultural extension and service providers engage with the family farm to provide effective technologies and solutions to drive business growth?

12.5 Different production perspectives: Implications for industry development and service provision

Fulton and Champion (1999) summarise this intersection between the social (people), biological (farming) and business management aspects of wool growing. They state:

Farm family business behaviour is a function of its makeup, its environment and the individuals within it. The nature of farming, of families and of the economic and political climate for agriculture mean that farm family businesses are dynamic, undergoing constant change. Some of these changes are driven from within the family, some from without. Farm family business behaviour can be understood through consideration of the sociological environment in which they are operating. A detailed knowledge of farm family business goals, decision making, labour use and human capital, and the factors that influence these is useful for informing approaches to technology adoption.

The last sentence is perhaps the most important with respect to our discussion. Understanding farm business goals, i.e. whether an individual or enterprise 'lifestyle' or 'business' focussed, is the key to effective technology adoption and therefore to change. Furthermore, Fulton and Champion (1999) develop some simple but effective rules to remember when working to bring about positive change on farm:

- *Work with the right people* - Target technology adoption efforts towards the appropriate member(s) of the farm family business
- *Understand the needs of the people you are working with* - Ensure the technologies are developed so they are relevant to the needs of the target audience
- *Make the technology accessible to farm family businesses* - Present the technology, education or training in a way that reduces the disincentives for participation
- *Develop everyone's human capital* - Focus on developing the capacity of all members of the farm family business, including outside service providers.

Lecture 2: Profitability and management levers for the wool growing business

Learning objective

By the end of Lecture 2 you should have developed an understanding of:

- the profitability and management levers for a wool growing business
- the differential characteristics of high and low performing wool growing businesses
- the impact of region on the production unit.

Key terms and concepts

profitability, production zone, performance benchmarking, efficiency, ROAM, discussion groups, diversification

Introduction to lecture 2

This lecture further develops the material introduced in Lecture 1 and considers the wool growing business as a production unit. It examines the characteristics of high-performing wool production businesses and considers the impact of a shift/diversification into meat and wool production. It also considers the impact of region on production and the nature of the production unit.

12.6 Background and context

We have seen in Lecture 1 of this topic that high-performing wool growing businesses have certain characteristics and that their managers/owners are also characterised by a certain outlook which impacts on all aspects of their farming practice. This lecture develops these issues further to examine in greater detail the levers associated with high performing wool growing businesses. In this context it also examines the impact of region on the structure of the wool growing business.

Much of the information in this lecture is drawn from The Woolmark Company's Wool Profit Map study. I have listed it, at the end of this lecture, as a recommended reading and would encourage you to read it (Samson 1999.pdf).

12.7 The profitability and management levers for a wool growing business

As mentioned in Lecture 1, O'Keefe and Fletcher's (1998) survey of wool growers showed there to be significant differences in the outlook of two distinct groups of wool growers in terms of their attitude to the business of farming. They described these two groups as having an 'occupation' focus, compared to a 'small business' focus. A similar theme has been developed by Samson (1999), who found while developing detailed case studies of various wool growers, that a grower's attitude to farming was an underlying key to explaining farm practice and therefore, farm performance. As we saw in lecture one of this topic, they also found that the management and business practices of a farm were influenced by a number of key issues, and that higher-performing farms tended to be characterised by the following (Samson 1999) which are worth repeating:

- leadership and decision-making based on an analysis of business value
- the presence of production and business plans

- the use of active risk management and product marketing;
- the holding of a customer focus
- managing sustainably with a high stocking rate
- participation in groups and the use of consultants
- the use of information on new practices and farming techniques
- a focussed breeding strategy
- the use of quality control strategies and efficient management of labour.

Samson also found a number of general characteristics to be associated with high, average and low performing wool enterprises. These are shown in Table 12.6.

Table 12.6 General characteristics of high, average and low performing wool enterprises. Source: Samson (1999).

High performing wool enterprises	Average performing wool enterprises	Low performing wool enterprises
• Actively manages risk • Good business planning • Selects practices on value to business • Actively measures performance • Change is based on research • Seeks information • Business and leadership oriented • Early adopter • Total business approach • Allocated time to manage • Sees lots of opportunity • Under-rates their performance • Manages asset viability • Manages the market • Actively manages for sustainability.	• Weak business approach • Good on some aspects only • Motivated by wanting a good farm, not necessarily a good business • Focuses on lifestyle • Risk averse, but risk management strategies not in place.	• Too busy for change/gambles on the market improving • Little planning/selects practice on guesswork • Lacks information on technical systems • Too busy in the field/does not manage • Displays a victim mentality • Over-rates their performance • Waiting for a price rescue.

Building on these generalities, the Wool Profit Map (Samson 1999) also gathered qualitative data for a number of measures. Firstly it looked at the relationship between an index of farming practice (20 practices) and farm operating (financial) performance. The elements of the Performance and Practice Indices are shown in Table 12.7.

Table 12.7 Elements of the 'Wool Profit Map's' Performance and Practice Indices. Source: Samson (1999).

Performance Index	Practice Index	
ROAM (Return on Assets Managed before tax, interest, depreciation and lease) Profit/kg Total cost/ha Price/kg Wool cut/ha	Training on leadership and people management Benchmarking Wool harvesting measurement Sheep production measurement Focus on breeding sheep with higher value wool potential Spring lambing Stocking rate Focus on increasing total wool production Use of RAMPOWER Use of grazing Management strategies Use of parasite control Use of worm egg counts	Use of drench resistance tests Investment in technical reports Use of futures and forward contracts Information sourced from subscriptions and technical reports Information sourced from consultants Information sourced from field days Perception of the exporter as the main customer Perception of the spinner as the main customer

Farming practice was considered both including and excluding stocking rate, with correlations between the practice and performance indices of 0.7 and 0.4, respectively for these two calculations. This highlighted two factors:

- The significant contribution of stocking rate
- The significant and cumulative effect of a range of other farm practices with respect to operating performance.

From a technical point of view, it is interesting that the effect of stocking rate is being 're-discovered' since excellent stocking rate research was conducted from the late 1950's onwards, and the research and extension communities have understood it's effects for a long time. However, it is clear that the technical understanding is not always implemented, thus underlining the issues highlighted in Lecture 1 of this topic, i.e. the need to understand the farmer in order to effectively communicate. The results of poor adoption of 'simple', high-impact technologies or understandings such as these, are poor farm business performance.

Quantitative measures of wool business performance

The Wool Profit Map study (Samson 1999) looked at a number of different measures of efficiency for each of the three wool production zones (Newton Turner et al. 1986):

- High rainfall
- Sheep-cereal (sheep-wheat)
- Pastoral.

Data was collected for the following efficiency measures:

- Labour (DSE/labour unit)
- Animal (wool cut/DSE)
- Cost (wool production cost/kg)
- Land (DSE/ha)
- Income per unit ($ income/DSE).

The results are then displayed for the production zones by decile (where 100 = the highest performing, and 0 = the lowest performing farms) in Tables 12.8 to 12.9.

Table 12.8 High-rainfall zone efficiency factors. Source: Samson (1999).

Decile %	Land (DSE/ha)	Labour (DSE/labour unit)	Animal (wool cut/DSE)	Income per unit ($/DSE)	Cost (wool production cost/kg)
100	30.86	9359	6.76	52.16	1.45
90	21.42	4973	4.92	32.19	2.05
80	18.44	4060	4.14	27.93	2.50
70	16.13	3549	3.82	25.42	2.88
60	14.76	3238	3.59	23.55	3.16
50	12.58	3037	3.29	22.72	3.50
40	10.84	2377	2.98	20.20	3.90
30	8.45	1845	2.76	18.52	4.28
20	7.12	1516	2.64	17.17	4.70
10	5.48	1029	2.33	15.76	5.45
0	0.92	269	1.06	9.03	9.44

Table 12.9 Sheep-cereal efficiency factors. Source: Samson (1999).

Decile %	Land (DSE/ha)	Labour (DSE/labour unit)	Animal (wool cut/DSE)	Income per unit ($/DSE)	Cost (wool production cost/kg)
100	20.40	10626	9.61	70.91	1.47
90	12.86	4186	5.37	34.29	1.78
80	10.45	3193	4.61	28.33	2.09
70	8.81	2531	4.04	24.94	2.32
60	7.29	1859	3.74	23.01	2.58
50	6.04	1504	3.50	20.96	2.84
40	5.10	1252	3.29	19.54	3.16
30	4.81	1066	2.94	18.27	3.40
20	2.89	853	2.66	16.29	3.91
10	1.89	594	2.26	14.40	4.54
0	0.53	138	1.41	6.90	9.12

Table 12.10 Pastoral efficiency factors. Source: Samson (1999).

Decile %	Land (DSE/ha)	Labour (DSE/labour unit)	Animal (wool cut/DSE)	Income per unit ($/DSE)	Cost (wool production cost/kg)
100	3.79	12793	7.89	31.63	13.1
90	2.60	8224	4.80	23.21	1.81
80	2.17	7330	4.02	20.88	2.03
70	1.85	6052	3.79	18.94	2.29
60	1.50	4690	3.60	18.07	2.59
50	1.31	4381	3.41	16.79	2.86
40	1.22	3686	3.19	15.99	3.02
30	0.87	3281	3.04	15.03	3.2
20	0.70	2826	2.75	13.72	3.53
10	0.51	1585	2.41	11.22	4.12
0	0.32	529	1.91	6.04	6.52

With respect to financial performance, Samson (1999) also reports the following ROAMs for various deciles (Table 12.11).

Table 12.11 ROAM values for various deciles in the 'Wool Profit Map' study. Source: Samson (1999).

Decile	ROAM
100 (Top 10%)	8%
90 (Next 10%)	6%
10 (Next to lowest 10%)	1.8%
0 (Lowest 10%)	-1.1%

The significant financial 'gaps' between the high and low performing farms are confirmed by other studies. Martin's (1998) analysis found the top 25% of specialist wool producers to have earned rates of return typically three-times that of the industry average and to have had disposable incomes twice the industry average.

It needs to be noted however, that a key message from the analysis was that there were high and low performing farms in each production zone. As a result, wherever the wool production enterprise is located, there are opportunities for lifting performance and increasing efficiency (Samson 1999).

Qualitative characteristics of high-performing wool businesses

The Wool Profit Map (Samson 1999) also gathered qualitative data to better understand what contributed to the superior performance of some farms. An interesting observation on reading through many of these characteristics is that they are 'intuitively' correct, i.e. they 'make sense'. However, as mentioned above, this underlines the fact that implementation is the key.

Higher performing farms were more likely to have a clear business vision or goals and were focussed on factors such as (Samson 1999):

- Increasing output, rather than reducing costs
- Wool quality
- Increasing wool cut
- Reducing diameter (although this was not the case in the pastoral zone)
- Sustainable resource management.

It was also interesting to note that the more profitable farms largely drove this profit through price advantage and tended to have slightly higher costs. These cost differences however are more than recovered through the returns they receive. They also have more productive animals, manage under higher stocking rates, and tended to source external advice through farm advisers or discussion groups (Samson 1999).

Martin's (1998) analysis of Australian wool producers highlighted some other interesting issues. He found that higher performing wool production businesses were characterised by:

- Being larger enterprises
- Receiving a lower proportion of farm income from wool
- Having higher income per labour unit
- Being operated by younger farmers.

Many of these results were confirmed again by the Shafron, Martin and Ashton (2002) follow-up study.

Martin's (1998) work also confirmed Samson's (1999) findings that high performing farmers were more likely to be part of a discussion group (or Landcare), and were more likely to have a farm business plan or have undertaken training in the recent past.

Discussion groups and productivity

Many of the farm management issues and the underlying science and technology that have been identified as leading to superior farm performance will be covered elsewhere in the unit. They do not warrant further discussion here. However, the role of discussion/benchmarking groups and external information sources may not be covered further and is worth considering.

A key finding of both O'Keeffe and Fletcher's (1998) study and of the work by Samson (1999) discussed above, was the use, by high performing farms, of external information sources to assist with farm management decision making. The recognition of the value of these groups is not new, with a review of extension commissioned by the Australian Wool Corporation commenting (Russell et al. 1989):

Where farmers have formed into regional groupings to discuss management practices and exchange technical information, the effect on the adoption of technology has been significant.

Recently, a number of group-based programmes, or those with group-based components, have been developed to support wool production and/or grazing management. These have included programmes such as Triple P, Bestwool 2010, Bestprac, SGS and GPP. Given the findings discussed earlier, these would appear to be positive initiatives with respect to farm and overall industry performance.

At a recent wool industry science and technology conference, two of these extension/group-based programmes reported positive results with respect to their impact on farm performance, and hence support the conclusions of the earlier studies. Duke, Hanrahan and O'Neill (2002) reported on an analysis of the productivity of Victorian growers. They found a number of interesting results which mirror those discussed earlier in this lecture, particularly in the area of business planning. The results of Duke, Hanrahan and O'Neill's study included:

- Higher DSE and higher DSE/ha (stocking rate) contributed to higher productivity
- Growers who had participated in a Triple P course (Pasture Productivity Programme) had a 24% higher productivity than those who had not
- Wool growers who undertake sheep breeding training had a 14% higher productivity than those who do not
- A wool producer with a "strategy to ensure finance for change on farm" had a 20% higher productivity than one who did not
- A wool producer with a plan to offset the risk of a fall in the price of wool (risk management strategy) had a 24% higher productivity
- Growers who had participated in a Bestwool 2010 course had a 20% higher productivity than those who had not.

Perhaps just as interesting as the factors which were shown to be related to high productivity, were those that were found to not be statistically significant.

These included (Duke, Hanrahan & O'Neill 2002):

- Education of the operator or their spouse
- Proportion of income provided by the operator's family
- Rainfall
- Off-farm income
- Fertiliser application
- Having (or not having) plans for major enterprise change in the next five years
- Area of pasture sown to perennials
- Information sources used for genetics decision-making.

Again, an interesting parallel to the earlier work is further evidence that rainfall, or production zone as described in Sansom's (1999) work, is not a key issue with respect to farm performance. Again also, is confirmation that the important factors are a mix of farm production, social (e.g. group participation) and farm business (e.g. business plans) issues.

Further encouraging results with respect to group participation and technology evaluation and use, have been seen through the Grassland Society of Victoria's 'Grassland Productivity Programme' (GPP). Farmers that had and hadn't participated in a GPP programme were followed for four (4) years following a GPP course (Trompf 2002). During this time, those that had completed the course exhibited a number of characteristics which differed from a similar cohort who had not completed the course. These included (Trompf 2002):

- Higher fertiliser application rates
- Higher stocking rates
- Higher production per DSE
- Higher labour efficiency
- Lower cost of production
- Higher net income.

As the author points out, not necessarily all of this can be attributed to the GPP course, as many of the statistics of those who participated were higher upon entering the programme. However, they do confirm the results of the other studies discussed in this lecture, and participants showed superior improvement following the GPP programme.

The results pose another interesting question. Are high performing farmers more likely to participate in this type of programme (e.g. GPP) in the first place? Perhaps the 'business' outlook discussed earlier in this lecture and in Lecture 1 means that they are more inclined to do so. One might also speculate that the higher performance and more rapid performance improvement of this group over time, will contribute to a widening performance gap between the high and low deciles as described in Tables 12.8 to 12.10. If this is the case, then it is likely that there will continue to be structural adjustment within the production base, with decreasing farm numbers and increasing farm size. These are interesting issues to consider!

12.8 Meat vs wool: Should I make the shift?

I think it is worthwhile to make a brief comment here as to whether the answer to the wool industry's poor profitability is for individual growers to stop or decrease their production of wool. While stopping production sounds slightly absurd, and is an overstatement of reality, there has been a significant shift out of wool production. The decline in the national sheep flock and the dramatic fall in sheep production (see Table 12.1 in Lecture 1) highlight this structural adjustment.

However, the hypothesis that diversification will, in itself, bring improved financial performance, is not supported by the data in the literature. If we turn to the 'Wool Profit Map' study again, we see that there was a much more specialised focus on wool production in the high performing farms compared to the low performing farms, especially in the sheep-cereal and high rainfall zones. The effect was less marked in the pastoral zone (Samson 1999).

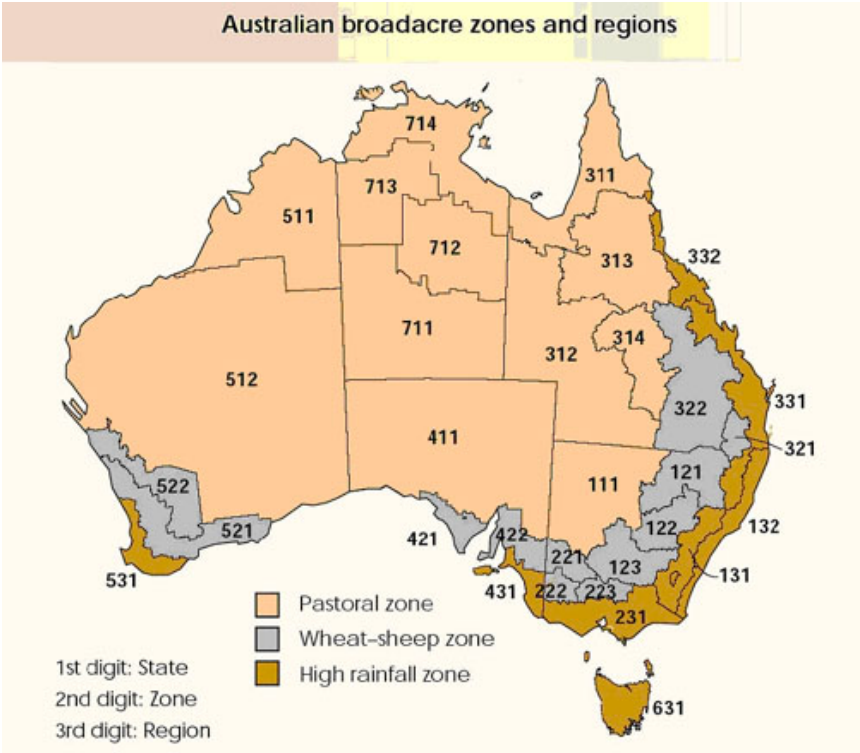
Duke, Hanrahan and O'Neill (2002) found similar results, in that wool producers whose main focus was the sheep industry, had higher productivity than wool producers who were also involved in wheat and other crops, mixed livestock and crops, or sheep-beef operations.

While the reasons for these links are not entirely clear, the specialisation enabled by the more narrow wool production focus would seem to provide more opportunity to consider a broader array of wool industry-specific issues and to undertake the type of planning and management indicative of high-performing wool enterprises. What is clear is that diversification as a strategy in its own right, is not a path to improved farm performance. The key is the style and content of the management practice applied to the enterprise, whatever that may be.

12.9 The wool production business: What does the 'business unit' look like?

While it's been concluded earlier that farm location and climate do not have a significant effect on farm financial performance, it is still valuable to have some insight into the diversity of farms which contribute to the Australian wool industry. These farms cover the three production zones; high rainfall, sheep-cereal (sheep-wheat) and pastoral (see Figure12.4) and because of this, differ greatly in their structure and management systems.

Figure 12.4 Production zones for the Australian wool industry. Source: Shafron, Martin and Ashton (2002).

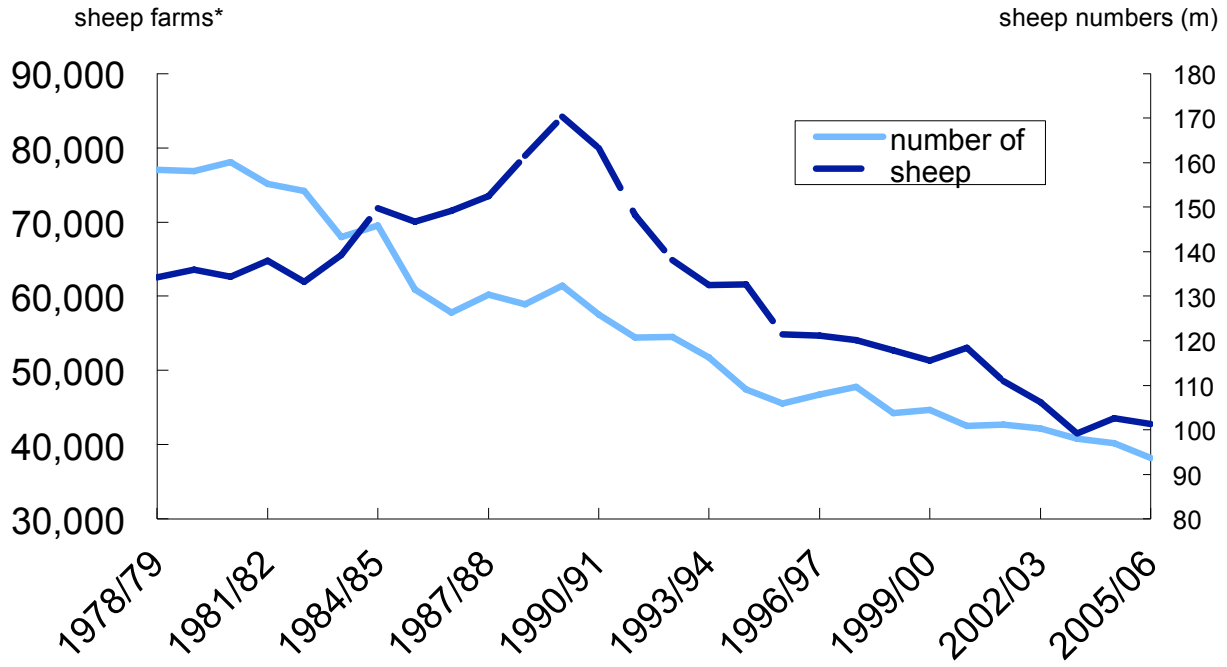


The latest data from ABARE's 'Profile of Australian Wool Producers' (Shafron, Martin & Ashton 2002) provides some interesting insights into both the current structure of the wool industry and the changes it has experienced over the recent past. Key data includes:

- Wool production remains an important agricultural industry contributing AUD$3.8 billion in export income in 2001-02, or around 7% of the gross value of agricultural production
- Wool production has fallen from 1.03 million tonnes in 1990 to 0.55 million in 2001
- In 2000-01, about 40,000 broadacre farms produced wool
- There has been adjustment in the stock type of flocks, with increased proportions of ewes and a substantial movement to prime lamb production. In 1991, 30% of producers sold lambs for slaughter. This had increased to 47% by 2001.

Figure 12.5 shows the decline in both sheep and farm since 1990.

Figure 12.5 Number of Australian Sheep Farms
Sources: ABARE, ABS. Note: Sheep farms are those with with an estimated value of agricultural output of $22,500 or more that run sheep. From 2004/05 estimated value of agricultural operations is based on $40 000 or more that run sheep



As a snapshot of some of the production differences between zones, three statistical regions (one from each zone) have been chosen and the structural characteristics of their wool production units presented in Table 12.12. While a snapshot such as this can be difficult to interpret due to region- and season-specific influences, key differences to note between the regions include:

- Production unit size
- Low sheep numbers in the sheep-wheat zone
- Higher price and finer micron in the high-rainfall zone
- Difference in stocking rates between the zones.

Table 12.12 Production unit characteristics for 2000-01.
Source: Shafron, Martin and Ashton (2002).

	Region		
	Pastoral (Murchison-Gascoyne, WA)	**Sheep-wheat (Mallee, VIC)**	**High rainfall (Tasmania)**
Land area (ha)	215,234	2,509	2,358
Beef cattle (no.)	698	33	473
Sheep (no.)	7,798	2,012	4,912
Wool Production (kg)	37,607	8,924	18,545
Wool cut per head (kg)	5.1	5.1	3.8
Greasy wool price (c/kg)	306	270	742
Mean fibre diameter (µm)	21.6	24.6	19.6
Stocking rate (dse/ha)	0.1	2.1	5.2

Lecture 3: Techniques to improve marketing responsiveness

Learning objectives

On completion of Lecture 3 you should have developed an understanding of:

- Opportunities for and impediments to, market responsive wool growing businesses
- Industrial vs biological systems: can wool production respond to the market?
- Role of technology in assisting market oriented wool production.

Key terms and concepts

communication, marketing systems, vertical co-ordination, horizontal coordination, supply chain

Introduction to lecture 3

This lecture some of the links between the on- and post-farm sectors in the wool industry. As such, the content of the lecture moves into the somewhat 'grey' space between agricultural production (science) and agricultural marketing. The agricultural marketing aspects are further developed in Topics 11 and 14.

This lecture considers how the on-farm sector can become more market responsive and what might be some of the impediments to such a change. It also considers the role of technology in facilitating a new market-oriented outlook and responsiveness.

12.10 Background and context

As we begin to consider the interaction between our farming/wool production systems and the market, we need to consider some of the important aspects of marketing systems, and the characteristics of agricultural marketing systems in particular. For example, what is different about agricultural products which requires them to be managed in a certain way through a marketing system? (Topic 14 will build on this information in further detail).

12.11 Communication, grading and marketing systems

Before we can consider the ability of the Australian wool production system to become more market responsive, we need to consider the nature of the marketing systems through which wool moves and the communication within these systems. Communication is vital, as this guides the response of the production base (farms) to the needs of the market (wool processors and apparel consumers).

Poor communication within the wool processing 'pipeline' or 'supply chain' has been highlighted recently as a fundamental problem with respect to industry development. The most recent major wool industry reviews in both Australia (Wool Industry Future Directions Taskforce 1999) and New Zealand (McKinsey and Company 2000) have delivered recommendations relating to the need for woolgrowers to communicate more closely with their downstream customers, in order to better understand the customer's requirements for the raw wool they produce. Such recommendations, although not new, and a general desire amongst growers to communicate more effectively with the processing sector indicate that the wool industry is changing from a production to a market orientation. Such a change mirrors those seen in other agri-food industries (Meulenberg & Viaene 1998).

If we look at the more general case, then products (in our case wool) need to primarily meet the needs of a consumer and of the participants in a processing or marketing system. As a result, the determination of the product's characteristics must be shared between the chain participants, and therefore involve communication between them. Marketing systems are a vital 'bridge' through which this communication occurs, but for the marketing system to enable effective communication, we need to understand the particular characteristics of the product being marketed and whether these require adaptation by the marketing systems. The literature suggests that agricultural products possess important differences when compared to other products. These are summarised in Table 12.13

Table 12.13 Characteristics of agricultural and livestock production systems. Source: Table compiled from Kohls and Uhl (1990); Ritson (1997).

Agricultural Systems
• Agricultural production involves a large number of small-businesses supplying a market where buyers are distant rather than local. Most of the opportunities for matching business activity to consumer requirements exist within the processing sector, i.e. post farm. • Agricultural outputs are typically undifferentiated. • Raw materials are bulky compared to the processed or finished product and hence are expensive to store and transport. • There is considerable quality variation between seasons and years. As strict quality control cannot be exerted over production, processes of standardisation and grading are relied upon to enable price differences based on quality. • Enterprise specialisation varies widely. This diversity adds to difficulties in organising producers for collective market action. • There are long production periods. • There is adjustment of future actions based on current price. This leads to output and price cycles. • There is significant biological inertia with respect to management and other adjustments. Therefore system response is slow.

The complexities of agricultural products, highlighted in Table 12.13, need to be managed effectively by an appropriate marketing system to ensure effective communication, i.e. a 'bridge' to the customer. Therefore, marketing system choice is extremely important.

In a spot market such as an auction, relationship and therefore the level of communication between the participants, is weak, whereas in a more coordinated or integrated marketing system it has the potential to be stronger (O'Keeffe 1998). Auction markets dominate as the preferred method of sale in the Australian animal industries, representing the majority of live animals traded for further growth or breeding, the majority of slaughter stock, and in excess of 80% of Australian wool production. Despite their popularity, auctions can magnify communication problems through the separation of buyer and seller, producer and processor, by creating difficulties for both parties in understanding the actions of the other (O'Keeffe 1998).

Figure 12.6 The Wool Auction Room.
Source: Photograph supplied by S. Champion, The NZ Merino Company, (2006).

However, it is important to note that auction systems do not represent complete communication vacuums (Figure 12.6). As discussed above, agricultural products typically display significant variability in the product characteristics which are of importance to buyers. As a result, even in auction systems, sellers use grading in an effort to improve price and to communicate the variability to buyers. The various grades are often viewed as equivalent to quality and are extremely important, filling a number of roles (Carman 1997):

- They convey information about a commodity that facilitates communication between buyers and sellers and provide a framework for improving the flow of information
- They reduce transaction risk
- They increase economic and productive efficiency.

Grades are extremely important in the case of wool, where the grading system is highly complex. Prior to the discontinuation of its use, the Australian Wool Corporation's typing system categorised hundreds of different wool types (AWC 1990). Today, various objective and subjective wool test results are used to assess the overall quality of a wool 'lot' and hence it's value. Coming back to the point raised earlier, this value is based on the usefulness of the product to both the end-consumer and those who transform the product along the way, i.e. the various members of the wool textile 'pipeline'.

For woolgrowers the dominance of the auction system also means that diversity is lost, as wool is channelled through a small number of brokers, exporters and topmakers, before diversity reappears amongst the larger number of spinners, knitters and weavers (Wool Industry Future Directions Task Force 1999). This may have implications with respect to intangible brand values (these will be discussed later in Topic 19). Also, growers prepare wool for auction without knowing the identity of their customers and so cannot seek to meet specific market or customer specifications (McKinsey and Company 2000).

However, the auction meets some important needs through its activity as an aggregator. These include (McKinsey and Company 2000):

- Ensuring competition
- Setting a public market price
- Providing a simple and open method for buyers and sellers to transact.

For the buyer, the auction gives confidence in the quality of wool purchased, a guarantee of the integrity of the contract and the timing of delivery (McKinsey and Company 2000). Auctions also deal with one of the problems associated with forward sale of wool, that is that the quality of wool produced is likely to be different from that specified in the contract, due to factors beyond management control, principally environment/season (Lubulwa et al. 1997). This characteristic known as poor 'programmability' is inherent in wool production systems. Poor programmability can also be addressed through a range of non-auction mechanisms.

12.12 Moving to market responsive wool growing businesses

Wool as a product

In considering how wool might move to a more market responsive production system, it is valuable to consider 'what is wool?'. While the question sounds rather academic, a brief analysis suggests that the answer is in fact quite complex and spending some time considering it is quite valuable.

When considered carefully, it is clear that amongst agricultural products wool sits in a unique position. Consider these points (Champion and Fearne 2001); wool:

- Is produced in an animal production system
- Shares some characteristics with other animal-based and agricultural systems
- As a fibre product, competes in the textile and apparel, rather than food market
- Competes at high price-points (some wool types) where choices for consumer spending may be between wool purchases and discretionary consumer spending such as holidays and entertainment
- Competes at lower price-points (some wool types) where competition may be between wool and other natural and man-made fibres
- Competes in a market where fashion and other intangible product characteristics appear to potentially have a significant influence on purchasing decisions.

This 'diversity of wool' was highlighted in the Wool Industry Future Directions Taskforce's (1999) report, where they commented:

There is a tendency in general discussion to refer to the wool industry as though it were a single commercial entity. It is not…It is merely the statistical aggregation of independent businesses. Those businesses are characterised by diversity not homogeneity…The same is true of other businesses along the textile chain.

What these comments highlight is that whether considering the product, or the production units, the wool industry is a highly diverse aggregation. As a result, a move to a more market responsive production system may not be appropriate for all wool types or for all wool producers.

Communication in the wool supply chain

We have established earlier that communication is critical in enabling a supply chain to become more market responsive. However, there must be incentives for the production base to align more closely with the needs of the downstream supply chain members. The literature provides some insight into what the incentives might be for wool growers, and for their potential down-stream supply chain partners.

Dolling (1999) lists wool grower motivations for becoming more closely aligned with wool processors. These included:

- Useful feedback from the processor, enabling improvement of raw wool quality and production systems, to better meet customer needs
- The receipt of price premiums in return for superior product
- The reduction of price volatility
- Achievement of long-term surety of demand.

On the other side of the transaction, processors will also be seeking some improvement though such a change. Motivations for the post-farm sector include (Read 1995; IWS 1997; Dolling 1999):

- Tighter specification
- Early advice of clip characteristics/impact of season
- Improved clip preparation and consistency of raw wool received and hence of the processing performance gained
- A more efficient and cost-effective supply route with reduced price volatility.

Despite this sometimes mutual interest, the challenges and impediments for growers and grower groups wanting to link to processors and hence become more market responsive, include (Wool Industry Future Directions Task Force 1999):

- Small average clip sizes (which do not match the volumes needed by processors to create mill batches)
- Seasonality of supply (especially within a region, the usual loci for farmer group development. This means that growers must then work outside their own region, potentially losing some of the benefits, at least perceived, that they sought to gain)
- The high costs involved in establishing marketing relationships (including travel and marketing expenses)
- The changing patterns of demand and difficulty of establishing repeat business.

Co-coordinating the horizontal and vertical components of the system

From the above, it is clear that there appears to be an emerging recognition by the various members of the apparel wool textile chain of the need for, and power of, improved communication. However, significant barriers including the presence of 'functional silos' continue to exist. These ‘functional silos’ are the occupational cultures, disciplines and roles in which we find ourselves and to which it is extremely easy to ‘retreat’. Breaking down these silos requires change and communication with parties whom we may not know and whose roles we don’t understand. Despite this however, Champion and Fearne (2001) stressed the importance of meeting the challenge. They concluded:

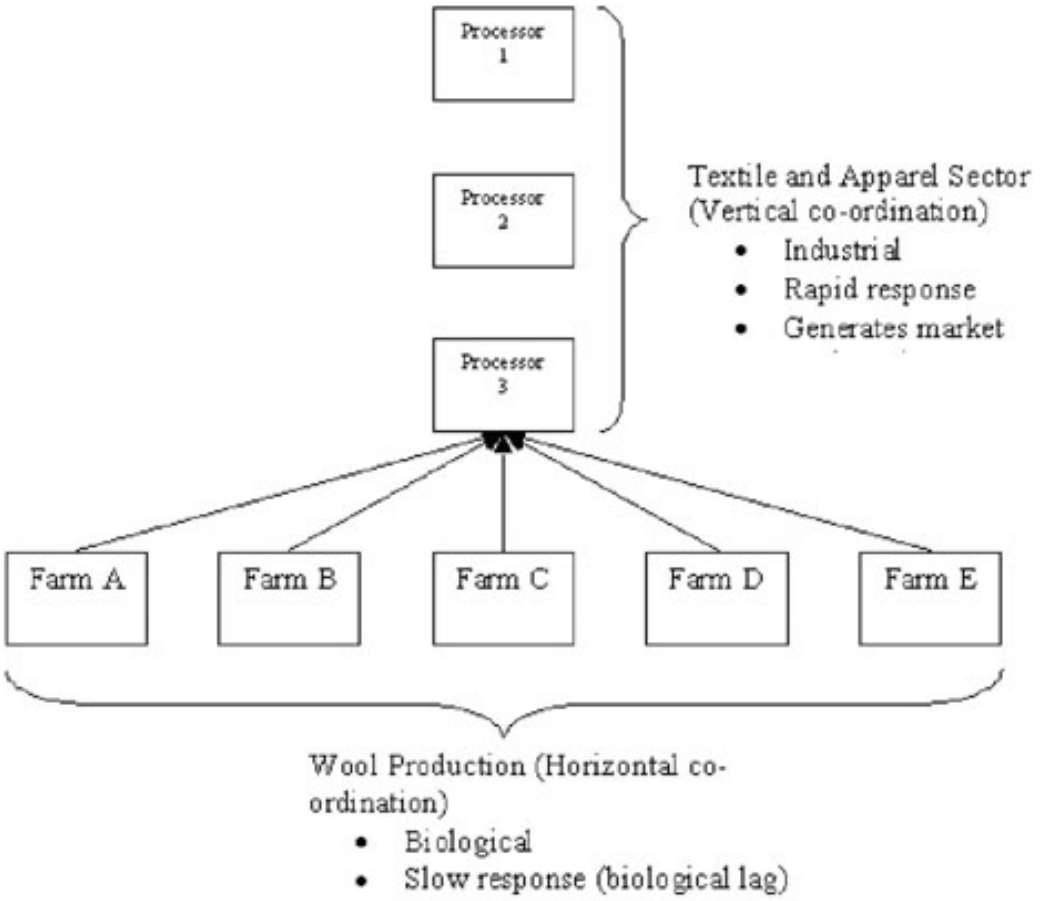
Given the increasingly fragmented nature of the apparel consumer base and its desire for innovative products with reduced product life-cycles, these structural problems [poor communication] *limit wool's ability to improve its competitive position against competing synthetic fibres and other destinations for disposable consumer income. Conversely, addressing the barriers, both cultural and structural, which limit chain communication, will see the creation of product value, through better matching consumer needs and increased chain efficiency.*

But it is not just people and social/communication issues which present barriers to improved co-ordination and the development of more market-responsive wool production systems. Another issue is the concept of ‘biological lag’ (Champion and Fearne 2002) and the difficulties in coordinating the activities of a horizontal biological sector (wool growing) with a vertical industrial sector (textile and apparel production).

'Biological lag' is the poor responsiveness of biological systems to changes in desired 'direction' or product type. It is particularly associated with perennial crops and animal production since the management 'horizon' for these 'crops' is over the medium- to long-term. They cannot respond rapidly to changing market demands, as genetic directions have been set within animal breeding programmes, or perennial crops (such as tree crops) have been planted at significant cost with a view to long-term production. Product characteristics or species can be changed, but typically at significant cost, a factor which typically rules out such drastic strategies. As a result, changes in the market requirements can mean sub-optimal returns over extended periods of time. It could be argued that wool growers facing poor strong Merino prices during the 1990's and poor superfine prices currently (August 2003) are limited in their ability to respond due to the impact of 'biological lag', changes of 2-3 microns cannot happen overnight (without the selling of stock)!

The situation highlights the need of understanding the market and where it is going, but also the dangers that can be associated with responding to a short-term change due to 'fashion'. The system, as described in Figure 12.6, is also mismatched, since the responding sector (wool growing) is the one with the poorest ability to bring about rapid change.

Figure 12.7 Relationship between the horizontally coordinated biological sector (farming) and the vertically coordinated industrial sector (textile and apparel production). Source: The NZ Merino Company, (2006).



12.13 Communication as a driver for innovation

In addition to the desire to become more market responsive, a further driver for improved communication is the opportunity it may provide for increased rates of innovation and productivity improvement. Some authors have suggested that improved supply chain communication potentially provides a useful pathway for the dissemination of best-practice (Newton 2000) and that the improved stability along the supply chain which arises as a result of the communication, can provide a stable environment for innovation and productivity improvement (Janzen & de Vlieger 2000).

This is especially important for wool growing businesses, where recent studies have identified poor rates of productivity improvement - between 0.5 and 1% for the Australian wool industry, compared to 1.6% in beef and between 3 and 4% p.a. in the cereal and cotton industries (Ward 1998; Wool Industry Future Directions Task Force 1999). Perhaps more importantly than the absolute values is that further analysis suggests these gains have mostly come about through reduced labour use and deferred investment, rather than through productivity gains or due to the impact of improved genetic material. The values also compare poorly to the competing synthetic fibre industries where annual productivity improvements have been in the order of 5 to 6% p.a. (Ward 1998).

12.14 The role of technology in supporting a market responsive wool industry

Much has been written about the use of technology, and more specifically information technology, to support the development of innovative supply chain structures in other industries. Little is know about its use to support such innovations or developments in the wool industry. However it is useful to consider briefly, how current, let alone future technologies, might support the dual goals of both improving communication and thus aligning more closely with the market.

As a starting point, I think it is useful to remember that technology is only a tool, especially in this area where the changes are effectively being made to 'human' systems and relationships. However, intuitively it would seem that any/all of the following technologies may have application:

- Traceability systems to monitor the flow of wool through the pipeline and gather data on processing performance
- Wool testing technologies to build mill batches which better meet a processor's requirements
- Processing prediction software to enable the evaluation of different blend recipes and their ability to hit performance or cost targets
- On-farm fibre measurement technology to assist with setting market-led breeding directions and more rapid progress towards these
- Electronic animal identification to support performance recording.

All of these technologies are currently available in some form, although many/most may require further development to support specific commercial outcomes or their linking to other technologies within an overall system (Figure 12.8). Developments in e-sheep technology are discussed on the Sheep CRC's website (www.sheepcrc.org.au).

Figure 12.8 Traceability systems may allow improved date collection and logistics. Source: Photograph supplied by S. Champion, The NZ Merino Company, (2006).

Readings

The following readings are available on CD

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Summary

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For wool growing to truly become a successful and profitable business for all participants, more growers and family farming units must find ways to adopt elements of those characteristics identified with high performing farms. To do this, wool growers and their service providers must come to understand the different approaches to faming practice and the interaction between the social (people), biological (farming) and business management aspects of wool growing.

The wool production unit, the family farm, is characterised by diversity and resilience. It is this resilience which has allowed many family farms and wool growing businesses to survive through the difficult times experienced during the 1990's. And amongst the apparent diversity, recent studies have shown there to be some striking similarities in the characteristics of high-performing wool growing businesses. Importantly, these similarities relate not so much to the geography or region of the farm, but rather to a complex mix of management-related, social and farm business factors. To ensure more wool growing businesses remain viable and prosperous, methods need to be found to encourage more wool growers to adopt these proven management strategies.

A move to a more market-oriented and responsive wool production systems appears to have begun with considerable support from both wool producers and their downstream chain partners in the textile and apparel processing sector. However, a number of challenges and impediments remain, due to both the structures of the on- and post-farm sectors and their inherent biological and industrial characteristics.

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Glossary of terms

Business outlook	Description of the focus of those farmers where the focus is on business aspects and measures
Discussion groups	Group for the sharing of ideas on a particular issue. Consists of others also interested in the issue
Diversification	Process of broadening the range of productive activities undertaken on a farm
Efficiency	The return that is gained for each unit of input of a particular resource
Farm family business	Basic unit of the Australian wool industry
Horizontal Co-ordination	Process of collaborative activity between those at the same stage/level of a supply chain
Lifestyle outlook	A description of the focus of an identified group of farmers where aspects of farming, other than the farming 'business', are the key drivers
Marketing system	The system which transfers ownership from one party to another. May also refer to promotional activity related to a product
Performance benchmarking	The process of collectively generating performance indicators which allow an objective comparison of performance with other enterprises
Production zone	Statistical classification of the area in which wool is grown in Australia, based on landform and rainfall. There are three zones: high rainfall, sheep-cereal and pastoral
Vertical co-ordination	Process of collaborative activity between successive stages/levels of a supply chain
Wool demand	The 'need' generated within the market place for wool fibre. Will depend on aspects of fashion (is wool in fashion?) and other consumer-based factors