Review of the New Zealand Merino Industry

A Report to Merino New Zealand (Inc.)
by

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This report was produced by Lincoln University under contract to Merino Inc. Merino Inc does not necessarily share opinions and recommendations represented herein.

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EXECUTIVE SUMMARY

Production:

- The most recent estimate of merino numbers in New Zealand is 2.94 million. Although this is almost 10 percent fewer than the number estimated in 1996, it is within the margin of error of the earlier estimate so it cannot be assumed that numbers have declined over the last eight years. Some decline in numbers appears inevitable in future as tenure review under the Crown Pastoral Lands Act (1998) proceeds, but there is, as yet, no soundly based information on the likely extent of stock losses.
- Total wool production has fluctuated since 1996/97, reflecting the climatic conditions during the period. Following two dry years at the end of the 1990s production levels rose steeply in both 1999/2000 and 2000/01 before declining to the 1996/97 level of approximately 8,500 tonnes. Although analysis of farm costs and anecdotal evidence support the view that merino farmers have actively managed stock for higher performance during this period, the changing micron profile of the clip and seasonal variability has disguised the impact of better nutrition on wool weights.
- There has, however, been a very marked trend towards a finer micron profile during this period, with average fibre diameter declining from 19.8 to 18.8 microns and the proportion of wool finer than 18 microns increasing from 4.69 to 14.60 percent. No discernable trend, beyond the influence of climatic variation, has been evident in staple strength or length.
- While the industry is currently investigating the possibility of establishing merino meat as a separate branded product, at present merino lambs are part of the commodity lamb trade. Because of their later maturity, the contribution of merino lambs to achievement of year-round supply is valued by meat processing companies. This is particularly so as the recent emphasis on lamb finishing, in response to higher meat prices and the development of irrigation in some traditional merino areas, has led to an increase in liveweights at slaughter in recent seasons.
- There has been comparatively little change in farming systems or the scale of merino enterprises since the tenure reviews of the mid-1990s. However, it is expected that significant change will follow the current round of tenure review as many properties lose grazing land to conservation but also gain the opportunity to undertake development on newly freeholded land. A study of the impacts of tenure review on the economic output of the high country is presently underway.

Economic Trends:

- In real ($2002) terms, gross farm incomes (GFI) on the typical merino property, described by the MAF "South Island Merino" model, have varied between $264 thousand and $649 thousand dollars from 1993/94 to 2002/03. In the period before 1999/2000 the *real* income range was generally between 300 and 400 thousand dollars, but after peaking in 2000/01 the average income has remained at close to 600 thousand dollars. A sharp decline is forecast for 2003/04 in the face of falling product prices and output levels.
- Wool prices are the major determinant of GFI on merino properties, and wool income accounts for between 50 and 70 percent of GFI. Consequently the variability in real GFI since the early 1990s mirrors the variability of the merino wool price during the

period, except in 2001/02 when, in the face of extremely high sheep and lamb prices, wool revenue accounted for only half of GFI, despite record wool prices. Sheep and lamb sales are the second largest source of revenue on merino properties (generally 18 to 24 percent), followed by income from beef cattle (generally 8 to 15 percent). Other sources of income have accounted for less than five percent of GFI since the late 1990s as high wool prices appear to have reduced the pressure for diversification. The emphasis on different sources of income is likely to change after tenure review when, for many growers, reduced grazing area and access to external capital (payment for land returned to conservation or involvement of external investors) may be expected to provide the impetus for change in farming systems.

- *Real* cash farm expenditure (CFE) has increased during the period from 1996/97 by 50 percent on the typical property from 250 to 375 thousand dollars. Farm working expenditure has followed a similar trend. Much of that increase has occurred in expenditure categories that directly affect animal performance, particularly feed and fertiliser, as the industry has made a sustained effort to increase animal performance and overall productivity. The contribution of feed and fertiliser expenditure to CFE has risen from 10 to 23 percent over the period on the "typical" farm. A decline of 10 percent in real expenditure is forecast for 2003/04 in response to expected reductions in revenue.
- As a percentage of GFI both CFE and Farm Working Expenses (FWE) generally declined until 2000/01 but have trended up since that time as reductions in income have not been matched by the reductions in expenditure that have occurred. The ratio of FWE to GFI is, in most years within the range of 55 to 65 percent. This is higher than would, in the general farm management context, be regarded as providing a safe margin for absorbing the impacts of low prices or adverse climatic conditions, although high country properties have traditionally operated outside this margin.
- The real value of FWE per kilogram of wool and per stock unit has steadily increased since 1996/97, which means it is costing more to produce each unit of output. However, during that time the specification of the main product produced has changed (lower micron count) and the product has been has been moved into a higher price bracket. Although the returns to this strategy have been positive to date, it is not without risk, since a similar trend has also occurred in Australia and the market for superfine wool is relatively small and inelastic. There have also been small increases in lambing percentages and lamb slaughter weights that are not captured in the input/output ratios discussed.

Market Trends:

- Time series data on merino exports are poor because, prior to 2000/01, wool of less than 28.5 microns in fibre diameter was classified as "fine" in the export statistics and separate statistics were not collected by breed. In each of the last two seasons approximately 6.4 thousand tonnes (equivalent clean weight) have been exported from New Zealand. This level is slightly down on the estimated levels of the previous two seasons, reflecting both reduced production because of drought and higher demand from the domestic processing industry.
- Most (approximately 65 percent) of wool is exported to Italy first, although its final destination is not recorded. Exports to India and the Peoples' Republic of China, although small in percentage terms, have increased markedly in recent years in line

with the international trend in shifting processing to countries where labour costs are low.

- In real terms the value of unprocessed merino wool exports is estimated to have been $70 million in 1999/2000, $94 million in 2000/01 and $72 million in 2001/02. Merino wool comprises approximately 10 percent of the value of all wool exports.
- The price of New Zealand merino wool is determined by international supply (primarily Australian production and international stocks) and consumer demand, which is strongly affected by the growth in world economies and by the price of substitute fibres, as well as by the New Zealand exchange rate.
- World supply, particularly of superfine wools is forecast to increase from 2003/04, while demand will be strongly influenced by the extent to which processors substitute cheaper fibres for wool.
- New Zealand prices for merino wool have fluctuated widely during the last decade and have varied from 162 to 325 percent of the average price of all New Zealand wool, reflecting the relative demand for, and supply of, fine and stronger wools.
- Since 2000/01 the margins between the prices of finer wools and those of 20 microns or more have increased significantly in real terms, as have the margins between the prices of wools of differing superfine fibre diameters. The price differential between wools of 19 to 23 microns has been almost eliminated during the last season, and the margin between these and wools of 18 microns has been significantly reduced although this trend is not expected to continue.
- The impact of wool quality on wool price is greatest at the finer end of the micron range. The premium paid in 2002/03 for wools of 19 microns of the "spinner" style that have tensile strength of more than 40 N/Ktex was 30 to 34 percent of the price of wools of similar length but tensile strength of less than 30N/Ktex. On wools of 16 microns the premiums paid were between 50 and 130 percent of the base price. As the industry moves to an increasingly finer micron profile, wool quality is becoming an increasingly important determinant of wool price, and the expected impact of drought and poor nutrition (and therefore lower tensile strength) on financial performance increases.
- The McKinsey Report (2000) found that although the prices of New Zealand fine wools had improved relative to Australian prices, New Zealand wools of 19 and 20 microns were, on average, lower priced than Australian wools of the same fibre diameter while finer wools generally commanded a small premium. More recent analysis, undertaken by the New Zealand Merino Company, shows the New Zealand prices for wools of 19 and 21 micron exceeding Australian prices more often than the converse since 1995, although the reverse is true of wools of 23 microns.
- ABARE forecasts that real wool prices will fall by 36 percent over the medium term from 2004/05, primarily in response to increasing Australian production. New Zealand merino wool prices are forecast to decline by approximately 9 percent on average in 2003/04.
- The market for superfine wool, into which much of the New Zealand merino clip has moved, has traditionally been small and relatively inelastic. Product differentiation, development of non-traditional markets, and an emphasis on high quality and good customer relationships will be essential if high prices are to be received in future.

- The New Zealand Merino Company markets approximately 70 percent of the total merino clip and since 2001 has increased the proportion sold under contract from 2 percent to 28 percent.. Contracts give customers confidence to develop new products and markets by providing stability of input price, and protect growers from the volatility of the auction market.

Main Issues for the Industry:

- Increasing supply into a traditionally small and inelastic market will require price differentiation, development of non-traditional markets, good customer relationships and attention to product quality to counteract significant price reductions, as international supply of superfine wools continues to increase in the medium term.
- The process of tenure review under the Crown Pastoral Lands Act (1998) will involve significant change for the merino industry. Property size and, therefore, stock numbers will be affected but it is not clear what the impact on total output or landuse will be at present.
- Significant issues, that the industry is addressing through its research programme, are animal health issues (primarily footrot) and low lambing percentage. These are believed to have contributed to the exit of some properties from the industry recently.
- The National Policy Statement on Biodiversity, which will shortly be issued in draft form, will lead, at best, to an increase in compliance costs for high country farmers and, at worst, to significant reductions in stock numbers as runholders are unable to clear regenerating indigenous scrub.
- There are several issues, common to all pastoral industries, which may affect the merino industry's success in international markets in the future. They include animal health and welfare, environmental sustainability and market access, which are not discussed in this report as they are the subject of a report recently commissioned by the industry.

SECTION 1
INTRODUCTION

Merino New Zealand Inc. (MNZ (Inc.)) has adopted as its vision "*To improve the profitability of Merino farmers, within an industry that is: United, Respected. Expanding, Attracting new people"*. To achieve this MNZ (Inc.) requires a sound understanding of the trends in merino production and of issues that will affect the industry's performance. Such information will assist MNZ (Inc.) in refining its strategy and in tailoring its services to the needs of the industry, and will be a valuable resource for other stakeholders in the industry. Industry information is also required to assist in the identification of key performance indicators for the merino industry, and in establishing benchmarks that can be monitored to evaluate its on-going performance.

Because this information has not been collated for the merino industry as a separate entity MNZ (Inc.) commissioned the Agribusiness and Economics Research Unit to undertake a study intended:

- To identify trends in Merino production, economics and marketing in New Zealand
- To identify key factors and issues affecting the Merino industry in New Zealand

The study was to consider the industry, and the production, economic and market factors affecting it. It involved identification of existing sources of data on the merino industry and collation and interpretation of the data available. The data acquired were supplemented by information obtained by means of discussion with industry participants, and areas in which data are required but not available were identified.

The report that follows presents a picture of the New Zealand merino industry from the mid 1990s to the present, and discussion of the factors that will affect it in the medium term future.

Section 2 of the report describes merino production in New Zealand, Section 3 discusses economic trends for the industry and Section 4 looks at market trends. The main issues affecting the industry are summarised in Section 5.

A description of the changes in the organisational structure of the New Zealand merino industry since the early 1990s is presented in Appendix 1 and the data underlying a number of the figures contained in the body of the report are given in detail in Appendix 2.

SECTION 2
MERINO PRODUCTION

2.1 Sheep Numbers

There have been no official statistics collected on the numbers of merino sheep in New Zealand since the 1996 "Sheep Breeds Survey" (Statistics New Zealand, 1997) when it was estimated that there were 3.274 million merinos (plus or minus ten percent), which comprised 6.9 percent of the national flock. They were farmed almost exclusively in Otago (41 percent), Canterbury (45 percent) and Marlborough (8 percent). Today MAF estimates that approximately 70 percent are located in Otago and the McKenzie Country with the remainder in the rest of Canterbury and in Marlborough (MAF, 2001). Davison (2003) estimated that there were 3.2 million merinos in New Zealand in 2001, comprising 7.3 percent of the national flock. A more recent estimate, based on numbers reported by growers who have recently registered their interest in the distribution of Wool Board Assets, suggests that the actual number in June 2002 was slightly less than this. The total number of sheep of all breeds reported by registrants was 95 percent of the total number of sheep in New Zealand on June 30 2002, as estimated by Statistics New Zealand in its June 2002 Agricultural Census. If the number of merinos reported (2.8 million) is adjusted to account for the five percent of all growers who did not register with the Wool Board (and merino growers are not over or under represented in the number of registrants) the estimated number of merino sheep in New Zealand at June 30 2002 was 2.94 million. Both Davison's estimate and the estimate based on Wool Board registrations are within the margin of error of the earlier estimate, so it is not possible to say that there has been a significant change in merino numbers between 1996 and 2002. It does, however, seem inevitable that there will be a reduction in merino numbers in future as tenure review under the Crown Pastoral Lands Act (1998) proceeds (see Section 2.5.1).

MAF farm monitoring estimates predict a 2.5 percent decline in sheep stock units in both 2002/03 and 2003/04, although MWI data for 2002/03 show almost no change from 2001/02. However, estimation of total merino numbers in future, in order to monitor changes in the industry, will be increasingly difficult unless surveys are conducted at intervals to provide new reference points.

2.2 Grower Numbers

There are no reliable data on the total number of merino growers in New Zealand. The MAF farm monitoring team estimates that there are 220 hill and high country merino breeding properties of more than 3,000 stock units deriving 80 percent or more of total income from sheep and beef. However, the numbers of hill and high country properties that do not meet these criteria, the numbers of low country merino breeding farms and the number of merino finishing properties are not known. In total 786 growers who registered their interest in the Wool Board asset distribution reported having some merino sheep, but these will include many, such as lamb finishers, whose primary interest is not the merino industry.

2.3 Wool Production

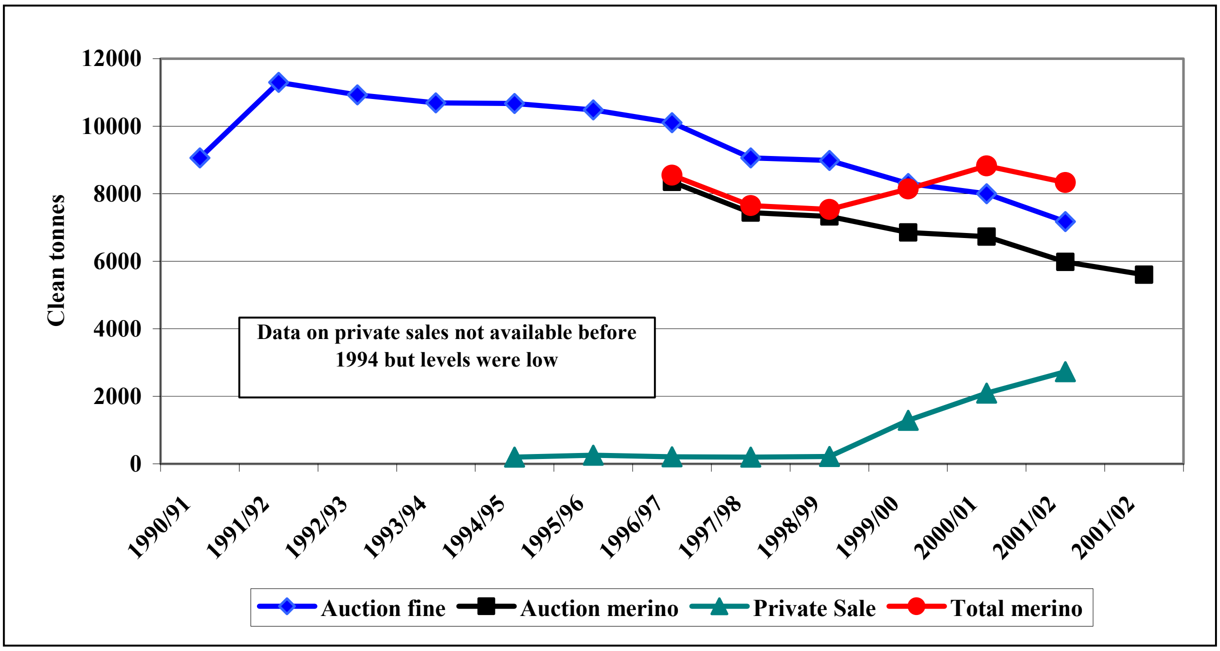
2.3.1 Merino Wool Sales

While there are no hard data on total merino wool production, information is available on both wool sales and exports for recent years. As stocks of merino wool held during the period were minimal (D. Studholme, Wrightson Wools, pers. com.), sales and production data will be very similar.

While auction data on *fine* wool sales are available for the entire study period, information on *merino* wool sales at auction is available only since 1996/97 and on private sales of merino wool since 1994/95.

Figure 1 shows merino wool sales since 1990/91. These data indicate that merino wool production in New Zealand declined from 1996/97 levels through the following two seasons, reflecting the low rainfall and intense heat experienced in merino farming regions. Better stock nutrition and increased stock numbers (MAF, 2000, 2001) resulted in higher wool production in the 1999/2000 season and again in 2000/01, but drought in most merino farming regions led to a slight decline in 2001/02. As only auction sales data are available for 2002/03 as yet, it is not possible to determine total wool sold during the season, although auction sales declined by six percent from the previous season's levels. Although analysis of farm costs (see Section 3.1.2), supported by the views of industry observers, indicates that merino farmers have been actively managing their flocks for higher performance in recent years, the increasing fineness of the clip in recent years (See Section 2.3.2) is accompanied by a reduction in per head production. In addition seasonal variability disguises the impact of changed management practices on wool production per head during the period. Wool production per stock unit has fluctuated according to seasonal variation and has ranged from 4.3 kilograms to 4.9 kilograms between 1993/94 and 2001/02 (MAF, 2002).

Figure 1
Sales of Merino Wool in New Zealand 1990/91 to 2001/03



Note: Only auction sales data for 2002/03 available at time of printing Source: MWI 2003

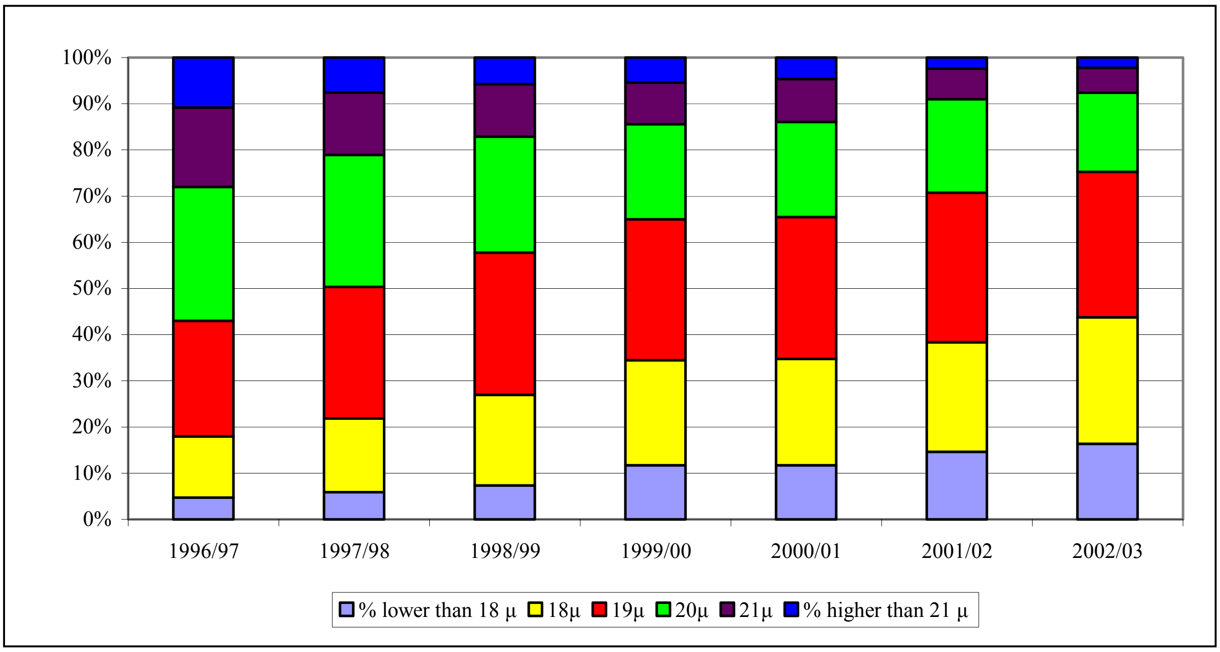
2.3.2. Wool Quality

Hard data on the quality of merino wool sold in New Zealand is available is available only on the parameters for which there are objective measurements since testing in New Zealand, unlike Australia, does not include a visual component. In fact, particularly in the finer wools, there are large differences in prices based on differences in quality points, and buyers use some subjectivity in assessing these. Quality discounts and premia are discussed in Section 4.3.3.

Fibre diameter

Figure 2 shows the micron profile of the merino clip from 1996/97 to 2002/03 while Figure 3 illustrates the changes that have occurred over that time.

Figure 2
Fibre Diameter of Merino Wool Sold at Auction in New Zealand 1996/97-2001/03

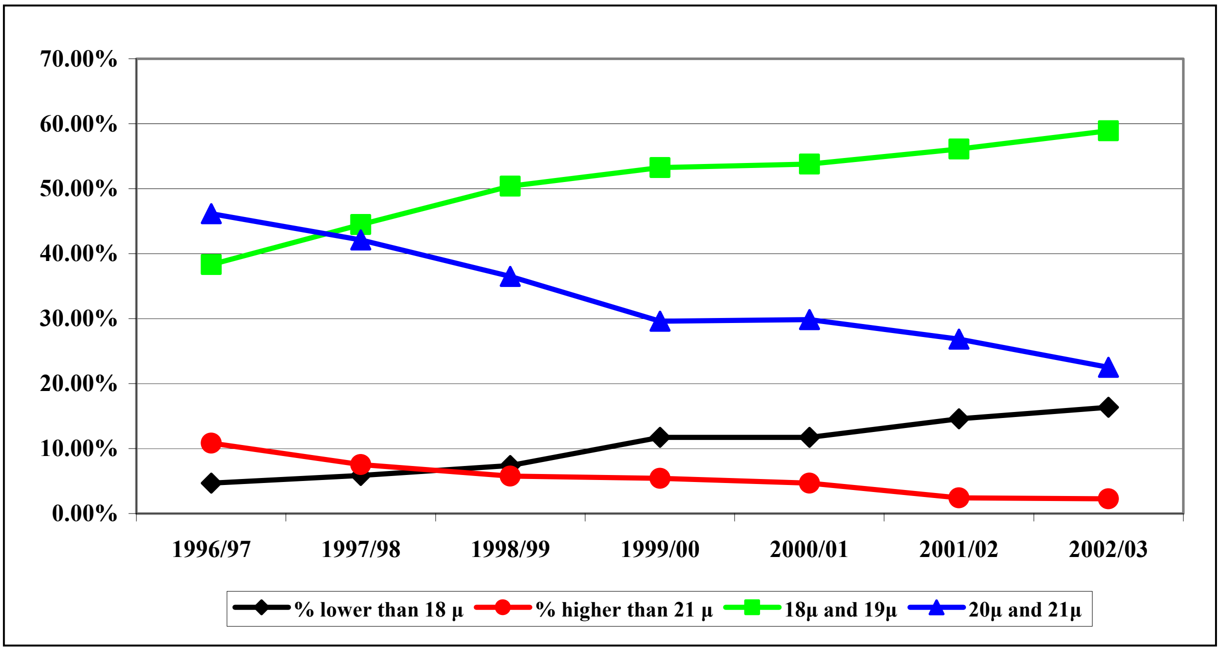


Source: MWI (2003)

Note: The testing method changed between 2001/02 and 2002/03 from "airflow" to "laser scan". This may have affected the relativity between these seasons to some extent.

Since 1996/97, when data on the fibre diameter of tested merino wool sold at auction became available, a steady reduction in the micron count of wool tested has occurred. Over that period mean fibre diameter has decreased from 19.8 to 18.8 microns, while the proportion stronger than 21 microns has decreased from 10.85 percent to 2.44 percent and the proportion finer than 18 microns has risen from 4.69 percent to 14.60 percent. At the start of the period, the highest proportion of the total wool sold at auction (46 percent) was of fibre diameter of 20 or 21 microns. By 2002/03 wool of fibre diameter of 18 and 19 microns accounted for almost 60 percent of the total. The industry is continuing to import Australian genetics in order to maintain the downward trend in fibre diameter.

Figure 3
Changes in the Fibre Diameter of Merino Wool Sold at Auction in New Zealand
1996/97-2001/03



Source: MWI (2003)

Staple length:

No discernible trend in staple length emerges from the data available since 1996/97, apart from the impact of dry seasons, which increase the proportion of wool less than 70 mm in length and decrease the proportion that is greater than 90 mm in length.

Staple Strength:

Similarly, data on staple strength appears primarily to reflect seasonal variation. Although many farmers analyse their wool to determine the time at which breaks occur, to enable them to better manage stock nutrition for improved wool quality, the impact of dry seasons is very difficult to overcome (D. Studholme, Wrightson Wools, pers. com).

2.4. Meat Production

There are no data available on the numbers of merino sheep and lambs slaughtered at present as the meat companies do not differentiate between merino and other lambs in terms of prices paid, cuts produced or marketing (S. Blake, PPCS; T Wilson, Alliance Meats). The industry itself has as yet no mechanism for collecting such information, although sound information on supply will be required if the decision is taken to try to differentiate merino meat from the commodity lamb trade by developing a branding strategy.

Traditionally most merino lambs were sold as stores since the farming emphasis on merino breeding properties was on wool rather than meat production. In more recent years a number of influences have resulted in a much higher proportion being sold directly to processing companies. They include the availability of irrigation in merino areas such as the McKenzie

Basin and the higher prices received in the meat industry. Also, before the introduction of the rabbit calicivirus disease (RCD) in 1997, an increasing number of high country producers purchased low country runs. These allowed them to finish stock and relieve grazing pressure on the high country as rabbits and *Hieracium spp* reduced the dry matter available for grazing.

On many merino properties a terminal sire is used to produce crossbred lambs for processing, since these have higher survival and faster growth rates than purebred merino lambs. A high proportion of purebred merino lambs are wintered, shorn, and sold prime at approximately one year of age either directly, or after they have been purchased and wintered by specialist lamb finishers (R. Beech pers. com.).

In order to maintain year round supply of lambs, meat companies must source late "old season" lambs for slaughter in October before the start of the new season. Merino lambs, because they mature later, are more likely to be able to be slaughtered as lambs during that period than those of other breeds. During the last four years meat industry representatives have observed significant increases in the live weights of merino lambs sent for slaughter, as the result of greater emphasis on lamb finishing, and management for higher lamb growth rates, by many industry participants.

The merino industry has recently commissioned a study into the attributes and consumer acceptance of merino meat. The recommendations arising from the study will assist the industry in deciding whether the development of a separate branding and marketing strategy for merino meat is warranted.

2.5 Trends in Merino Farming Systems

2.5.1 Changes in Scale of Merino Farming Operations

No statistically valid data exist on which to base estimates of changes in farm size, or in stock numbers on merino properties, or even on high country properties generally. However, Meat and Wool Innovation does attempt to reflect major changes in the size of its "Class 1 South Island High Country" farm (R, Farquhar, MWI, pers. com.). Small year-to-year variations are the consequence of changes in the farms included in the survey, but significant changes occurred in the mid-1990s as a result of voluntary reviews completed under the 1948 Land Act. Thus the average effective farm area declined from 10,360 hectares through the early 1990s to 8,782 by 1998/99. Small increases occurred at the end of the decade and the average effective area has been 9,246 since 2000/01. This will undoubtedly change as the process of tenure review under the Crown Pastoral Lands Act (1998) proceeds. In total 304 pastoral leases (covering 2,176,619 hectares) are eligible for review and, to June 30 2003, 201 (covering 1,109,780 hectares) are involved in the process although only ten reviews have been completed. In total it is proposed that 1,308,837 hectares (60 percent of total area) presently in pastoral lease should be returned to the Crown (Matthew Clark, LINZ, pers. com.). Clearly this will see the total area of many merino properties decline significantly, although the decline in effective area is likely to be smaller on a number.

Both MAF and MWI data show a steady increase in sheep numbers from the mid 1990s to 2000/01 (MAF=6,135 to 8,130; MWI=7,306 to 8,032) with a small decline since that time. There are widely diverging views amongst industry observers on the expected impact of tenure review on stock numbers in the high country. These range from little impact, as freeholding and extra capital allow farmers to intensify production on a smaller area, to a very large impact both through loss of grazing area and through changes in land use. An initial estimate of potential stock losses suggests that 500,000 sheep, mainly merino, will be lost, reflecting both the reduction in grazing land and the loss of the complementary grazing effect on the remaining grazing area (A Ensor, pers. com.). MAF has commissioned a study, (beginning in July 2003) which will investigate the likely impact of tenure review on the economic output of South Island Pastoral Lease land.

2.5.2 Intensification of Management

Both MAF and MWI data show clearly that merino farmers have adopted a more intensive management style in recent years (see Section 3.1.2). They have actively targeted animal nutrition to achieve better lambing percentages, lamb growth rates and wool strength, by increasing expenditure on fertiliser and feed. Selection and artificial insemination have been used as the means of reducing the fibre diameter of merino wool and of breeding sheep that can produce fine wool while still achieving respectable fleece weights. Increasingly, inputs are being used to achieve specific outcomes for the industry (Richard Farquhar, MWI, pers. com.).

SECTION 3
ECONOMIC TRENDS

3.1 Farm Incomes, Expenses and Net Returns

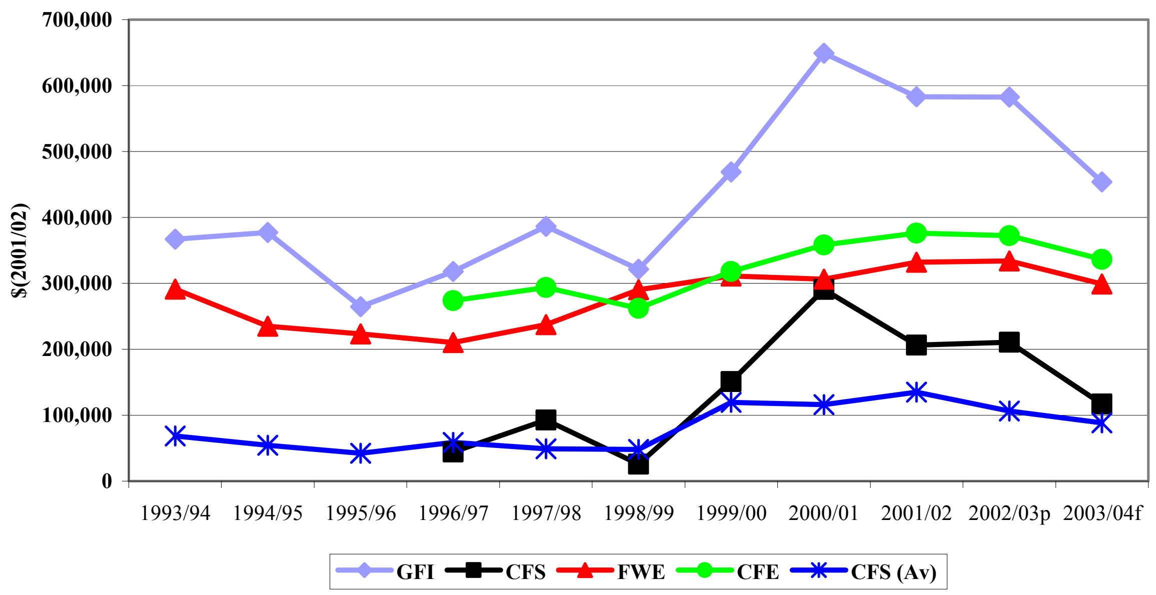
Two sources of data on the financial and physical performance of high and hill country merino properties are published annually. The Ministry of Agriculture and Forestry (MAF) Farm Monitoring programme has monitored the physical and financial performance of South Island merino farms since 1996/97 and has recorded some parameters for the years 1993/94 to 1995/96. (MAF, 1997-2002, Chris Ward, MAF Policy pers. com.) The Economic Service of Meat and Wool Innovation (MWI) has surveyed sheep and beef farms for more than 50 years and merino properties comprise a large proportion of its "Class 1 South Island High Country Farms". Table 1 shows the main differences in physical terms for the 2002/03 season and current forecasts for the 2003/04 season between the two models.

Table 1
Main Financial Parameters Hill and High Country Merino Properties 2002/03 and 2003/04 (forecast)

	MAF SI Merino Model		MWI SI High Country Model	
	2002/03	2003/04 f	2002/03	2003/04 f
Effective Area (ha)	7,978	7,786	9,246	9,246
Opening Sheep Stock units	7,978	7,786	7,701	7,652
Opening Cattle Stock Units	1,384	1,146	1,901	1,884
Opening Deer Stock Units	-	-	203	209
Total Stock Units	9,362	8,932	9,805	9,745
Total Wool Sold (kg)	37,185	35,844	39,255	38,284

The South Island Merino model (the Merino model) represents 220 hill and high country merino properties but does not include low country properties or those carrying fewer than 3,000 stock units (George Collier, pers. com.). Eighty percent of income on these farms is derived from sheep and beef. Properties included in the programme are not randomly selected but are considered to be typical of the farm type in the region. Figure 4 shows the real gross farm income, farm working expenditure, cash farm expenditure and the cash farm surplus of the Merino model and, for comparison, the cash farm surplus of the MWI "All Classes Average" sheep and beef farm (MWI, 1994 -, Rob Davison, Economic Service, pers. com.). Real values have been calculated in 2002-dollar terms using the Consumers Price Index with base June 2002 (Statistics New Zealand, various years).

Figure 4
Financial Parameters for South Island Merino Properties (MAF) 1993/94 – 2003/04 in Real (2002) Terms

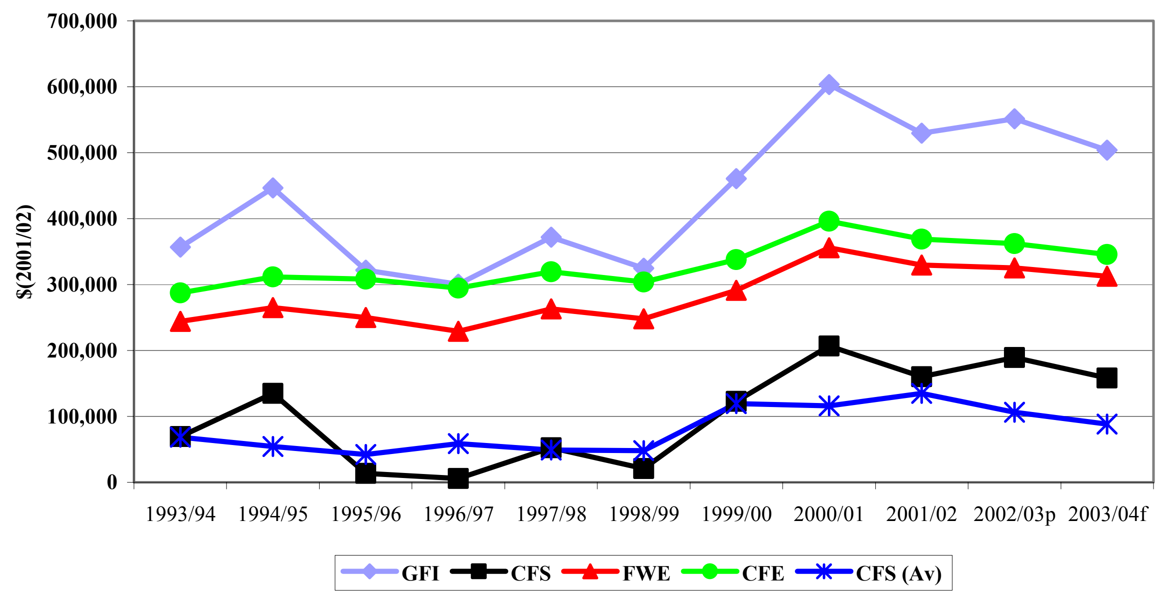


Notes:
GFI = Gross farm income
CFE = Cash farm expenditure
FWE = Farm working expenditure
CFS = GFI-CFE
CFS (Av) = CFS for MWI "All Classes Average" sheep and beef farm

During the mid and late 1990s the cash farm surplus estimated by the Merino model was similar to that of the average sheep and beef farm in the MWI annual survey. However, with the marked increase in the merino wool price during 2000/01 the economic performance of the typical merino properties (expressed in terms of the real cash farm surplus) far exceeded that of the average sheep and beef farm ($295,000 compared with $115,000). While this margin has declined since its 2000/01 high level, it has remained high through 2002/03, but is forecast to decline to decline sharply to approximately $117,000 ($121,000 in actual dollars) in 2003/04, reflecting declining revenue from all sources in response as the result of lower levels of output and to lower wool prices.

The "Annual Survey of Sheep and Beef Farmers" conducted by MWI does not report on merino properties as a separate category, but the majority of the 240 high country farms included in its "Class 1 – South Island High Country" are merino properties and the values obtained are very similar to those of merino-only properties (B. Speirs, MWI, pers. com.). The MWI data cover a wider range of properties than the MAF data, which is derived from "typical" rather than the full range of, merino properties. Figure 5 shows financial parameters for the Class 1 farm in real (2002) terms.

Figure 5
Financial Parameters for South Island High Country Farms (MWI) 1993/94 – 2003/04 in Real (2002) Terms



Notes:
GFI = Gross farm income
CFE = Cash farm expenditure
FWE = Farm working expenditure
CFS = GFI-CFE
CFS (Av) = CFS for MWI "All Classes Average" sheep and beef farm

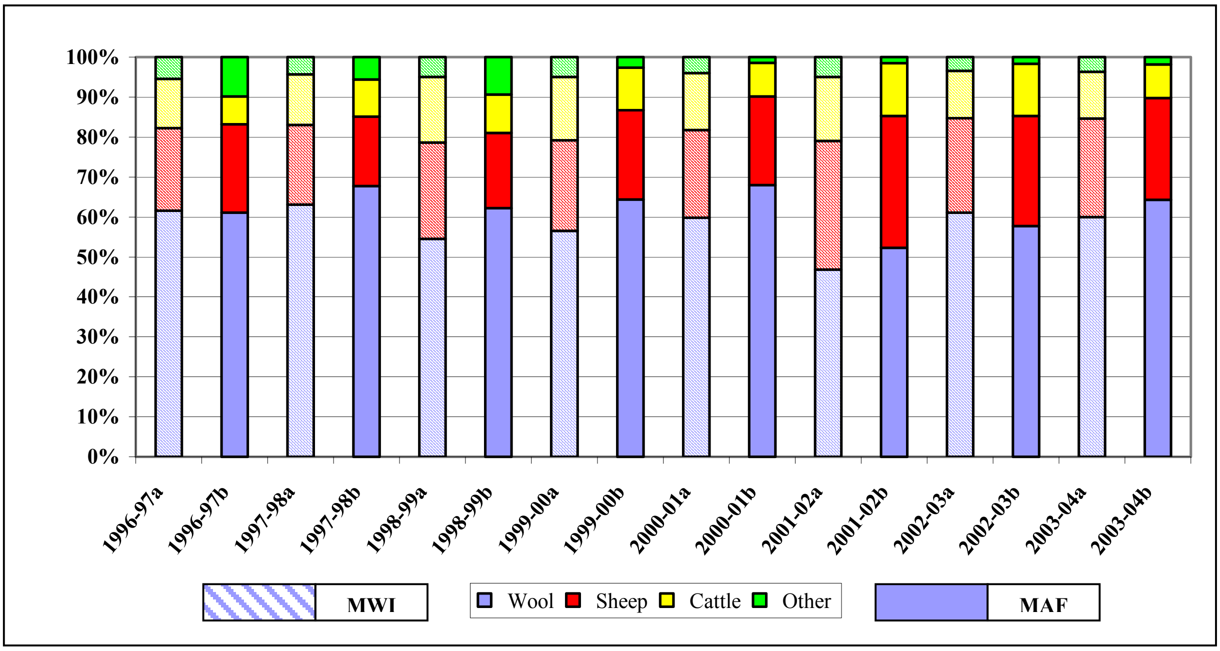
From 1993/94 the patterns and levels of income and expenditure on MAF and MWI survey farms have been generally similar, with the greatest difference occurring in 2000/01 when the real cash farm surplus as estimated by the MAF model was very much ($100,000) higher than that reported by MWI. This reflected both higher income (higher income from wool and sheep sales partially offset by lower income from cattle) and lower expenditure on MAF monitor farms.

3.1.1 Farm Incomes

The composition of gross farm revenue from 1996/97 to 2003/04 (forecast) in the Merino model and the MWI Class 1 survey are shown in Figure 6. Earlier data are not available from the Merino model.

In both models wool prices are the major determinant of gross farm revenue, with income from wool sales ranging from 47 to 63 percent of gross farm revenue since 1996/97 in the MWI model and between 52 and 68 percent in the Merino model. Net revenue from sheep sales has averaged 23 percent over the period in both cases, although reliance on income from beef cattle is higher on farms surveyed by MWI (mean = 14 percent) than in the Merino model (10 percent). Extremely high prices for sheep during 2001/02 meant that sheep sales made a higher than usual contribution to total revenue in both models (MAF=33 percent, MWI=32 percent). At the same time the proportion of income derived from wool fell to the lowest level of the period (MAF=52 percent, MWI=47 percent), despite the record wool prices paid in that season. Although changing price relativities between years disguise the long-term trend, both models show the increasing emphasis on lamb finishing and meat production on merino farms in recent years (George Collier, AgFirst Consultants, pers. com.).

Figure 6
Composition of Gross Farm Income 1996/97 – 2003/04 (Forecast).



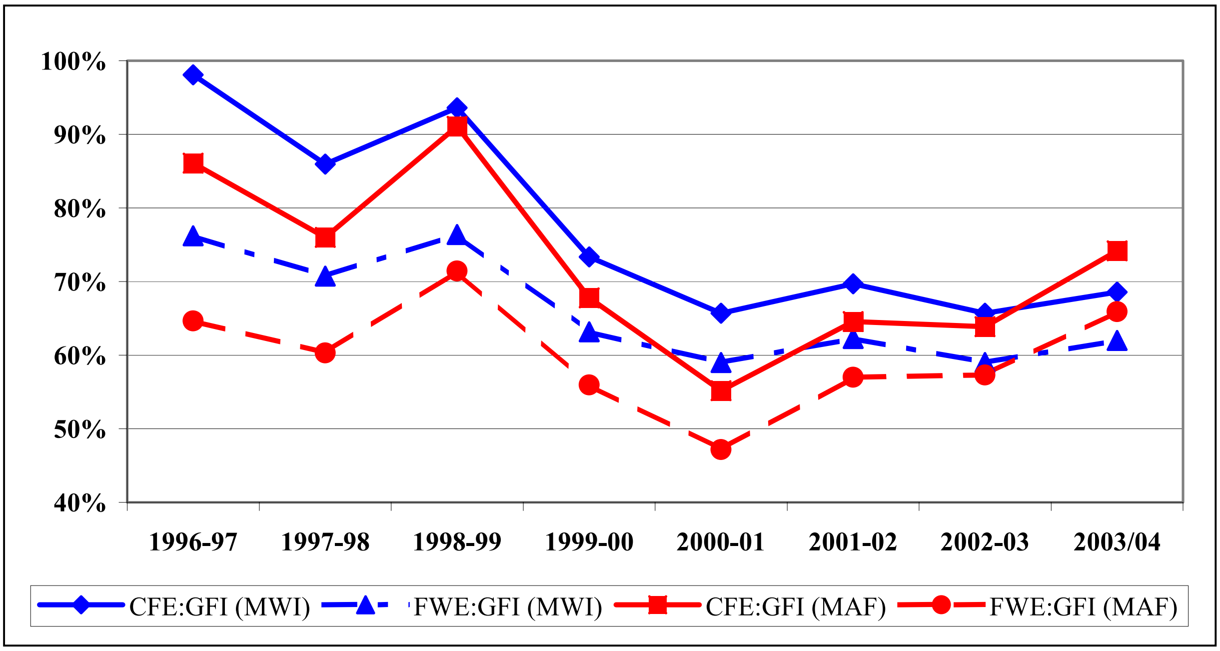
Sources of income other than wool, sheep and cattle sales account for less than five percent of gross farm revenue in both models since 1999/2000, but for as much as 10 percent in the Merino model during the late 1990s. Consistently high prices for merino wool since 1999/00 appear to have reduced the pressure for diversification. MWI survey farms have earned less than five percent of income from other sources since 1990/91. There is no further breakdown of the sources of "other" income in the MAF model, but on MWI high country survey farms deer revenue accounted for approximately 50 percent of "other revenue" until 1999/00, since when it has accounted for more than 60 percent. It should be noted that both surveys specifically exclude properties where there has been significant landuse change that means criteria for inclusion are no longer met. Consequently several properties converted to large-scale tourist operations are not captured in the data available. On properties that do meet the criteria for inclusion in the surveys, enterprises such as farm tourism appear to be of comparatively little significance on average. No data on the numbers of merino properties involved in tourism activities are available.

3.1.2 Farm Expenditure

In real terms cash farm expenditure (CFE) in the Merino model increased by approximately $100,000 between 1996/97 and 2002/03 from $276 thousand to $376 thousand (50 percent). In the Class 1 model it has increased in real terms from $297,000 to $366,000 (23 percent) during the same period. Both models predict a sharp decrease in 2003/04 in response to expected reductions in product prices and lower production levels to $349,000 and $356,000 respectively. Farm working expenses (FWE = CFE less interest and rent) have followed the same trend.

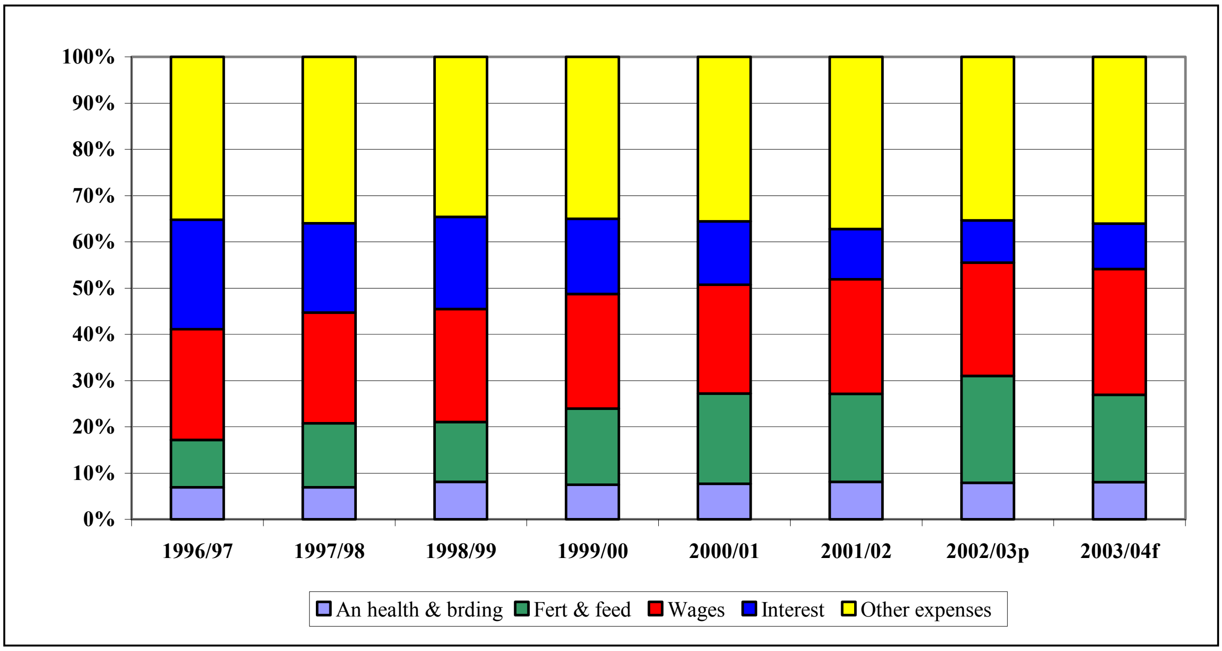
As a percentage of gross farm income (GFI), however, FWE and CFE generally declined from 1996/97 to 2000/01 but have trended up since then as reductions in incomes have not been matched by the reductions in working expenses. Figure 7 shows the ratios of CFE and FWE to GFI. Farm management theory suggests that the FWE:GFI should be 50 percent or less, but the figure for high country properties has always been in excess of this level. Annual client surveys conducted by Ibbotson Cooney Ltd show that even the top 25 percent of farmers from hill and high country areas achieve FWE:GFI ratios lower than 50 percent in only a few years, and the average over all hill and high country farms exceeds this level in all years. Consequently the margin available to high country farmers to absorb the impacts of low product prices or adverse climatic conditions is comparatively low, although high country farmers have traditionally shown themselves able to reduce operating costs dramatically, for at least one season, in times of low income (George Collier, AgFirst Consultants, pers. com.).

Figure 7
Farm Cash Expenditure and Farm Working Expenses as a Percentage of Gross Farm Income



In recent years the merino industry has made a sustained effort to increase animal performance and overall productivity. This is reflected in the increased contribution to total cash expenditure of costs directly related to performance and productivity (animal health and breeding and fertiliser and feed) as Figure 8 shows. Reductions in expenditure on both fertiliser and feed are forecast in 2003/04, in response to lower prices for outputs and reduced stock numbers. Figure 8 is based on data from the Merino model but the percentages derived from MWI Class 1 data are very similar, with the exception that in several years wages comprise a higher proportion in the MWI model (plus two percent) and interest and "other expenses" are slightly lower.

Figure 8
Composition of Cash Farm Expenses (MAF South Island Merino)



Real expenditure on fertiliser and feed more than doubled as a proportion of total cash expenditure over the seven-year period to 2003/04, and the costs of animal health and breeding increased from seven to eight percent of the total. There has been little change in the relative importance of wages (including shearing) but interest payments have declined markedly as a result of large principal repayments from 1999/2000.

As Figure 9 shows, the real value of FWE per kilogram of wool in the Merino model declined from 1993/94 to 1996/97 but has increased steadily since that time from $6.44 per kilogram to an estimated $8.43 in 2002-03, an increase of 31 percent. A similar increase (42 percent) has occurred in working expenses per stock unit over the period. A decline in both is forecast for 2003-04 as farmers cut back expenditure. Similar trends, although less pronounced, have been experienced on MWI Class 1 survey farms.

While this appears to suggest that while profitability has increased, efficiency has not, in fact it may be argued that the improvements in the quality of the wool produced, although resulting in higher costs, have moved the product into a higher price bracket so that a simple comparison of output and cost levels cannot be used to investigate efficiency. Table 2 presents an analysis of the value of the 2001/02 merino clip, and the value of that clip if its composition in terms of fibre diameter had remained unchanged since 1996/97. As this shows, the industry's efforts to reduce fibre diameter have increased the value of the clip by 17.5 percent. However, although the returns to this strategy are positive at present, it is not without risk (see Section 4.2.4). Other changes not captured by the ratios of working expenses to output measures are the significant increases in lambing percentages over the period shown by both sets of data (MAF: 78 to 90, MWI: 88 to 94) and the higher lamb weights at slaughter (see Section 2.2). Improved lambing percentages have also been an industry focus since the "Merino 100%" project of the mid-1990s (Green and Mulvaney, 1998).

Figure 9
The Ratios of Farm Working Expenses to Wool Production and Stocking Rate - MAF South Island Merino Model and MWI Class 1 Farm

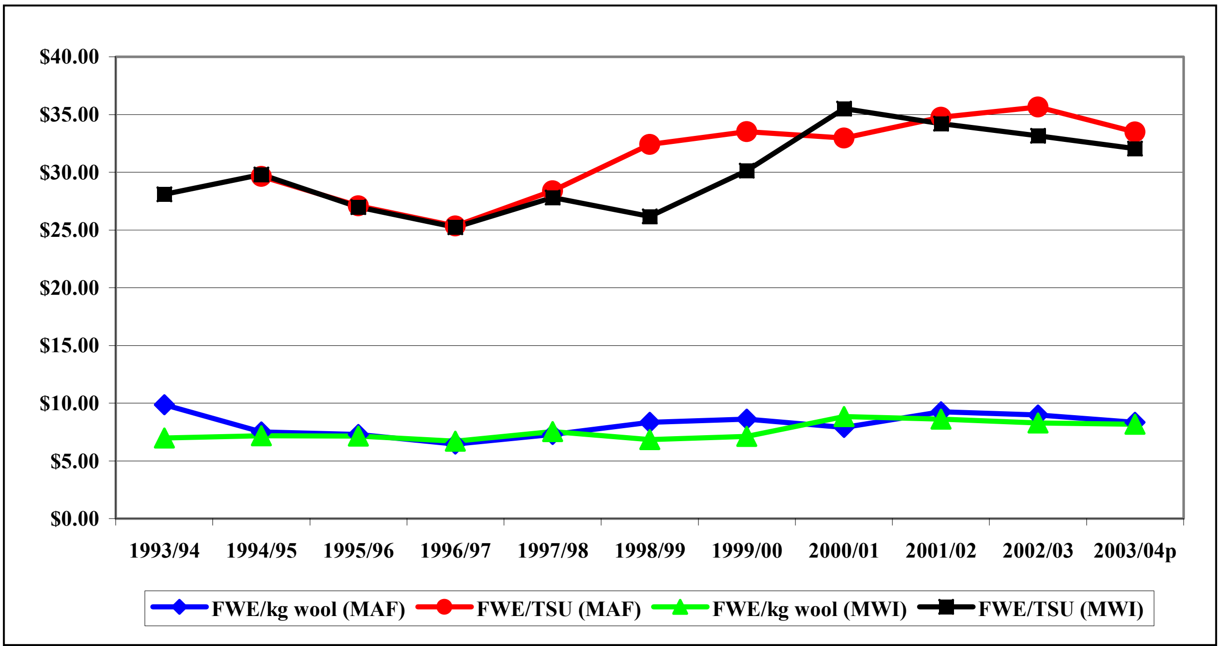


Table 2
Values of the 1996/97 and 2001/02 Clip sold at Auction ($2001/02 prices)

Fibre Diameter	Price 2000/01 $/kg	% Of Total Merino Wool Sold at Auction 1996/97	2000/01	Value of 1996/97 Clip[1] Sold 2001/02 $	2000/01 Clip Sold 2001/02 $
15µ	24.73	0.01%	0.19%	21	278
16µ	20.39	0.36%	3.01%	441	3,670
17µ	17.11	4.32%	11.40%	4,419	11,664
18µ	13.74	13.27%	23.76%	10,908	19,530
19µ	10.41	25.04%	32.35%	15,596	20,146
20µ	8.59	28.99%	20.26%	14,894	10,410
21µ	8.17	17.16%	6.60%	8,386	3,224
22µ	8.06	7.55%	1.86%	3,640	896
23µ	8.28	2.59%	0.44%	1,281	216
24µ	8.57	0.58%	0.05%	299	24
25µ	8.03	0.10%	0.01%	49	6
26µ	7.58	0.01%	0.06%	3	28
27µ	5.97	0.01%	0.00%	4	0
28µ	526.00		0.02%	0	616
Total value of wool sold at auction $(2001/02)				$59,942	$70,708

[1] 1996/97 clip composition applied to 2001/02 clip weights   Source: MWI 2003

3.1.2 Comparison of New Zealand and Australian Returns

Directly comparable international data are not available. However, the Australian Farm Surveys Report (2002) provides some data on the Australian sheep industry, which comprises, for the most part, merino properties. Table 3 compares financial and physical parameters of the MWI Class 1 model and the Australian Sheep Farm model. The data show the average New Zealand property to be slightly larger than its Australian counterpart with significantly more livestock but much less dependence on cash cropping. Despite these differences, in the two years for which comparable data are available, the cash farm surpluses (calculated in New Zealand dollars) are remarkably similar. New Zealand merino farmers generate a higher gross farm income per hectare and incur higher costs per hectare than their Australian counterparts. Insufficient Australian data are available for a comparison of cost components.

Table 3
Comparative Physical and Financial Parameters – New Zealand and Australian Merino Properties

	New Zealand ($NZ)		Australia ($NZ)	
	1999/00	2000/01	1999/00	2000/01
Area	8,919	9,246	8,318	7,883
Closing sheep numbers	9,481	9,136	4,732	4,924
Closing cattle numbers	369	364	106	81
Closing deer numbers	119	113	-	-
Area in crop	?	?	145	121
Wool revenue	243,830	348,376	92,180	118,297
Sheep revenue	97,727	127,478	28,755	47,479
Cattle revenue	68,331	83,091	87,040	115,484
Deer revenue	13,255	14,322	0	0
Crop revenue	1,586	630	21,377	20,540
Other revenue	6,659	8,261	1,757	1,243
Gross Farm Income	431,388	582,158	229,352	301,800
Cash Farm expenditure	316,326	382,429	138,450	150,464
Cash Farm Surplus	115,062	199,729	90,901	151,336
Gross Farm Income/ha	48	63	28	38
Cash Farm Expenditure/ha	35	41	17	19
Cash Farm Surplus/ha	13	22	11	19

Sources: MWI (2003)
ABARE (2002)

SECTION 4
MARKET TRENDS

4.1 The Domestic Market

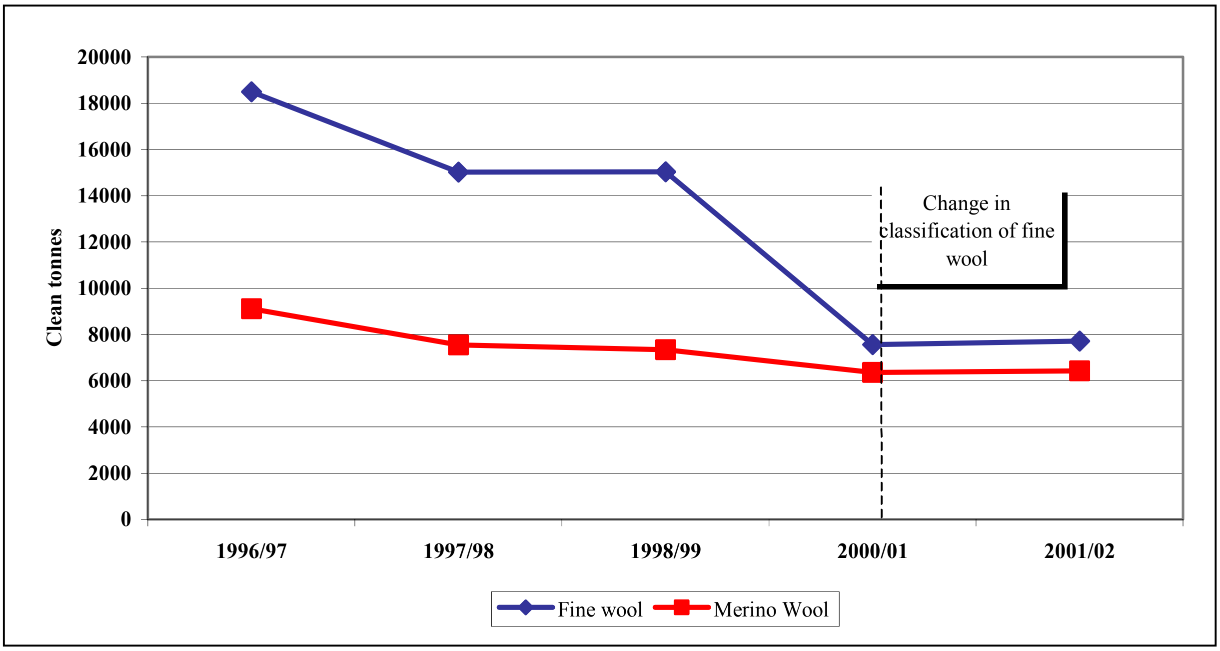
Most New Zealand merino wool is exported, but recent years have seen an increase in domestic processing, providing a considerable boost for local knitting mills, which had been adversely affected by the tariff reforms of the 1980s. The growth in manufacture of fine wool fabrics began because of local market demand for garments from a small number of well-known designers, but New Zealand mills now supply merino knits to major export companies such as Icebreaker and SmartWool US. The fastest growing market segment for New Zealand merino wool textiles is for "active outdoors" clothing, an area in which wool is making significant inroads into the dominance of synthetic fibres. The New Zealand woollen textile sector now accounts for approximately 1,000 tonnes per year of merino wool, or approximately one eighth of total production (Stringleman, 2003).

4.2 The Export Market

4.2.1 Export Volumes

Figure 10 shows total fine wool exports and estimated merino exports from 1996/97 to 2001/02.

Figure 10
Fine Wool and Estimated Merino Exports 1996/97-2001/02



Source: MWI (2003)

Wool export data are not reported by sheep breed but by fibre diameter category. Until the 2000/01 season the fine wool category was defined as including wools of fibre diameter less than 28.5 microns, so merino wools comprised only approximately 50 percent of total "fine" wool production. In 2000 the category was changed to include only wool 24 microns or less in diameter, which reduced the proportion of non-merino wool to less than 20 percent. In most years more than 95 percent of merino wool has been finer than 24.5. The estimates of exports presented in Figure 10 have been made by applying the ratio of merino to total fine wool production, to fine wool export data. As differences in the export proportions of merino and other fine wools are not accounted for in this method the export figures will understate merino exports if a greater proportion of merino wool produced is exported than of other wool categorised as fine. This distortion will be much less since the reclassification of fine wool. In each of the last two seasons approximately 6.4 thousand tonnes (equivalent clean weight) of unprocessed merino wool has been exported from New Zealand.

4.2.2 Export Markets

Accurate estimation of exports to individual markets is impossible. Only the nationality of the buyer is recorded, not the final destination of the wool, since the markets for fine woollen apparel are not always those in which the wool is processed or the final product manufactured. Increasingly processing is being moved to countries where labour costs are low, while the markets for high quality apparel are those where consumer incomes are high. Consequently, exports to Italy have declined from 71 percent to 54 percent between 2000/01 and the year to February 2003, while India's share of exports has increased from 2 percent to almost ten percent, and China's from less than three percent to more than five percent during the same period. In addition, value may be added to merino wool in more than one country. For example, the largest New Zealand textile manufacturer sends wool to be spun into yarn in Korea, before being dyed and knitted in New Zealand. Estimates of export volumes to the "top ten" markets (initial buyers) from 200/01 to 28 February 2003 are shown in Table 4.

Table 4
Estimated Unprocessed Merino Wool Exports to the Top Ten Markets 2000/01 – 2002/03
(Clean tonnes)

	2000/01	2001/02	2002/03 to 28/02/03	Total 2000/03	% of Total
Italy	4538	3,941	2,843	11,323	62.7%
India	146	284	517	947	5.2%
China	166	351	278	795	4.4%
USA	272	130	255	657	3.6%
Czech Republic	177	190	265	632	3.5%
Australia	56	148	387	592	3.3%
Germany	103	320	95	518	2.9%
United Kingdom	241	171	69	482	2.7%
Japan	180	178	108	467	2.6%
Other EC	173	229	116	518	2.9%
Total top ten markets	6054	5,943	4,934	16,930	93.8%
Total all markets	6,358	6,421	5,272	18,051	100.0%

Source: MWI (2003)

The Republic of Korea, although not in the "top ten" in terms of total volume during the last four years is regarded as an important growing market with exports of 119 clean tonnes in the year to February 28, 2003 (Mike Hargadon, NZM, pers. com.).

4.2.3 Export Values

The real values of merino exports ($NZ million at FOB) in 2002 dollar terms from 1999/2000 to 2001/02 are shown in Table 5.

Table 5
Real Value of Merino Wool Exports 1999/00-2001/02 ($2002)

	1999/2000	2000/2001	2001/2002
Merino exports ($M)	$70.2	$93.7	$72.3
Wool exports FOB ($M)	$751.1	$855.3	$813.5
Merino wool as % of total wool exports	9.4%	11.0%	8.9%
All pastoral exports FOB ($M)	$9,174.7	$12,715.2	$13,213.5
Merino wool as % of total pastoral exports	0.8%	0.7%	0.5%
Merino wool as % of total exports	0.3%	0.3%	0.2%

4.3 Wool Prices

4.3.1 Influences on the New Zealand Fine Wool Price

The prices paid for merino wool in New Zealand are determined by the world price for fine wools and by the New Zealand exchange rate. World prices are driven by international supply and demand. The volatility of supply, primarily in response to climatic conditions in Australia and changes in international wool stocks, results in considerable between-season price volatility. In 2000 McKinsey reported that the fine wool price and the relative prices of fine wools of different fibre diameter continue to be volatile and that the effect of promotion on market prices is overwhelmed by external market factors.

Demand for more expensive apparel items and, therefore, for fine wool is linked to increasing consumer incomes as a result of economic growth. Fluctuating wool prices during the 1990s reflected changes in demand as a result of fluctuating world economies, and led to a build-up in stocks and to oversupply in international markets. Oversupply led to a further depression in wool prices. From 1998/99 the reduction in world stocks, coupled with falling production in Australia and growth in world economies, has resulted in increasing prices until 2001/02. In that season easing demand from the Chinese market, a general slowing in world economies, the events of September 11, and increasing supply of superfine wools in Australia led to a reduction in fine wool prices from the 2000/01 high level.

However, 2002/03 has seen a significant rise in the world price of merino wool, driven largely by supply factors, principally low stocks internationally and falling Australian wool production as a result of lower stock numbers and drought. Australian production is forecast to continue to fall during 2003/04 then to slowly increase, but not to the levels of the mid-1990s in the medium term. World prices are expected to remain strong through 2003/04, although the unsettled world political situation and the outbreak of SARS are likely to have some negative impact on wool prices as they adversely affect economic growth, and thus, consumer incomes and demand for woollen apparel. From 2004/05 international prices for wool are expected to decline in real terms with a 36 percent decline in the Australian wool price forecast for the remainder of the period to 2007/08 (ABARE, 2003).

The world market for fibres has tripled in the last 40 years but wool's market share has declined during that time from almost ten percent in 1960 to 2.5 percent by 2000 (five percent of apparel fibres). The global apparel market is projected to grow at approximately 2.5 percent per annum in the medium term (AWI, 2002) and for the wool industry as a whole, a major factor influencing demand in the future will be the potential for other fibres to substitute for wool in textiles and apparel. The relative prices of wool and other fibres provide a strong incentive for substitution, since wool is now 6.5 times more expensive than cotton and five times more expensive than synthetic fibres (Merino Matters, December 2002).

Although there is less potential for processors to substitute other fibres for fine wool than for wool in general, fine wool prices (particularly those for wool of 19 microns or less) are likely to be constrained by significant increases in supply in the future. Just as the New Zealand merino industry has been working to reduce fibre diameter (see Section 2) the micron profile of Australian wool offered at auction has shown a steady increase in the proportion of wools finer than 19 microns since the early 1990s (AWI, 2003). There is no indication that this trend will cease in the near future. In addition, Australian wool exports in total are forecast to rise by 24 percent between 2003/04 and 2007/08 (ABARE, 2003). Consequently there will be large increases in the supply of a product for which there has traditionally been an inelastic demand, which will exert a downward pressure on fine wool prices that will reduce the price gap between fine and medium wools (AWI, 2002). In order to maintain this differential the New Zealand industry will need both to differentiate its product from the much greater supply of Australian fine wools and to develop non-traditional markets for this product.

As Figure 13 shows, the international market prices for New Zealand merino wool are closely aligned with Australian wool prices and may be expected to decline to a similar extent. However, the New Zealand exchange rate, which has been rising relative to its major trading partners during the past three seasons, (Reserve Bank of New Zealand, 2003) is forecast to fall from 62.6 in 2003 to 57.9 in 2005 (National Bank of New Zealand, 2003). This will exert a positive influence on prices received by New Zealand merino growers, which can be expected to offset to some extent the expected reduction in world prices.

The most recent MAF forecast for the average price of merino wool sold by monitor farms is that it will decline by 9 percent from $9.15 in 2002/03 to $8.39 in 2003/04 (MAF Farm Monitoring, 2003.). Meat and Wool Innovation predicts a decline in fine wool prices of 8.8 percent for the coming season (Matthew Newman, Economic Service, pers. com.)

4.3.2 The Price of Merino Wool Sold in New Zealand

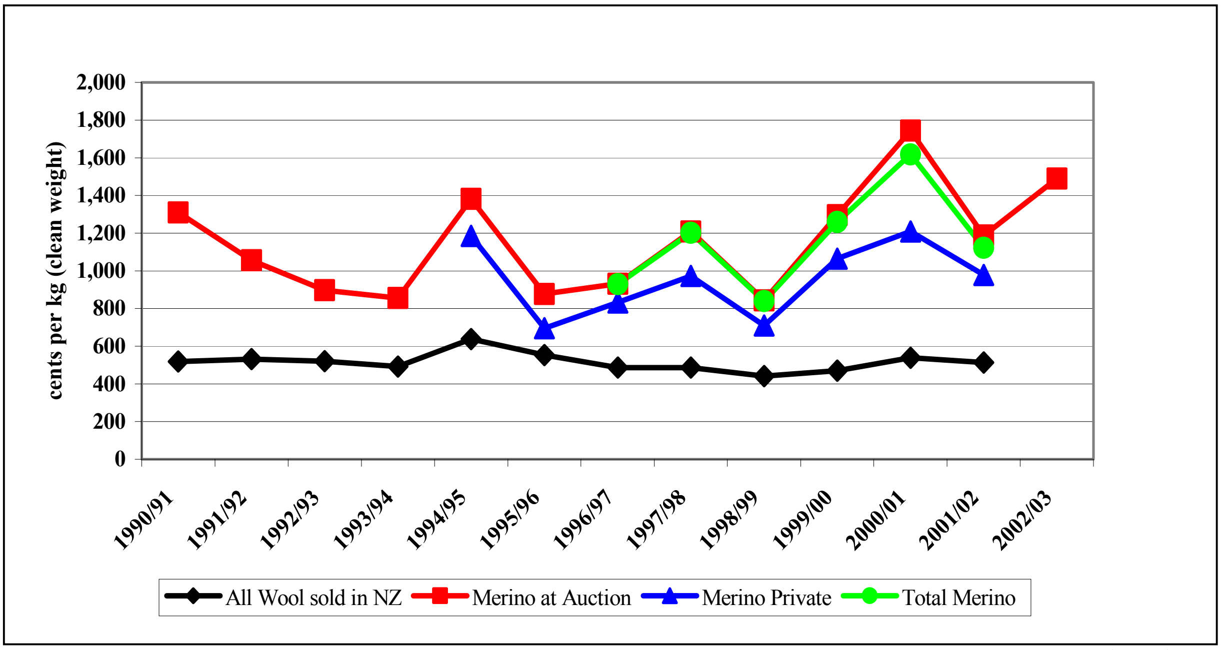
The actual average prices paid for all merino wool in New Zealand since 1990/91 are shown in Table 6, while real price trends are shown in Figure 11. These data should not be used to compare the performance of the different marketing systems during the period, since the "baskets" of wool sold by each method differ in type and quality. Directly comparable data on auction and private prices, on which to base a valid comparison, are not available.

Table 6
Merino Wool Prices in New Zealand 1990/01-2001/02

Season	Merino at Auction c/kg	Merino Private Sales c/kg	Total Merino c/kg
1990/91	1064	-	-
1991/92	868	-	-
1992/93	745	-	-
1993/94	720	-	-
1994/95	1201	1031	1197
1995/96	784	622	780
1996/97	849	758	847
1997/98	1114	898	1109
1998/99	779	656	776
1999/00	1213	997	1179
2000/01	1684	1167	1561
2001/02	1173	967	1109

Source: MWI (2003)

Figure 11
Real Prices of Merino Wool Sold in New Zealand 1990/91 – 2001/02



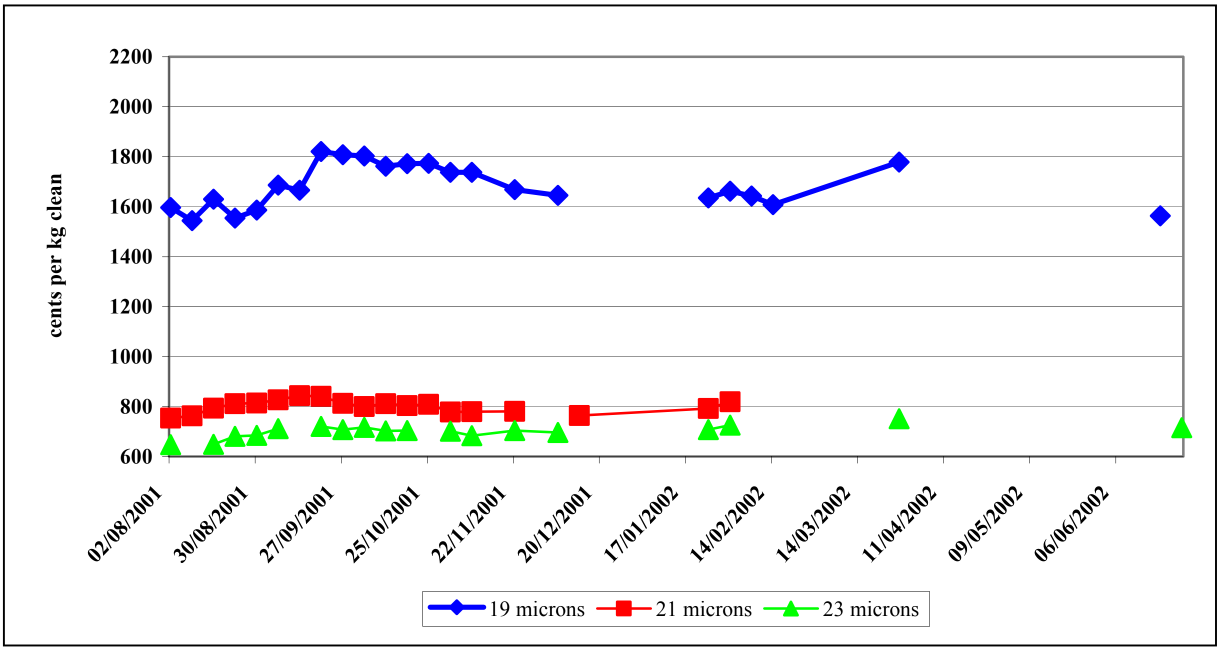
Source: MWI (2003)

As Figure 11 shows, the relationship between the average price of wool sold at auction in New Zealand and merino wool sold at auction has fluctuated widely during the last decade.

Merino wool prices varied from 162 percent to 325 percent of average wool prices, reflecting the relative demand for and supply of fine and stronger wools.

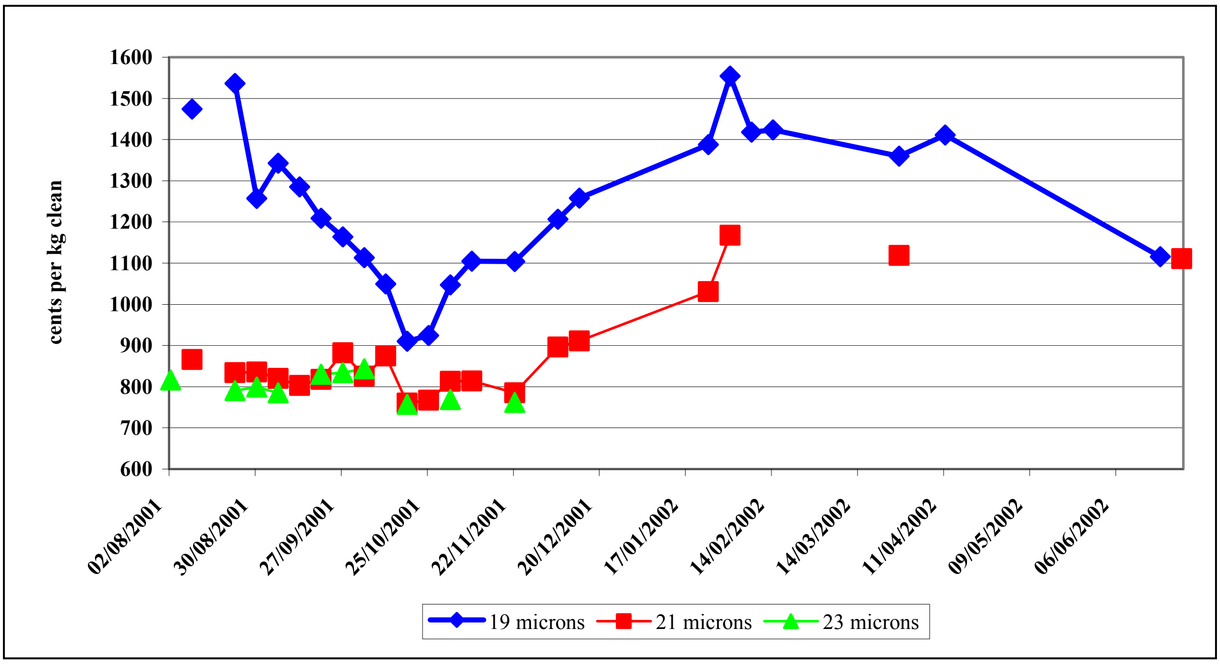
In addition to the between–season variability shown in Figure 11, there is considerable within-season price variation. The magnitude of the within season variability is greater for wools of smaller fibre diameter. Figure 12 illustrates the variability in prices for full length combing, best topmaking wools of 19, 21 and 23 microns fibre diameter at auction during 2000/01 which was the season of greatest variation during the last decade, while Figure 13 shows the prices paid for these wools during 2001/02 – the season in which least price variation was experienced.

Figure 12
Price Variability in Wools of 19, 21 and 23 microns during 2000/01



Source: MWI (2003

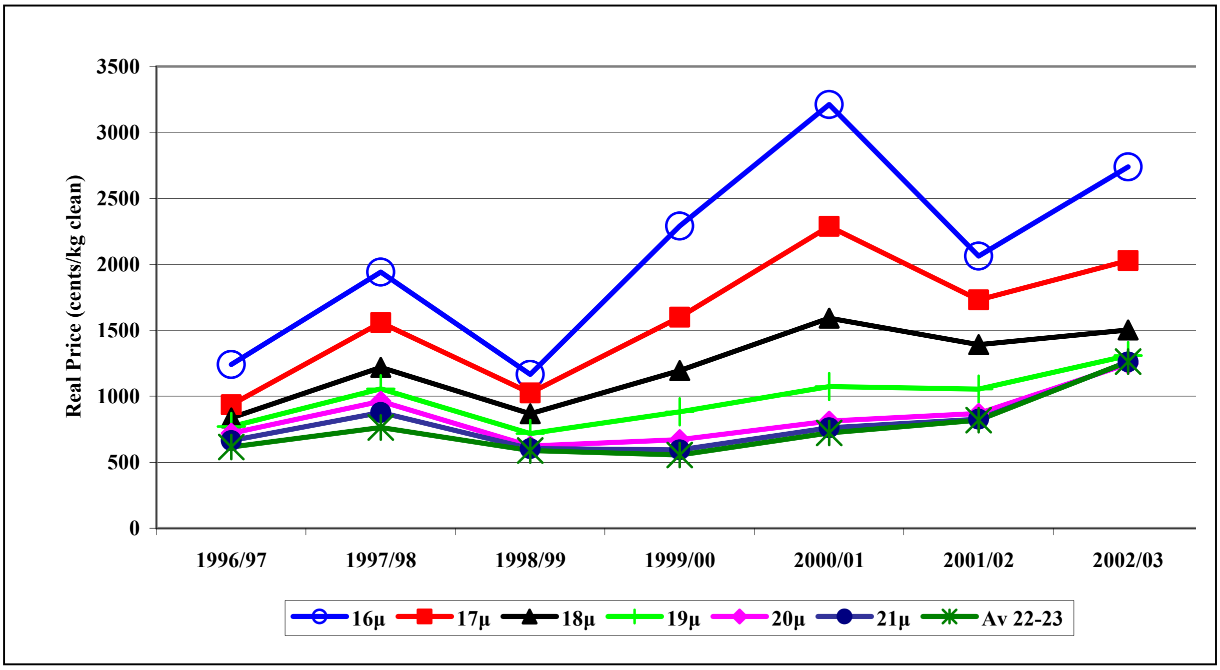
Figure 13
Price Variability in Wools of 19, 21 and 23 microns during 2001/02



Source: MWI (2003)

Figure 14 shows the average real prices of merino wool of a range of fibre diameters from 1996/97 to 2002/03.

Figure 14
Real Prices (cents per kg clean) of Merino Wool Sold at Auction by Fibre Diameter



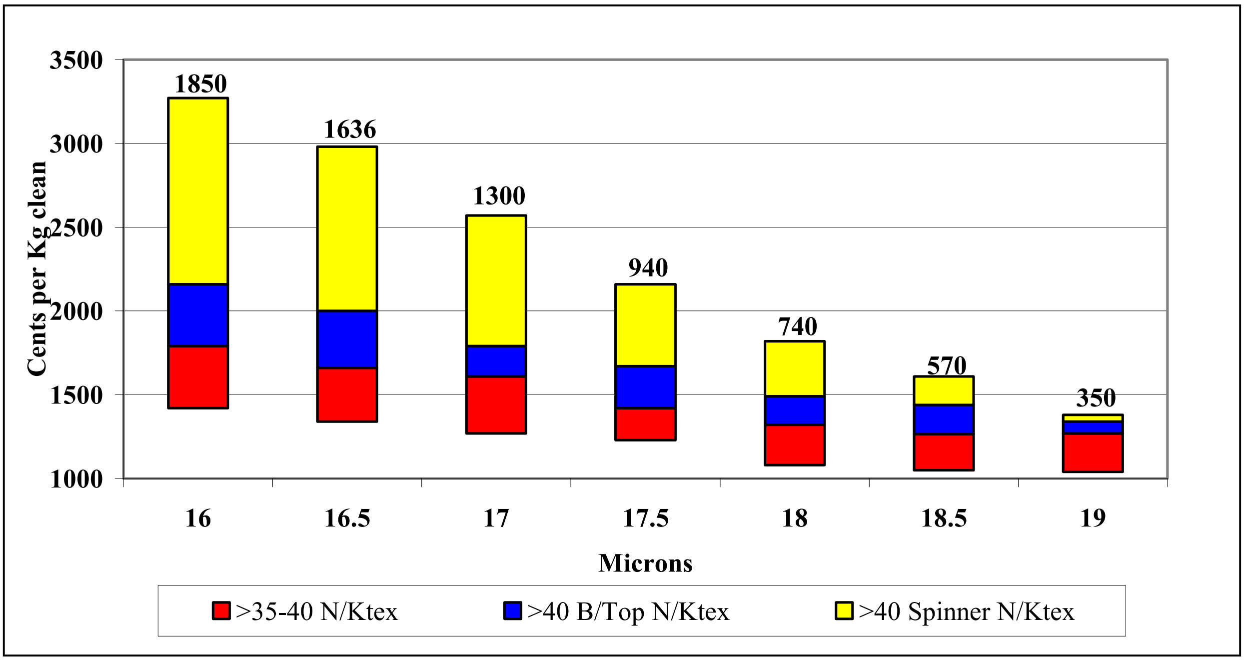
Source: MWI (2003)

The margins between the prices of wools of differing fibre diameters have changed between 1996/97 and 2002/03. From 1998/99 to 2000/01 the margins between the prices of finer wools and those of 20 microns or more increased significantly in real terms, as did the margins between the prices of wools of differing superfine fibre diameter. In 2001/02 with slowing of demand and increasing supply of Australian superfine wools, the average prices of wools of finer than 20 microns declined, most sharply at the finer end of the market, while wools of between 20 and 24 microns rose slightly in real terms. While all prices recovered in 2002/03, the relative prices of wools of differing fibre diameter changed significantly. As both Australian and New Zealand growers have moved towards the production of superfine wool, the reduction in supply of wool stronger than 20 microns has led to increased prices for these. The price differential between wools of 19 to 23 microns has been almost eliminated during the last season, and the margin between these and wools of 18 microns significantly reduced. It is not, however, expected that this trend will continue, since demand for wools of 20 microns or more comes largely from manufacturers of products for which a large part of the value is in the raw material (e.g. socks). The potential for substitution of other, cheaper, fibres is greater at this end of the market than for superfine wools (J. Brakenridge, NZM, pers. com.) and reducing demand is expected to exert downward pressure on prices.

4.3.3 Price and Quality

The impact of wool quality on wool price is greatest at the finer end of the micron range as Figure 15 shows. The premium paid in 2002/03 for wools of 19 microns of the "spinner" style that have tensile strength of more than 40 N/Ktex was 30 to 34 percent of the price of wools of that length of strength less than 30N/Ktex. On wools of 16 microns the premiums paid were between 50 and 130 percent of the base price. As the industry moves to an increasingly finer micron profile, wool quality is becoming an increasingly important determinant of wool price and the expected impact of drought and poor nutrition (and therefore lower tensile strength) on financial performance increases.

Figure 15
Price Premia for Quality

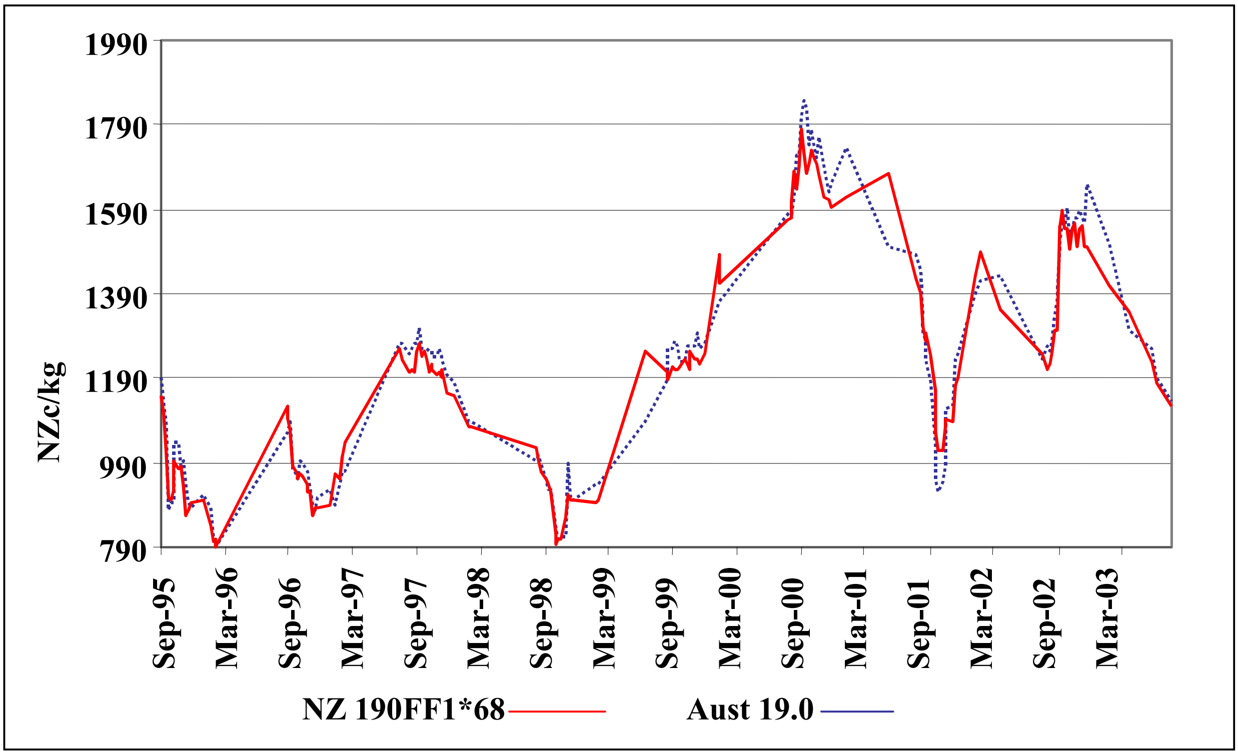


Source: NZM (2003)

4.3.4 International Comparison of Fine Wool Prices

Analysis undertaken in 2000 (McKinsey, 2000) showed that while the prices of New Zealand merino wool of 19 to 20 microns had improved relative to Australian prices, on average, New Zealand prices were, at that time, still significantly (11-13 percent) lower. The prices of superfine merino (17 and 18 microns) had also improved relative to Australian prices and it was reported that these wools often achieved a small premium over Australian prices. Although analysis of indicator prices provided by the Woolmark company in Australia suggests that this is still the case, the New Zealand Merino Company notes that such analysis does not compare wools of exactly the same types. Consequently NZM has provided the data summarised in Figures 16, 17 and 18, which show the time series of prices for comparable New Zealand and Australian 19, 21 and 23 micron wool types from 1995 to the present. These data, and the accompanying analysis tool, have been provided to NZM by Independent Commodity Services (ICS), an Australian-based commodity analyst and provider of data and analysis to a number of Australian brokers and wool industry service providers.

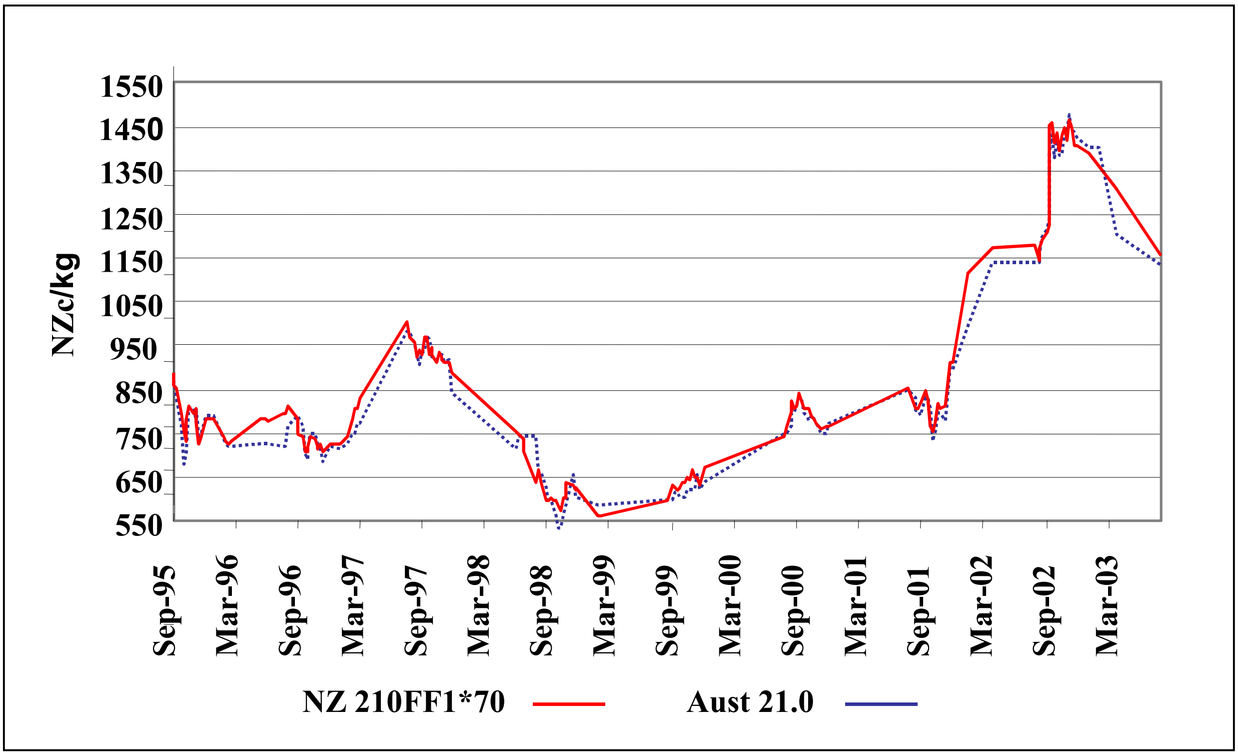
Figure 16
Relative Prices of 19 Micron Wool Auctioned in New Zealand and Australia



Source: ICS (2003)

As Figure 16 shows neither Australian nor New Zealand wool has consistently traded at prices higher than the other. The difference between markets has ranged from a 15 percent premium in the Australian market to a nine percent premium in the New Zealand market. For 50 percent of the period New Zealand prices have been two percent or more above Australian prices, while for 30 percent of the period they have been at or below Australian prices. No data is available on volumes sold at each price on which to base comparisons of mean prices in the two markets.

Figure 17
Relative Prices of 21 Micron Wool Auctioned in New Zealand and Australia

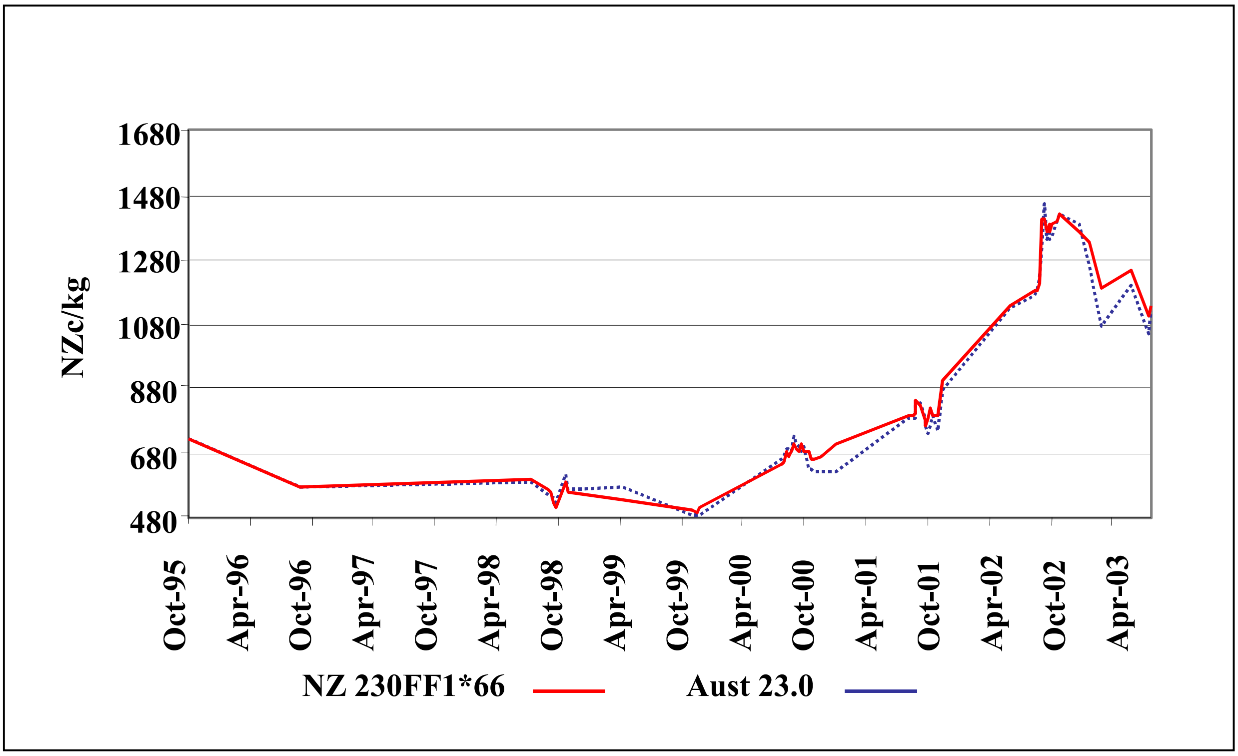


Source: ICS (2003)

For the 21 micron wools the differences between markets ranged from an 11 percent premium in the Australian market to a 16 percent premium in New Zealand. New Zealand prices have been one percent or more above Australian prices for 50 percent of the period and at or below them for 40 percent.

Prices for New Zealand 23 micron wool have ranged between 14 percent lower than Australian prices and six percent higher as Figure 18 shows. However, New Zealand wool prices have been discounted by one percent or more for 50 percent of the period and have been equal to or greater than Australian prices for only 40 percent of the period from 1995 to 2003.

Figure 18
Relative Prices of 23 Micron Wool Auctioned in New Zealand and Australia



Source: ICS (2003)

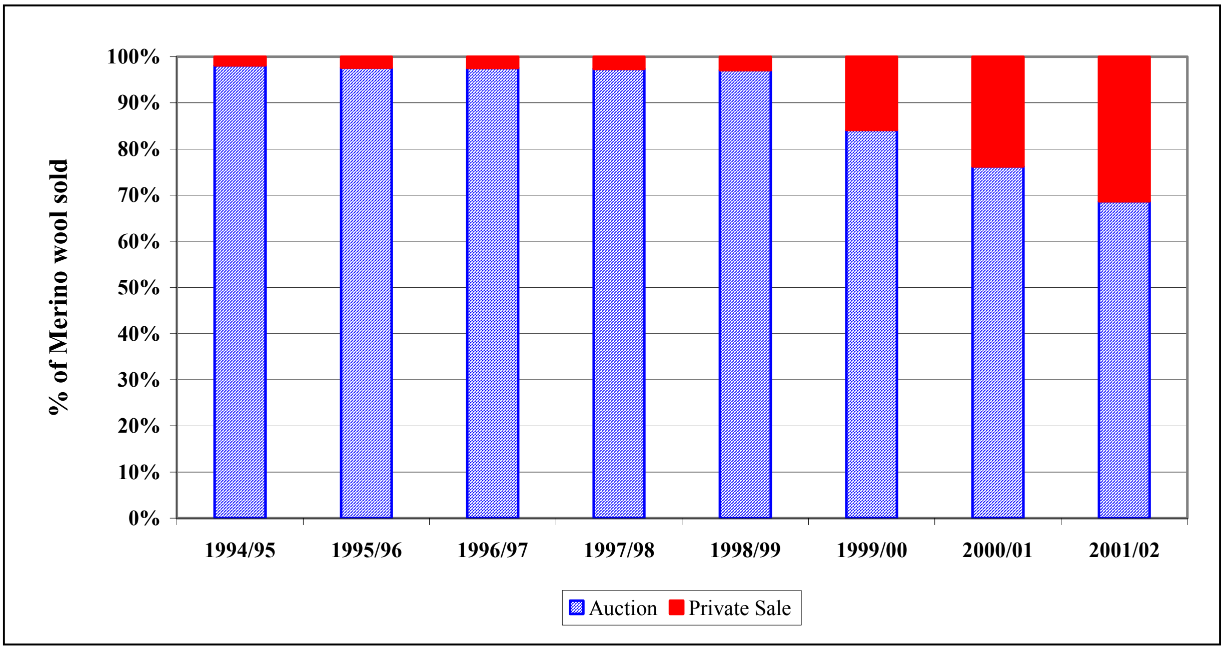
4.4 Marketing Systems

The New Zealand Merino Company (NZM) markets the largest share of the merino clip, estimated to be 69 percent by volume and 72 percent by value of the New Zealand merino clip (Scott Champion, NZM, pers. com.). Until July 2003 rural supply company Wrightson Ltd. held the contract to store, sample and prepare all NZM's wool for sale and for grower liaison. From July 2003, Pyne Gould Guinness will provide all warehousing and sampling services for NZM for a period of five years. Grower interface will be provided by both Wrightson and Pyne Gould Guinness. When NZM was formed in 2001 only two percent of the wool it handled was sold through longer-term contracts rather than by auction. This has now increased to 28 percent (Scott Champion, NZM, pers. com.) and the contracts offered now cover the range of wool types, including fleece and lower lines. NZM has developed contracts with a range of high quality apparel manufacturers including Icebreaker, John Smedley, Chargeurs, Swanndri and Smart Wool.

In a recent development NZM has offered "clip hedge" contracts, which operate in a similar manner to a futures contract. Growers lock into a likely future price of wool at auction at a specified time in the future. The price received is the difference between the agreed price plus or minus the difference between the price received at auction, and the relevant AWEX (Australian Wool Exchange) micron price guide on sale day, converted to New Zealand dollars. This differential accounts for differences in the wool supplied and contracted and differences between the Australian and New Zealand markets on the day (NZM, 20/03/03).

The proportion of all merino wool sold privately rather than at auction has increased from less than two percent in 1994/95 to 31 percent in 2001/02 as Figure 19 shows.

Figure 19
Auction and Private Sale of Merino Wool in New Zealand 1994/5-2001/02



Source: MWI (2003)

The Company's market support and research and development programmes provide the incentive for companies such as Icebreaker to buy into contracts with NZM, in addition to providing a means for the customer to lock in price and quality requirements. In a market where there is considerable price volatility, contracts give customers with the confidence to develop new woollen products and markets for merino wool (Scott Champion, NZM, pers, com.). Contracts are established in the upper quartile of auction price for a particular type, ensuring financial sustainability and profitability for growers.

Contracts provide growers with the price security that enables them to determine input levels and make investments without the risk of a poor financial performance if unexpectedly low prices are received at auction. Conversely growers who enter into contracts do not benefit from unexpectedly high prices when they occur.

SECTION 5
ISSUES FACING THE MERINO INDUSTRY

5.1 Wool Prices

Because the viability of New Zealand merino enterprises is heavily dependent on income from wool, they are very vulnerable to fluctuations in international prices and to any long-term downward trend in wool prices. Both of these can be expected in the medium term.

World market prices for fine wool are volatile and strongly influenced by supply factors such as international wool stocks and production in Australia, as well as by factors that affect economic growth and, thus, consumer incomes in apparel markets. Price volatility impacts adversely on both growers of, and customers for, fine wool. To growers, for whom income from wool comprises a high proportion of total farm income, price fluctuation is a major source of financial risk. To textile and apparel manufacturers, fluctuating prices are a disincentive to the development of new products and markets for fine wool products because of uncertainty about future costs of production. During the last four seasons there has been a significant change from selling New Zealand merino wool at auction to the establishment of contracts that provide price security for both grower and buyer.

The changing micron profiles of both New Zealand and Australian merino wool during recent years have resulted in significant increases in supply of superfine wools to a small market with relatively inelastic demand. This trend is expected to exert downward pressure on wool prices in the coming years, particularly as Australian wool production in total is forecast to increase. To counteract this trend the New Zealand industry must differentiate its product from Australian fine wool, develop non-traditional markets and build strong customer relations based on consistency and quality of supply. These are the elements of the New Zealand Merino Company's marketing strategy. (John Brakenridge, NZM, pers. com.).

5.2 Tenure Review

The tenure review process presently proceeding under the Crown Pastoral Lands Act (1998) is potentially a major issue for the industry, and one that is likely to precipitate rapid and unprecedented change. A high proportion of merino properties are eligible to enter the review process, which the Government expects to result in the freeholding of 40 percent of the land held under pastoral leases (868,471 hectares) and the return of the remainder (1.3 million hectares) to the conservation estate. Much of the land to be removed from farming will be summer moist country, which is of greater significance in the feed budgets of high country properties than its proportion of total area implies, and the high altitude unimproved tussock country on which the merino wether flock is grazed.

The impacts of tenure review on the economic output of the high country, and on merino properties, are the subject of considerable debate in the industry at present and there is considerable diversity of opinion. A recently commissioned MAF study of the impacts of tenure review will investigate the economic and some social impacts of tenure review in more detail. An initial "very rough" estimate of the total stock losses is that if all properties eligible for tenure review complete the process, total stock losses of half a million from the high country as a whole and direct income loss of 12 to 20 million dollars at the farm gate may occur (Alastair Ensor, pers. com.).

Some industry observers consider that development of, and intensification of production on, the land freeholded will mitigate the impacts of stock losses on total industry output, particularly if animal health issues are addressed at the same time. It appears inevitable that the merino wether flock, traditionally grazed on areas expected to be returned to conservation, will be significantly reduced, which may result in a change from merinos to other sheep breeds or to greater reliance on non-sheep farming enterprises.

Freeholding will increase the commercial opportunities available to high country farmers and tenure review will almost certainly result in landuse change in the high country. Farmers will be able to attract external capital for development into both diversified and intensified agricultural/horticultural enterprises and into non-agricultural developments (George Collier, AgFirst Consultants pers. com.). Although the extent of radical change (e.g. viticulture, game parks) is unlikely to be vast, developments such as centre pivot irrigation systems will provide increased opportunities for diversification of pastoral production and reduction of dependence on fluctuating world prices for fine wool.

5.3 Other Issues

5.3.1 Animal Health Issues

There has been a reduction in the number of properties running merino sheep in recent years in both higher rainfall areas of Canterbury and in the McKenzie and Otago districts. This is attributable largely to the perceived difficulties of managing a merino flock for high performance, such as the breed's susceptibility to footrot and flystrike as well as to their inherently lower lambing percentages than other breeds (David Studholme, John Bates, pers. com.). The industry, through its research and development budget is actively addressing the issues of footrot and lambing percentage at present.

5.3.2 Biodiversity

An issue that has the potential to be important for run-holders, including merino growers, is the implementation of the "National Policy Statement on Biodiversity", to be notified later in 2003, and its translation into rules in District Plans. No current draft of the Policy Statement is available at present and there are a number of stages, including public submissions, before it is adopted. The most optimistic scenario for runholders is likely to be that a comparatively low level of additional compliance costs will be incurred in order to obtain permits to clear indigenous species such as fern, matagouri and tutu. In the most pessimistic scenario stock numbers will decline over time, as runholders are unable to clear regenerating indigenous scrub (John Aspinall, Federated Farmers, pers. com.).

5.3.3 Research and Development

The fine wool industry is competing in the market place with international synthetic fibre manufacturers such as Dupont, with very large research and development budgets to enable them to continue to develop fibres that will compete more effectively with wool in fibre markets. Much of the fine wool research that has been undertaken to date has been undertaken on behalf of the Australian industry, which, like the New Zealand industry, has recently been restructured and reduced its wool levy. Continued investment in research and development will be critical to the industry's on-going success (John Brakenridge, NZM, pers. com.).

5.3.4 Market Reputation

There are several issues, common to all pastoral industries, which may affect the merino industry's success in international markets in the future. They include animal health and welfare, environmental sustainability and market access. These are the subject of a report recently commissioned by the industry and will not be discussed further in this report.

5.3.5 Data Availability

While a significant body of data and information on the state of the merino industry in New Zealand is available and updated annually, it must be obtained from a number of separate sources. Accurate data on some key parameters is not available or not regularly updated. Table 7 lists the data requirements identified in the project brief and the sources from which it may be obtained.

Table 7
Data Sources

Data requirement	Data source
Production:	
Sheep numbers by region	Point estimates of total numbers available only. No regular collection of data since "Sheep Breeds Survey" stopped in 1996. Recent estimates from the Economic Service MWI and Wool Board registration of interest in asset distribution. No regional data except approximate percentages provided in MAF Farm Monitoring Reports.
Grower numbers	No reliable data on grower numbers. MAF estimate of number who fit specific criteria only. No numbers on merino lamb finishers or lowland breeding farms. Wool Board registration data includes all growers who own any merino sheep.
Wool production	
• Volume	Data available annually from MWI include merino wool volumes sold at auction and privately. Auction sales data by micron. Private sale data less detailed. Some breed specific data in Wool Statistical Handbook, the remainder can be purchased. Time series data on merino wool at auction and private sale from 1996/97. Fine wool data (28 microns or less) from pre-1990/91.
• Quality	MWI records fibre diameter. Staple length, staple strength, colour, bulk, lustre and tenderness. Data by breed can be purchased. Time series data from 1996/97.

Table 7 Cont'd

Meat production	No data. Anecdotal information from meat companies and growers.
Trends in farming systems and scale	No accurate data. Some changes reflected in MAF Farm Monitoring and MWI Annual Survey data but inclusion criteria screen out farms that have undergone significant change. Time series data available from MAF Farm Monitoring since 1996/97 and from MWI Annual Survey from pre-1990/91.
<u>Economic</u>:	
Farm incomes, expenses, net returns	MAF Farm Monitoring and MWI Annual Survey provide detailed financial data that are generally consistent with each other and give a good picture of economic trends. Time series data available from MAF Farm Monitoring since 1996/97 and from MWI Annual Survey from pre-1990/91.
Returns in other countries	Australian Farm Survey Report
<u>Market</u>:	
Export markets Export volumes	Export volumes and values by market for *fine* wool are available from Statistics New Zealand "Trade Statistics". No specific merino export data. Time series data available from pre-1990/91. Pre 2000/01 fine wool was classified as less than 28.5 microns but is now classified as 24 microns or less i.e. approximately 20 percent is merino.
Prices	Discussion of international wool market influences is included in the ABARE "Outlook" conference annually.
New Zealand prices	Auction prices by micron are available from MWI. Only average private sale price across all microns is available. Time series data on merino wool at auction and private sale from 1996/97. Fine wool auction data (24 microns or less) from pre-1990/91. Data on quality premia can be supplied by the New Zealand Merino Company.

Table 7 Cont'd

Comparative prices	An analysis of New Zealand and Australian prices for comparable wool types can be generated by the New Zealand Merino Company using data and analysis tools supplied by ICS.
Marketing system	Data on sales by auction and private sales is available from MWI. Time series data on merino wool at auction and private sale from 1996/97. Fine wool auction data (28 microns or less) from pre-1990/91.
Landuse changes:	No data available.

REFERENCES:

ABARE (2002). *"Australian Farm Surveys Report 2002: Financial Performance of Australian Farms 199-2000 to 2001-02."* Canberra. ABARE project 1750 and 1750.

Australian Wool Innovation Ltd. (2002). *"Strategic Plan 2002-2007".* Retrieved July 21, 2003 from the World Wide Web at

Australian Wool Innovation Ltd. (2003). *"Australian Wool Production Forecast Report, June 2003".* Retrieved July 21, 2003 from the World Wide Web at

Ashton, D. (2003). *"Fibres Outlook to 2007-08".* In ABARE. *Proceedings of the National Outlook Conference, Canberra 3-5 March, 2003*. Canberra, ABARE.

Ashton, D, Alexander, F and Gleeson, T. (2003). "*Fibres Outlook to 2004-05".* In ABARE. *Proceedings of the National Outlook Conference, Canberra 29 February – 2 March, 2000, Vol 2*. Canberra, ABARE.

Dominion. (1996) *"Wool Marketing Contract Settled."* 29 March 1996: p14

Dominion. (1998) *"Joint Merino Marketing Organisation Formed."* 5 March 1998: p9

Green, R. and Mulvaney, C. (1998). *"Merino 100% Club: Farmer-Led Research 1995to 1998 Final Report."* A project jointly funded by Wools of New Zealand and the Foundation for Research, Science and Technology.

Merino Matters. (2002). *"Higher Prices, Consistent Prices and Lower Costs."* December, 2002: p4.

Ibbotson Cooney & Co. (1998-2000). *"Farm Survey"*.

Inder, R. (1997). *"Woolgrowers spinning Over Funds Dispute."* National Business Review 27 June, 1997:p11.

McKinsey& Co. (2000). *"Report to New Zealand Woolgrowers on Improving Profitability."* June 2000.

Meat and Wool Economic Service of New Zealand. (1991-2000). *"Sheep and Beef Farm Survey Various Years"*. Wellington, MWBES.

Meat and Wool Innovation Economic Service. (2001-2002). *"Sheep and Beef Farm Survey 2000-01 and 2001-02"*. Wellington, MWI Economic Service.

Meat and Wool Innovation Economic Service. (2003). *"Price Outlook 2003-04"*. Retrieved June 28, 2003 from the World Wide Web at http://www.mwi.co.nz/economicservice/G2259.pdf

Ministry of Agriculture and Forestry (1997 -1999). *"Farm Monitoring Report: South Central – July -"*. Wellington, MAF

Ministry of Agriculture and Forestry (2000). *"2000 Sheep and Beef Monitoring Report"*. Retrieved May 21, 2003 from the World Wide Web at http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/farm-monitoring/fmsb00/httoc.htm

Ministry of Agriculture and Forestry (2001). *"2001 Sheep and Beef Monitoring Report"*. Retrieved May 21, 2003 from the World Wide Web at http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/farm-monitoring/2002/sheep-and-beef/httoc.htm

Ministry of Agriculture and Forestry (2002). *"2002 Sheep and Beef Monitoring Report"*. Retrieved May 21, 2003 from the World Wide Web at http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/farm-monitoring/2002/sheep-and-beef/httoc.htm

National Bank of New Zealand (29 May, 2003). "*Quarterly Economic Forecasts*". Retrieved June 10, 2003 from http://www.nationalbank.co.nz/economics/forecasts/pdf/QEF_May_03.pdf

New Zealand Merino Company. (2003).*'The New Zealand Merino Clip Hedge Contracts."* Updated 20 March 2003. Retrieved 5 July, 2003 from the World Wide Web at: http://203.167.248/news/merinonoes.asp?id=163

New Zealand Farmer (1994). *"Fine-wool Growers to fund New Body."* October 12, 1994: p13.

New Zealand Farmer (1997). *"Wool Board Fears Merino Lobby Bid on Levy Control."* May 15, 1997: p3.

Reserve Bank of New Zealand (May, 2003). "*Statistics: Exchange and Interest Rates*". Retrieved June 10, 2003 from http://www.rbnz.govt.nz/statistics/exandint/b1/hb1.xls

Statistics New Zealand. (1991-). *"Monthly Abstract of Statistics".* Wellington, Statistics New Zealand.

Stephens, S. (1995). *"Merino NZ Gains Control."* New Zealand Farmer, December 21, 1995: p5.

Stephens, S. (1996). *"Merino targets 50% Price Gain."* New Zealand Farmer, March 21, 1996: p7.

Stringleman, H. (1996). *"Sinclair Quits WNZ Over Merino Deal."* New Zealand Farmer , January 11, 1996: p7.

Stringleman, H. (2003). *"Outdoorwear Pushes Fine Wool into New Age."* National Business Review , February 7, 2003: p17.

The New Zealand Merino Company Ltd. (2003). *"The New Zealand Merino Company Clip Hedge Contracts."* Retrieved May 21, 2003 from the World Wide Web at: http://203.167.201.248/news/merinonews.asp?id=163

Wallace, N. (1994). "*Otago Grower NZ Merino Chief."* New Zealand Farmer, December 14, 1994: p3.

APPENDICES

APPENDIX 1
ORGANISATIONAL STRUCTURE OF THE INDUSTRY

The organisational structure of the New Zealand merino industry has undergone a number of changes since the early 1990s, when only the New Zealand Wool Board represented the interests of New Zealand merino growers. Merino growers, because of relatively high fine wool prices, paid a disproportionate amount of the total wool levy but considered that their interests, which differed from those of the broader wool industry, were not being adequately addressed. As a result a new organisation, Merino New Zealand Incorporated, to be funded by the Wool Board, was set up to represent those specific interests in 1994.

A1.1 Merino New Zealand (Inc.)

Merino New Zealand Incorporated, in its present role, as redefined in 2002 after the formation of The New Zealand Merino Company, is a grower organisation that owns the New Zealand Merino^{TM} brand and is responsible for industry good activities including:

- education and training
- research, development and innovation
- advocacy and communication

The main areas of research and development and extension to be funded by the organisation are:

- Optimising production
- Pest and disease control
- Wool quality
- Risk Management
- Market reputation

Its role in the industry has changed considerably since September 1994, when it was established to represent grower interests and "to focus on the promotion and management of [the industry's] special characteristics to maximise opportunities for improving returns to growers (New Zealand Farmer, 1994a)". It was funded by a proportion of the Wool Board levies paid by growers of wool 23.5 microns and finer, and was established first as an autonomous business unit within the Wools of New Zealand (WONZ) structure, to be responsible for all merino sector initiatives. Although the final responsibility for merino sector funds remained with the Wools of New Zealand Board, the task of driving merino sector initiatives was contracted to MNZ (Inc.) (Wallace, 1994).

In December 1995 a three-year agreement was announced between WONZ and MNZ (Inc.) that gave control of merino wool promotion to MNZ (Inc.), which was to receive most of the levy monies paid by fine wool growers, apart from a portion retained to pay for core services provided to the sector by WONZ (Stephens, 1995). In return MNZ (Inc.) had to increase the volume of merino wool produced by 2000 tonnes, and the volume processed by 750 tonnes, in three years, and to increase merino wool prices above an Australian benchmark price (Dominion, 1996). This decision resulted in the resignation of WONZ chief executive, Grant Sinclair, who felt the move would set a dangerous precedent for other sectors in the industry and weaken the WONZ "Fernmark" brand initiative, initiated after New Zealand's withdrawal from the International Wool Secretariat (Stringleman, 1996). The organisation produced its statement of strategic intent in 1996, in which it targeted a 50 percent price rise for merino wool in the next decade and announced its intention to establish an elite brand (Stephens, 1996). The brand, New Zealand Merino ^{TM}, was launched in September 1996 and for that season a budget of $1.861 million was available for marketing initiatives.

During the early years of MNZ (Inc.)'s existence there was dispute between WONZ, which feared that MNZ (Inc.)'s strategy of a separate brand and marketing for merino wool had the potential to undermine the Fernmark strategy, and MNZ (Inc.). WONZ was primarily concerned about duplication of its marketing and research effort by MNZ (Inc.) (New Zealand Farmer, 1997) and considered that the interests of merino growers would be better served by collaboration with other wool producers through a merino council. There were concerns that if MNZ (Inc.) were permitted to go it alone, other sectors of the industry would also seek to do so. MNZ (Inc.) believed that the contract it had signed with WONZ gave it the exclusive right to market New Zealand's merino clip. Its main concern was that that the continued marketing of merino wool under the Fernmark strategy undermined its own marketing strategy. It was unhappy about the retention of levy funds (almost 50 percent of the levy take in 1996/97) paid by merino growers to support the Fernmark campaign (Inder, 1997).

In early 1998 following the decision to separate the statutory authority of the Wool Board from targeted business units, WONZ and MNZ (Inc.) announced that they were to set up a new company, Merino New Zealand Ltd (MNZ Ltd). It was to have world-wide responsibility for marketing New Zealand merino wool and which would manage the New Zealand Merino^{TM} branding strategy (Dominion, 1998).

After the formation of MNZ Ltd, MNZ (Inc.)'s role was reduced to administrative functions such as the election of directors. In 2001, when MNZ Ltd was transformed into a commercial company, MNZ (Inc.) remained a grower-owned organisation charged with administering and funding industry good activities. Four regionally elected directors plus a chairperson and an appointed director govern MNZ (Inc.), which is to be funded during the next few years by the unspent portion of levies paid by the merino sector, to be handed over on the disestablishment of the Wool Board.

A1.2 Merino New Zealand Ltd

Merino New Zealand Ltd was formed in 1998 as an industry development organisation devoted solely to the marketing and promotion of New Zealand merino fibre. It was established as a joint venture company between the New Zealand Wool Group and MNZ (Inc.) to market merino wool under the New Zealand Merino^{TM} brand. It developed into a five million dollar funding and market support organisation funded by merino woolgrowers by means of the merino sector levy (five percent in 2000). The organisation was governed by the existing directors of Merino New Zealand (Inc.) plus the chief executive and one director of the New Zealand Wool Board.

Among the organisation's achievements were (O'Grady, 2000):

- Increased returns for the New Zealand merino grower

- Establishing relationships with 30 brand partners in New Zealand
- Establishing relationships with a number of prestigious companies in Japan, the United States and in Europe
- Establishing the merino Product Advancement Centre (PAC) in Christchurch. The benefit of PAC is its ability to precisely identify the characteristics of each fleece and so optimise its presentation to market

In 2000 the McKinsey Report on improving profitability in the wool industry acknowledged that the improvement in the prices of New Zealand wools finer than 20 microns comparative to comparable Australian wools was due largely to the efforts of MNZ Ltd. It also found that MNZ Ltd had created valuable assets in the form of brand relationships and processing and testing technology. The report recommended that in order to continue to achieve its aims, MNZ Ltd should be transformed into a new commercial wool marketing company, which should have exclusive access to MNZ Ltd's assets. The McKinsey study found that the biggest risk of continuing to fund MNZ Ltd's activities by means of levies would be that it would lose momentum and effectiveness over time, thus losing the opportunity to create a viable commercial entity.

A1.3 The New Zealand Merino Company

The New Zealand Merino Company (NZM) was formed in 2001 in response to the McKinsey Report (2000). It is a joint venture between merino growers (65 percent) and the rural supply company Wrightson Ltd (35 percent). The company is responsible for the marketing and supply chain activities of the former New Zealand Merino Ltd and for selling the largest share (estimated at approximately 70 percent) of the New Zealand merino clip. The Merino™ brand is licensed to NZM for a period of fifteen years. During the 2002/03 season the company has sold almost 30 percent of the wool it handles through forward contracts, with the remainder sold by auction. It has developed a number of contracts with large, high quality apparel manufacturers both in New Zealand and overseas. This year the company has introduced "Merino Clip Hedge Contracts", that operate in the same manner as other commodity futures contracts, and allow growers to manage price risk more effectively (NZM, 2003).

A1.4 The Regional Associations

The four regional Merino Associations are based in Otago, Canterbury, Marlborough and North Island. Each Association is responsible for the election of a Merino New Zealand Inc. director to represent the region. Associations provide a forum for discussion of industry issues at the regional level and identification of research priorities for the industry. In addition individual associations are involved in a wide range of projects on behalf of the industry. These have included:

- Merino sheep selection workshops
- Merino stud tours
- Field days for new merino growers
- Merino management field days
- Industry representation on animal health and welfare
- Promotion of sheep sales

- Dissemination of industry news and market information with newsletters
- Research and promotion of Merino Meat
- Elimination of contamination in wool
- Improving wool packaging standards
- Introducing quality management systems to meet processor requirements
- Organising competitions to promote and reward higher standards in Merino sheep breeding management and presentation

(New Zealand Stud Merino Breeders Society, 2003).

APPENDIX 2
DATA TABLES

Table A1
Wool Sales (Clean tonnes)

	MerinoWool Auctioned[1]			Private	Total
	Fleece wool	Non Fleece	Total	Sale	Sales
1990/91	1064	2123	3188	N/A[2]	3188
1991/92	868	2548	3416	N/A[2]	3416
1992/93	745	2423	3169	N/A[2]	3169
1993/94	720	2492	3213	N/A[2]	3213
1994/95	1201	2473	3673	203	3876
1995/96	784	2476	3260	252	3512
1996/97	849	3904	4753	206	4959
1997/98	1114	3510	4624	200	4824
1998/99	779	3449	4229	218	4447
1999/00	1213	2772	3985	1290	5275
2000/01	1684	3139	4822	2097	6919
2001/02	1173	2805	3978	2730	6708
2002/03	N/A	N/A	5605	N/A	N/A

1 Estimated from fine wool data until 1996/97
2 Less than 200 tonnes

Table A2
Tested Length of Merino Wool sold at Auction (%)

Length mm	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02
<70	5.04%	6.00%	2.51%	5.28%	2.51%	11.76%
70-79	29.12%	42.51%	28.60%	34.97%	28.60%	55.12%
80-89	53.23%	45.37%	59.20%	49.59%	59.20%	29.69%
90+	4.06%	3.43%	9.70%	10.16%	8.69%	6.12%

Table A3
Tested Strength of Merino Wool sold at Auction (N/ktex)

Strength	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02
<28 (N/ktex)	0.7%	0.8%	0.9%	0.9%	0.5%	0.8%
28-30 (N/ktex)	3.1%	2.7%	4.3%	2.4%	2.5%	2.4%
32-40 (N/ktex)	33.1%	31.5%	39.8%	35.1%	26.5%	37.4%
42-46	43.5%	34.0%	43.3%	36.7%	33.7%	39.1%
48-50	22.9%	7.6%	9.8%	8.1%	5.5%	9.0%

Table A4
Fibre Diameter of Merino Wool Sold at Auction 1996-97 to 2001-02

Fibre diameter (Microns)	Percentage of merino wool sold at auction						
	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
14µ	0.00%	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%
15µ	0.01%	0.02%	0.02%	0.05%	0.07%	0.19%	0.25%
16µ	0.36%	0.46%	0.56%	1.28%	1.61%	3.01%	2.85%
17µ	4.32%	5.38%	6.80%	10.40%	10.04%	11.40%	13.26%
% lower than 18 µ	4.69%	5.86%	7.38%	11.74%	11.72%	14.60%	16.38%
18µ	13.27%	16.00%	19.56%	22.74%	23.02%	23.76%	27.39%
19µ	25.04%	28.48%	30.83%	30.51%	30.76%	32.35%	31.51%
18µ and 19µ	38.32%	44.48%	50.39%	53.25%	53.77%	56.11%	58.89%
20µ	28.99%	28.56%	25.12%	20.58%	20.56%	20.26%	17.09%
21µ	17.16%	13.54%	11.36%	9.01%	9.28%	6.60%	5.41%
20µ and 21µ	46.14%	42.10%	36.48%	29.58%	29.84%	26.86%	22.50%
% higher than 21 µ	10.85%	7.56%	5.74%	5.42%	4.66%	2.44%	2.25%
22µ	7.55%	5.32%	3.95%	3.95%	3.51%	1.86%	1.71%
23µ	2.59%	1.79%	1.50%	1.24%	1.00%	0.44%	0.45%
24µ	0.58%	0.42%	0.28%	0.22%	0.12%	0.05%	0.05%
25µ	0.10%	0.02%	0.02%	0.01%	0.04%	0.01%	0.02%
26µ	0.01%	0.01%	0.00%	0.00%	0.00%	0.06%	0.02%
27µ	0.01%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%
28µ	0.01%	0.00%	0.00%	0.00%	0.00%	0.02%	0.00%
29µ	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Mean	1976.97%	1952.79%	1932.25%	1909.00%	1906.22%	1885.33%	1872.11%
Median	2000.00%	1900.00%	1900.00%	1900.00%	1900.00%	1900.00%	1900.00%
% lower than 20 µ	47.70%	56.20%	65.16%	76.74%	77.22%	85.31%	91.65%
% lower than 19 µ	22.66%	27.72%	34.33%	46.23%	46.46%	52.96%	60.14%
% higher than 22 µ	3.30%	2.24%	1.79%	1.48%	1.15%	0.58%	0.54%
% higher than 23 µ	0.71%	0.45%	0.30%	0.24%	0.15%	0.14%	0.09%
% higher than 24 µ	0.13%	0.03%	0.02%	0.02%	0.04%	0.09%	0.04%

Table A5
Cash Farm Expenditure ($ actual)

	Animal Performance	Fertiliser & feed	Wages	Interest	Other
1996/97	17,000	25,000	29,000	57,960	87,818
1997/98	18,500	37,000	30,500	51,841	97,390
1998/99	19,650	31,170	27,500	48,185	83,859
1999/00	22,000	48,260	34,050	47,756	104,172
2000/01	25,850	65,310	35,446	46,178	122,864
2001/02	29,535	68,915	37,470	39,575	138,410
2002/03p	29,040	84,990	38,600	33,580	133,149
2003/04f	27,400	64,250	43,400	33,500	125,027

Table A6
Real prices (cents per kg) by Fibre Diameter of Merino Wool Sold at Auction 1996-97 to 2002-03

Fibre diameter.	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
14μ	2192	6017	11348	13517	6106	21761	6140
15μ	1723	2201	1584	3786	4315	2502	3896
16μ	1240	1941	1166	2291	3211	2063	2738
17μ	935	1559	1025	1599	2288	1731	2029
18μ	835	1220	867	1194	1594	1390	1502
19μ	771	1056	717	882	1074	1053	1309
20μ	721	962	624	671	812	869	1246
21μ	665	878	603	595	761	827	1260
22μ	619	776	595	563	732	816	1264
23μ	603	728	575	532	685	838	1255
24μ	591	703	589	490	638	867	1091
25μ	568	71884	844	258	1745	813	1220

APPENDIX 3
Review of the New Zealand Merino Industry
TERMS OF REFERENCE

These terms of reference have been developed to solicit tenders from those organisations and individuals interested in collating and analysing information to establish the trends and issues in relation to the Merino industry in New Zealand. The information will be used to assist Merino Inc refine its strategy and tailor its services to the needs of the industry, and as a resource for other stakeholders in the Merino Industry. The information will also be used to assist in the identification of key performance indicators for the Merino industry and benchmarks for these which can be monitored over time to establish the ongoing performance of the sector.

Project scope

Primary Objective

The Merino NZ Inc research strategy aims to contribute to its vision -*To improve the profitability of merino farmers, within an industry that is: United, Respected, Expanding, Attracting new people.* To achieve this Merino Inc needs to have a good understanding of the trends in Merino production in New Zealand as well as identifying other issues which may emerge and have an impact on the industry. It is anticipated that the results of this industry review will provide an objective oversight of the industry which can be then be used by the industry to assist in refining the Merino Inc research and training strategies as well as those of other stakeholders.

Tasks

Stage 1 Industry Review

Through reference to appropriate resources and consultation, undertake a review of and prepare a report on the following:

- Merino Production – to describe changes over time and extrapolate future possible trends.
    - Merino sheep numbers by region
    - Wool production
        - Volume
        - Quality
    - Meat production

- Trends in relation to the farming systems and scale of individual merino farming operations eg changes in average farm size, stock units.

- Economic

  - Trends in the economics of Merino farming;

    - Farm incomes, expenses and net returns and how these are derived.
    - Trends in New Zealand Merino wool prices and comparison against returns in other countries.

  - A review of trends in relation to non-wool income streams for merino farms and the relative importance of these eg tourism.

- Market

  - Trends in the marketing of Merino wool

    - Auction vs direct selling
    - Markets for wool

- Social

  - An analysis of landuse change in traditional Merino farming areas and its impact on Merino farming eg grapes, deer farming, lifestyle blocks, overseas investment. An outline of the drivers and the potential medium term impact on the industry.

To obtain this information primarily through published information such as:

- Ag Stats
- MAF Farm Monitoring information and other published reports
- Meat and Wool Innovation data and publications
- Industry publications
- Research results – Merino Inc will be able to assist with some information.
- Other information sources identified from a literature review

As well as consultation with a limited number of key stakeholders.

Method or Approach

The successful tenderer will take the following approach in carrying out the tasks outlined above.

- Identify and review all significant information resources required to service the scope of this project.
- To undertake a process of active consultation with a limited number of agreed stakeholders.
- Ensure that the report and other feedback are in the form that can be understood by the project governance group – the Merino Inc Board - and the industry.