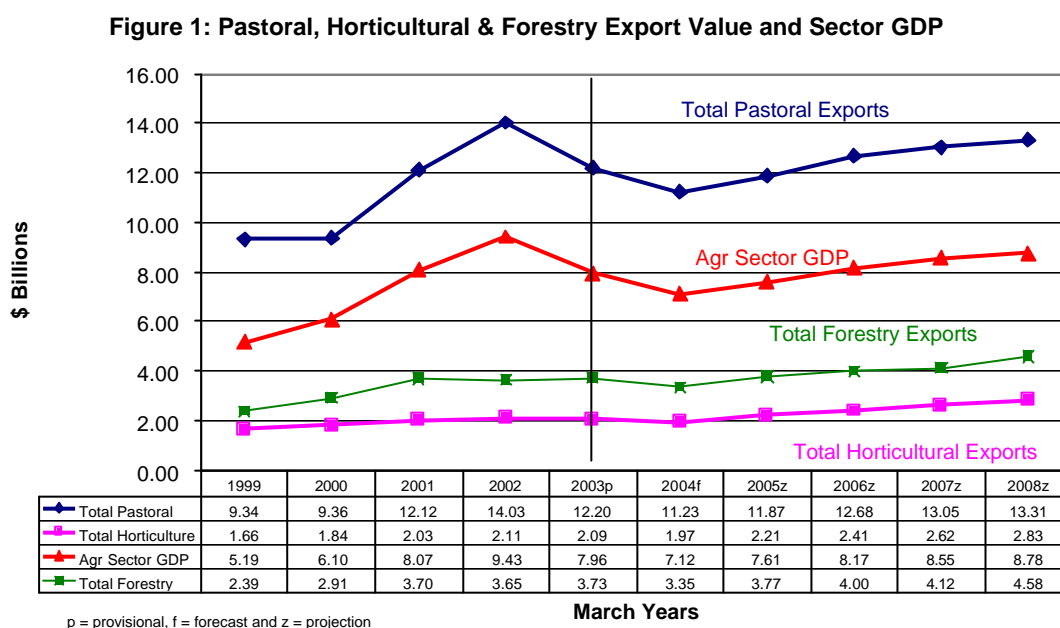


Situation and Outlook for New Zealand Agriculture and Forestry: Update May 2003

Summary

- MAF Policy provided forecasts and projections for major pastoral, horticultural and forestry products on **28 March 2003** to the Treasury as input for their Budget Economic and Fiscal Update (BEFU). These forecasts were based on macroeconomic assumptions as at **18 March 2003**.
- Since the completion of the original forecasts, we have made adjustments in the light of recent statistics and information. This includes provisional export data and production data for the March quarter.
- Growth in gross domestic product (GDP) for New Zealand's 20 main trading partners was 2.7% for December year 2002, after having slumped to 1.5% in 2001. Some increase is expected over the next two years. The New Zealand dollar (NZD) is assumed to appreciate to a peak in March quarter 2004 and then track back over the next three years.
- Annual average international prices are estimated to be down in 2003 compared to 2002 for dairy products (year to May), lamb (year to September) and beef (year to September), but estimated to be up for wool (year to June). Over the next two years, international prices are expected to rise for dairy, beef and wool. Forestry product prices for March year 2003 fared better, with further rises over the next two years for pulp and paper products. However, the appreciating exchange rate has delivered an adverse shock to the export sectors.
- Export volume increases are expected from dairy and forestry products, in the main, with volume increases also expected from wine and venison, which are significant in their own right.
- **Pastoral exports:** For the year ended March 2003, the provisional free-on-board (FOB) value of pastoral exports was down 13% to \$12.2 billion largely due to a 34% fall in dairy prices. By year ending March 2008, export value is projected at \$13.3 billion due to recovery in dairy prices and increasing volumes.
- **Horticultural exports:** For the year ending March 2003, the provisional FOB value of horticultural exports was down 1.1% to \$2.09 billion, as rising wine export volume moderated export value falls in most other products. By year ending March 2008, horticultural export value is projected at \$2.83 billion, due to rising wine volumes and kiwifruit prices.
- **Agriculture GDP:** Contribution to GDP (in current prices) for year ended March 2003 is estimated to have fallen by 15% to \$7.97 billion. For the year ending March 2008, contribution to GDP is projected at \$8.70 billion.

- **Forestry exports:** For the year ended March 2003, the provisional FOB value of forestry exports rose 1.7% to \$3.71 billion, due to rising volumes moderated by falling prices. By year ending March 2008, export value is projected at \$4.58 billion, mainly due to rising export volumes.
- Figure 1 shows the trends in exports for pastoral products, horticultural products and forestry products, as well as contribution to GDP for the agriculture sector.



- Table 1 sets out the key facts for 2001/02 to 2003/04 with respect to production, exports and prices of pastoral, horticultural and forestry products.
- Producer prices for 2002/03 are estimated to fall for many key farm and orchard products due to a combination of lower international prices and an appreciating NZD. However, the prices for wool, apples and kiwifruit are all expected to increase. Producer prices in 2003/04, with the exception of beef, venison and milksolids are forecast to fall.
- Log export provisional prices fell in year ended March 2003 and are expected to fall further in 2003/04 due to the assumption of an appreciating NZD.

Table 1: Key data for the period 2001/02 to 2003/04

Stock Numbers (opening June years):		2001/02	2002/03p	2003/04f
Total Sheep	m hd	40.01	39.20	39.30
Total Beef Cattle	m hd	4.79	4.48	4.25
Total Deer	m hd	1.55	1.66	1.76
Dairy herd (in milk or in calf at start of season)	m hd	3.84	3.95	4.04
Meat - Sheep and Cattle (Sept years):				
Production: Lamb (cwe)	000 t	414	416	388
Beef and Veal (cwe)	000 t	576	583	589
Exports: Lamb (cwe)	000 t	350	352	323
Beef and Veal (cwe)	000 t	473	478	483
Prices Lamb (all grades average)	\$/hd	70.73	62.50	59.00
Beef & Veal (prime steer and heifer)	c/kg	375	280	282
Deer (June years):				
Venison: Production (cwe)	000 t	25.4	28.0	27.8
Exports (product weight)	000 t	16.0	19.0	20.1
Prices (AP2 stag)	\$/kg	8.06	4.59	6.03
Velvet: Production (green weight)	tonnes	523	541	616
Prices (weighted average)	\$/kg	96	95	90
Wool (June years):				
Production (clean)	000 t	174	167	167
Exports (clean)	000 t	151	147	148
Prices (average auction)	c/kg	508	591	562
Dairy (May years):				
Production -- milksolids processed	000t	1107	1135	1218
Prices -- at farmgate	\$/kg ms	5.32	3.59	3.78
Exports (March years):				
Cheese & curds	000t	277	282	313
Casein & caseinates	000t	111	138	142
Wholemilk powder	000t	460	582	507
Skim milk and other powders	000t	292	380	358
Butter & related products	000t	314	380	400
Apples (Sept years):				
Production	000 t	537	500	530
Exports	000 t	319	297	315
Prices (export crop)	\$/carton	12.33	11.30	10.40
Kiwifruit (March years):				
Production	000 t	271	242	248
Exports	000 t	247	230	236
Prices (net grower returns ex Kiwifruit NZ)	\$/tray	7.23	8.46	7.28
Wine (March years):				
Production	mil litres	53.3	89.0	48.8
Exports	mil litres	22.6	26.0	26.0
Prices (FOB)	\$/litre	10.72	10.50	10.00
Forestry (March years):				
Roundwood Removals	000 m3	20,543	22,240	23,400
Exports : Logs	000 m3	7,383	8,081	8,810
Lumber	000 m3	1,644	1,856	1,930
Pulp, paper and paper board	000 t	1,304	1,286	1,330
Wood panels	000 t	831	962	998
Prices (Logs at FOB)	\$/t	96.71	92.10	72.30
New Zealand dollar (March years)	USD	0.419	0.496	0.560

Sources: Fonterra Co-operative Group Ltd, Tatua Co-op Dairy Company Ltd, Westland Co-op Dairy Company Ltd, Meat and Wool Innovations Economic Service and WoolPro, Meat New Zealand, ZESPRI Ltd, ENZA Ltd, Deer Industry New Zealand, Statistics New Zealand, and MAF Policy.

1.0 Introduction

Forecast timing and assumptions

MAF Policy provided forecasts and projections for major pastoral, horticultural and forestry export products to the Treasury on 28 March 2003 as input into their Budget Economic and Fiscal Update. The outlook period is out to 2008. Some adjustments have been made to the original forecasts including provisional export data and production data for March quarter 2003.

The forecasts are based on macroeconomic assumptions as at 18 March 2003. (See appendix for selected macroeconomic variables.) An environment of exchange rates above those of recent years, and moderate inflation rates and interest rates is assumed for the New Zealand economy. International assumptions for growth, interest and inflation rates are those compiled by Consensus Forecasts of the United Kingdom (UK) in their March 2003 edition.

Deriving exchange rate assumptions is always a difficult task. To the extent that these assumptions understate the actual outcome (a possible downside risk) export and producer prices will be lower than forecast. Indicative effects of a 10% movement in product-related exchange rate assumptions are set out in the appendix.

Statistics New Zealand (SNZ) released their provisional results from the June 2002 Agricultural Production Census in late February 2003. These results ensured a better base for the projection of livestock numbers over the outlook period.

International shocks

On the international scene, the key influences and shocks have been:

- the flow on effects on demand and growth in the US and Asia of the terrorist attack on the World Trade Centre September 11th 2001
- market uncertainty in the lead up to the Iraqi war
- a slower recovery than expected in world economic growth
- the NZD appreciation against the major trading currencies.

While not explicitly considered in these forecasts, severe acute respiratory syndrome (SARS) outbreak is currently impacting tourist and travel industries, with short term flow on effects to the demand for New Zealand's exports of agricultural products. The discovery of bovine spongiform encephalopathy (BSE) in one cow in Canada in late May 2003 will cause some North American beef market uncertainty in the short term.

Climate

For the year ending June 2003, there have been two very significant climate impacts after a winter and early spring period that was reasonably favourable for livestock farming. These events were a widespread cold-wet/cold-dry spring and a summer/autumn drought in some regions.

In October and November average temperatures dropped 1.2 degrees and 0.7 degrees, respectively, from the average of the last 30 years. Pasture growth was adversely impacted just

when feed demand was rising, particularly for dairy cows in milk and ewes with lambs at foot. Fruit crops also suffered significant hail damage from two separate events in October 2002. As a consequence, export volumes are estimated to be down 6% for apples and 8% for kiwifruit, and the grape harvest fell by 50%.

The National Institute of Water and Atmospheric Research (NIWA) predicted a mild to moderate El Nino climate event. MAF Policy's own assessment supported this. In a typical El Nino event drier-than-average conditions can be expected in eastern and northern regions of both Islands, particularly in the summer/autumn period. Conversely, wetter than average conditions can be expected in western and southern regions. However this year, while eastern regions were moderately drier-than-average, western North Island regions from Taranaki to Wellington experienced severe drought conditions. Historical records show a similar occurrence in the year ended June 1970.

The lower North Island drought has had a major impact on milksolids production, with national production expected to be only 2.5% up on last year despite a 3% increase in the national milking herd. Average slaughter weights per head were down on last year for adult cattle in February and March 2002, for adult sheep in March and April and for lambs in March. There will be some carry over impacts to next season. Lamb births are expected to be down. Given the current conditions of female breeding livestock in drought areas, a warmer than average winter will be a critical factor in defining next season's production potential.

Climate has little effect on forestry production. Overseas demand drives export production.

The following two graphs (Figures 2 and 3) show the monthly days of soil moisture deficit (DSMD) for New Zealand and the drought areas from Wellington to Taranaki, for years ended June. DSMD occur predominantly between October and May. The monthly series are for June years 2002, 2003 (October to April), and long run averages. DSMD is a measure of drought. A day of soil moisture deficit occurs when pasture growth is restricted due to insufficient availability of soil moisture.

It is impossible to forecast climate for the year ended June 2004 year and beyond, and the normal practice is to assume average climate conditions over the forecast period. Global climate models are projecting a weakening of the El Nino climate pattern over the next few months. Early indications of next year's climate may be gauged from the Southern Oscillation Index (SOI) values over the coming winter. The SOI is a measure based on the pressure gradient between Darwin and Tahiti.

Figure 2: Days of Soil Moisture Deficit for New Zealand

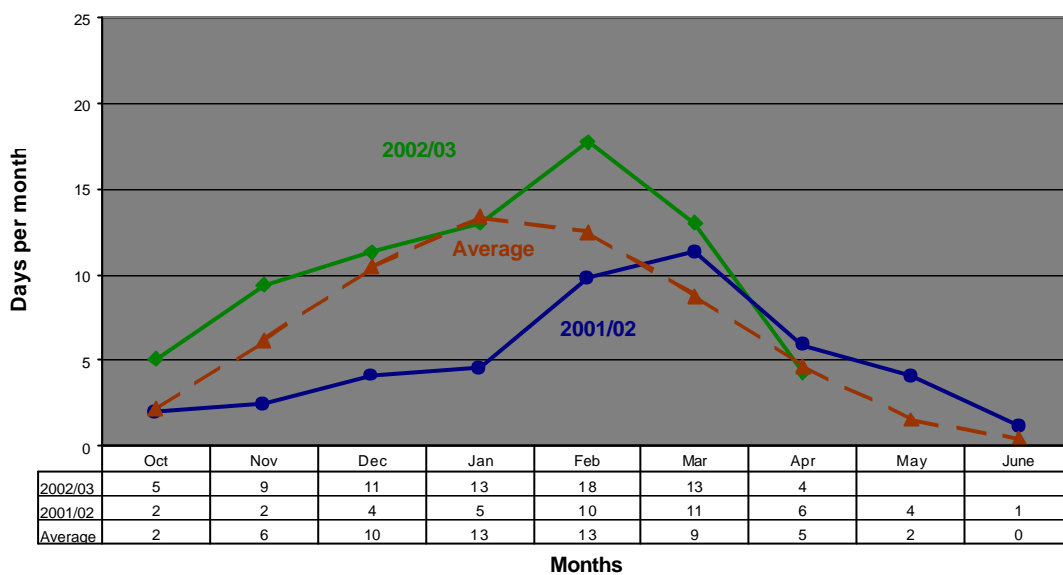
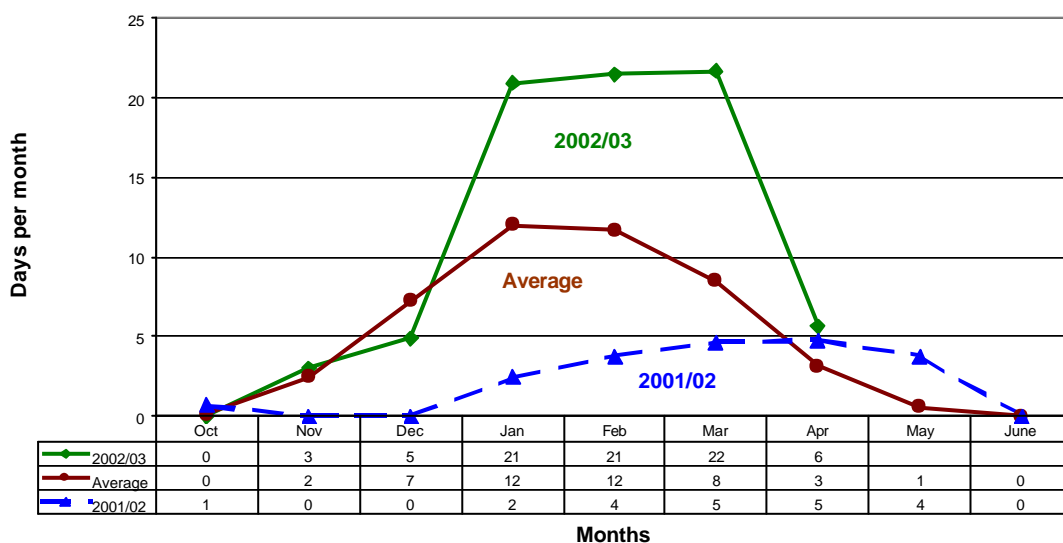


Figure 3: Days of Soil Moisture Deficit for Lower North Island Regions from Wellington to Taranaki



Forecasting process

The forecasting process used for the majority of products from the agriculture and forestry sectors involves:

- forecasting international product price trends using econometric and spreadsheet based models along with some industry consultation

- translating international product prices to the FOB/farm/orchard level
- forecasting the supply (production) response
- deriving export volumes and values from total production and price forecasts
- deriving gross agricultural revenue and expenditure, and taxable income.

2.0 Pastoral Agriculture

2.1 Livestock Numbers

The provisional results from the 2002 Agricultural Production Census had some surprises with sheep, beef cattle and deer numbers lower than previously thought, and dairy numbers higher. This has meant some adjustments to livestock numbers, both estimated for earlier years and over the outlook period. The last two occasions when livestock statistics were collected by SNZ were as at June 1999 and June 1996. Both of these were surveys with the last census in June 1994. The final numbers from the June 2002 census will be progressively released from 28 May to the end of June.

The provisional sheep numbers from the census of 30 June 2002 are 39.2 million, down 14% on that reported in the June 1999 Agricultural Production Survey (APS). This reflects continued land use conversion to dairy, particularly in the South Island, and the increasing requirement for land for the grazing of non-milking dairy cattle, which in turn reflects land use conversions to deer and forestry. Sheep numbers are expected to fall to 38.6 million by June 2007, due to continued land use changes to dairy, deer, and forestry.

The provisional beef cattle numbers from the census of 30 June 2002 are 4.48 million, down 3.5% on that reported in the June 1999 APS. This reflects land use changes to dairy in particular and grazing demand for non-milking dairy cattle. At June 2007, beef cattle numbers are projected to be 3.76 million due largely to declining beef prices.

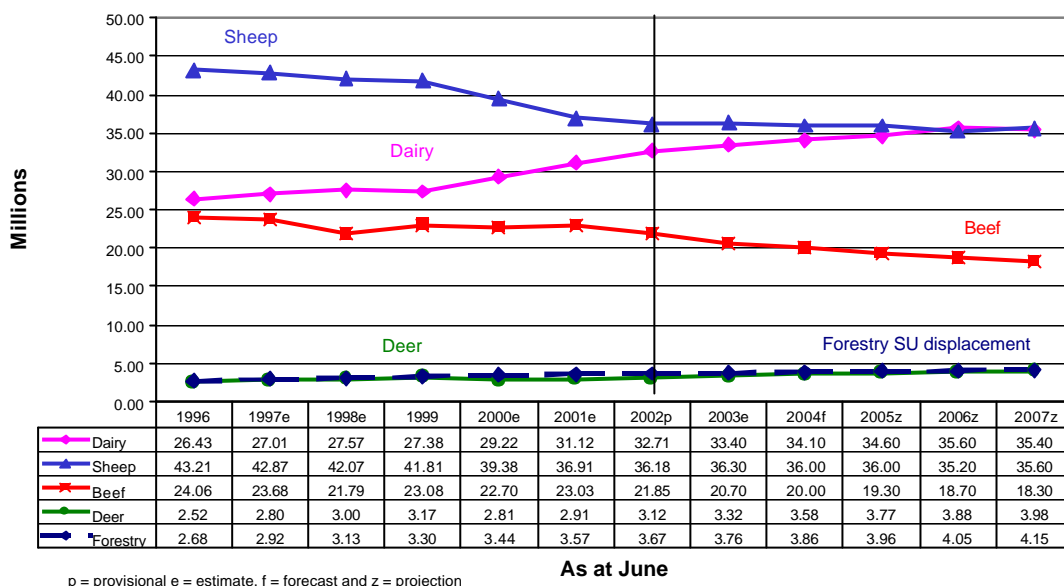
The provisional farmed deer numbers from the census of 30 June 2002 are 1.66 million, slightly down on that reported in the June 1999 APS. This fall is not supported by anecdotal evidence. Assessing the historical trend we have assumed that the 1999 survey result is on the high side, and for forecasting purposes we have adjusted this down. At June 2007, total deer numbers are projected to rise to 2.06 million.

The provisional dairy cattle numbers from the census of 30 June 2002 are 5.32 million, up about one million or 23% on that reported in the June 1999 APS. The provisional numbers of dairy cows and heifers in calf or in milk at June 2002 are 3.95 million. About half of the increase since 1999 is thought to have occurred in the South Island. The national milking herd is projected to be 4.28 million by June 2007 with total dairy cattle numbers projected at 5.76 million.

The trends in stock units for sheep, dairy, beef and deer from June 1995 to June 2007 are set out in Figure 4¹.

¹ Stock Unit (SU) coefficients used for national purposes are based on the following: breeding ewe = 1.0 SU, breeding hind = 1.9 SU, beef breeding cow = 5.5 SU, and dairy cow = 7.0 SU.

Figure 4: Trends in Stock Units actual, estimated and projected



2.2 Sheep

2.2.1 Sheep meat

Production and Trade

The provisional sheep numbers from the census of 30 June 2002 were 39.2 million, down 2% on the previous year's estimate of 40.0 million. This reflects continued land use conversions to deer, forestry and dairy (particularly in the South Island), the drought conditions, and farming policy shifts from sheep to beef. Sheep numbers are expected to remain relatively stable with a projected 38.6 million by June 2007.

The estimate of lambs docked as a percentage of mated ewes and ewe hoggets was a new record at 114% in spring 2002. Sheep meat production is estimated to rise by 1.9% to 531,000 tonnes carcass weight (cw) for the year ending September 2003. Lamb production, while up slightly at 416,000 tonnes cw, has been slightly impacted by summer/autumn drought conditions. Mutton production is estimated to be up 7.3% to 115,000 tonnes cw as drought conditions have led to a higher than normal cull. The drought conditions will have flow on impacts on the spring 2003 lamb docking percentage, estimated at 112%. For year the ending September 2003, export volumes of lamb are estimated at 352,000 tonnes carcass weight equivalent (cwe) and export volumes of mutton are estimated at 89,100 tonnes cwe. In total, sheep meat export volumes are estimated at 441,000 tonnes cwe, up 2% on last year.

Over the forecast period, sheep meat production is projected to rise to 558,000 tonnes cw for the year ending September 2008, due to a continuing rise in the productivity of lamb births and lamb

slaughter weights. Total sheep meat exports are projected at 464,000 tonnes cwe by year ending September 2008.

The European Union (EU) remains New Zealand's most important market for sheep meat. Lamb export statistics for the year ended September 2002 show that the EU accounts for 54% by volume and 63% by value. For mutton, the EU accounted for 53% by volume and 73% by value. Two thirds of mutton products are frozen boneless cuts - used for manufacturing purposes - with the EU accounting for 77% by volume and 86% by value. Five countries accounted for 53% of lamb exports by product weight for September year 2002 – the UK (21%), France (9%), Germany (8%), China (8%) and the US (7%). The market differentiation of lamb product cuts is shown in the average price per kg of \$2.00/kg for China and \$10.90/kg for the US.

The proportion of chilled lamb products grew from 14% to 17%, while frozen carcasses only made up 6% by volume for year ended September 2002. The UK took 35% of frozen lamb carcasses exported and 15% of chilled carcasses. Demand for New Zealand's lamb carcasses comes from UK butcher shops, which supply 22% of the total sheep meat purchased by the UK consumers. Of the \$2.02 billion lamb export value for September year 2002, chilled lamb products contributed \$0.5 billion. The increasing demand for New Zealand's chilled lamb products will lead to their increasing contribution to export value over the forecast period.

Prices

The UK meat market is used as a basis for forecasting the trend in international prices received for New Zealand lamb. Lamb prices in the UK have remained high since the eradication of the foot-and-mouth outbreak in September 2001 due to lower UK sheep meat production. New Zealand lamb PM carcass prices rose 9.6% to 206 UK pence per kg (p/kg) in the year ended September 2002. For the year ended September 2003, prices are estimated to be 196 UK p/kg, down 4.9% on the previous year. Lamb prices in the UK are projected to fall over the outlook period to 2008 because of:

- a recovery in the UK sheep flock
- rising UK sheep meat production, moderated by a recovery in exports of sheep meat and live sheep
- falling prices of competing meats.

Consequently, the average price of New Zealand lamb in the UK market is forecast at 190 UK p/kg in September year 2004 and projected at 185 UK p/kg in 2008.

The all grades average lamb price for year ended September 2002 was \$70.70 per head (/hd), up 11% from \$63.70/hd for the previous year. This reflects higher overseas meat returns and very favourable exchange rates. For September year 2003, the average lamb price is estimated to fall to \$62.50/hd, reflecting lower UK prices and the sharp appreciation of the NZD. The NZD has appreciated against the UK pound from 0.309 in October 2002 to 0.350 in April 2002. A projected price of \$60.90/hd for September year 2008 reflects lower UK prices, moderated by lower exchange rates compared to the peak assumed in 2004.

2.2.2 Wool

Production and trade

New Zealand wool sales for the year ending June 2003 are estimated to fall by 4.1% to 167,000 tonnes clean, reflecting lower sheep numbers. Over the medium term, production is forecast to fall as sheep numbers continue to decline.

Wool exports for the 9-months ended March 2003 of the 2002/03 season totalled 104,600 tonnes clean, down 8% compared with the same period the previous season. Exports to the China (New Zealand's largest market) and the United Kingdom (the second largest market) fell by 28 percent and 1% respectively. The US was the only significant buyer that bought more wool, up 42%, over the last 9-month of the 2002/03 season. China remained the largest purchaser of New Zealand wool taking around 18,400 tonnes in the 9-months of the 2002/03 season, 23% of total wool exports.

The recent drought in Australia and the declining world production are expected to keep wool supplies tight on the international market over the medium term. Demand for woollen apparel in the major consuming countries is expected to remain depressed in the short term due to poor economic growth in the major world economies, which is only starting to pick up. Competition from synthetic fibres will continue to exert downward pressure on wool prices internationally.

Prices

The annual average auction price of New Zealand wool is estimated to increase in the year ending June 2003 to about 590 c/kg clean, reflecting substantially higher fine wool prices. One of the results of the Australian drought was to create panic buying by some wool marketers and processors, in anticipation of greatly reduced supplies and escalating prices.

Reduced Australian wool production and declining world stocks have substantially lifted fine wool prices in the June year 2003. However, the current high prices for fine wool cannot be sustained for long due to:

- ever rising competition from synthetic fibres
- the appreciating NZD against currencies of our major trading partners
- reduced retail demand for woollen apparel in the major consuming countries.

Consequently, fine wool prices are forecast to fall in June years 2004 and 2005. A gradual increase in fine wool prices is forecast from 2006 onwards, due to increasing world economic growth. Medium wool prices are forecast to follow the same trend as fine wool over the outlook period.

Following a small decline in June year 2004, strong wool prices are projected to rise out to 2007. This reflects increased demand for carpets as the world-housing market continues to expand. However, rising world interest rates are expected to exert downward pressure on strong wool prices, leading to a projected fall in strong wool prices in June year 2008.

2.3 Beef Cattle

Production and Trade

Provisional beef cattle numbers from the census of June 2002 were estimated at 4.48 million, down 6.4% on the estimate for the previous year of 4.67 million. By June 2007, total beef cattle numbers are projected at 3.76 million, with the reduction mainly due to declining beef prices.

Inspected beef and veal production for the year ending September 2003 is estimated at 583,000 tonnes cw, up 12% over the previous year. The summer/autumn drought in 2003 led to an earlier kill than usual. Production is forecast to peak at 589,000 tonnes cw in 2004, and then fall to 545,000 tonnes cw in September year 2008, as beef cattle numbers decline and lighter weight cull dairy cows make up a larger proportion of the total kill.

Export volumes for the year ended September 2003 are estimated at 478,000 tonnes cwe, and are projected to fall to 435,000 tonnes cwe by the year ending September 2008. The US remains New Zealand's most important beef market. In the year ended September 2002, the US took 193,000 tonnes product weight (pw) (60% of New Zealand's exports), of which 129,000 tonnes pw comprised manufacturing beef and veal. In 2001, access to the Canadian market was denied to South American countries suffering from FMD outbreaks there, and New Zealand's exports to Canada recovered as a result.

In the six months to March 2003, export were up 30% to 196,000 tonnes pw on the same period last year, and reflects increased slaughter of cattle in the March quarter due to drier than average conditions over many parts of New Zealand. In consequence, New Zealand's annual (calendar year) export quota to the US was 28% higher than the same period in 2002. Edible offal (or fancy meats) is not subject to quota restrictions and in September year 2002, exports to the US were 3,910 tonnes pw out of a total of 34,300 tonnes pw.

Prices

The US beef market is used as the basis for forecasting international beef prices. Prices for imported beef in the US rose steadily up to February 2002. However, they have declined since then, partly because of a severe drought which affected much of the US during 2002, and which led to increased cow and heifer kill and a temporary increase in supply. Herd rebuilding in the US is not expected to start until 2006.

Key expectations and trends that determine New Zealand export prices include the following:

- US choice beef prices are expected to recover from current levels, peak in 2005, and then fall cyclically as the cattle inventory increases
- following a recovery from low international prices in 1999, US pork prices are expected to peak in 2004, fall cyclically to 2008, rising again to 2011
- US poultry prices are expected to remain stable or drop slightly over the forecast period as consumption and exports rise
- a slight rise in US private consumption expenditure from 2003 is projected.

Cattle hide returns are an undifferentiated part of the schedule payment received by New Zealand producers. International hide prices peaked in April 2001 in response to rising demand for leather in Europe. However, excess supply then led to a build-up of stocks in tanneries and hide prices fell from May 2001 to February 2002. Thereafter, prices rose steadily to October 2002. In early 2003 prices remained generally stable, but slightly below the levels of the end of 2002. Demand for hides in Asian countries (Republic of Korea (ROK), Hong Kong, Taiwan, Japan and China), particularly for heavy Texas steer hides, picked up in January, following a lull during 2002. Overall, the prospects for New Zealand's cattle hide industry remain good over the medium term as Asian demand appears likely to continue.

US prices for New Zealand manufacturing cow averaged 224 US c/kg for the year to September 2002, up 8.7% on the previous year. Partly because of the stronger NZD, New Zealand beef producers sustained a 4.9% drop in the cow (M class 145-170 kg) schedule to 308 c/kg (or \$488/hd) for the year ended September 2002. However, steer and heifer prices (P2 245.5-270 kg) rose by 3.4% to 375 c/kg (or \$969/hd), reflecting higher value market returns compared to manufacturing.

Schedule prices for NZ beef remained roughly stable during January and February 2003, but declined steadily during March and April. Given the appreciating exchange rate and projected trends in cow prices, steer and heifer prices are forecast to decline sharply (from 375 c/kg to 280 c/kg) during the year ending September 2003. Further falls are projected to 236 c/kg by September year 2008.

2.4 Deer

Venison

The provisional farmed deer numbers from the census of 30 June 2002 were 1.66 million. MAF Policy estimates that this is a 6.9% increase on the previous year. Total deer numbers are projected to rise to 2.06 million as at June 2007.

Venison production continues to grow at a steady rate. It is dependent on the dynamics of herd growth, and any major change in hind retention impacts on venison production. Production for year ending June 2003 is estimated to be 28,080 tonnes, up 11% on the previous year.

New Zealand's position as the world's largest producer and exporter of farmed venison means that changes in production have a substantial impact on market returns. Around 90% of New Zealand's venison exports go to Europe, with Germany taking over 50% of total exports.

European consumer concerns about BSE in cattle and the outbreak of FMD in the UK resulted in European demand for venison firming during the year ended June 2002.. The resulting venison prices (in real terms) paid to New Zealand farmers for the year to June 2002 reached their highest level since 1990. However, this trend has reversed sharply during the current year with prices over the first nine months of the 2003 June year falling to their lowest level in four years. Much of this fall is

attributed to consumer resistance to the high venison prices, falling pork prices, increasing demand for beef as concerns over possible health risks from BSE diminish and a fall in private consumption expenditure, especially in Germany.

Venison prices to New Zealand farmers were estimated at \$8.07/kg for the year ended June 2002, while prices for the 2003 June year are estimated to almost halve to around \$4.59/kg. Assuming no abrupt increase in New Zealand supply, venison prices (AP2 stags) are projected to recover from their current very low levels to \$6.39/kg in year ended June 2008.

Velvet

As velveting stag numbers continue to grow so too will velvet production. New Zealand velvet returns are highly dependent on prices received in the ROK, where most of New Zealand's production is sold. Velvet prices have remained relatively steady during in June year 2003 due mainly to lower supplies following the ban on imports of Canadian velvet. This ban resulted from Korean concerns over chronic wasting disease affecting some Canadian Elk herds, which is now detected in some Korean deer.

Over the forecast period, returns from the ROK are expected to ease as supplies increase. Velvet prices depend on economic conditions in the ROK, international supply, and currency movements. The raising of consumer awareness of New Zealand velvet quality in the ROK should also help. Velvet prices to New Zealand farmers are estimated at \$95/kg for year ending June 2003 and to decline in subsequent years with \$80/kg projected for June year 2008.

2.5 Dairy

Production and trade

The provisional numbers of dairy cows and heifers in calf or in milk from the census at June 2002 are 3.95 million. This was an increase of 3% (115,000 cows) from the previous season.

Over the medium term opening cow numbers (as at June) are projected to increase to 4.28 million at June 2007. This is an increase of nearly 330,000 head (8%) from June 2002. However the rate of annual increase in cow numbers is expected to decrease over this period, primarily due to lower expected farmgate payouts than farmers' received in the 2000/01 and 2001/02 seasons (years ended May 2001 and 2002 respectively). We had previously thought that the higher entry costs to dairying under Fonterra would lower herd expansion and the growth of the milk supply. However, MAF Policy's 2002 Dairy Farm Monitoring report showed that this was not necessarily the case, and that relatively few dairy farmers were altering their production decisions because of Fonterra's peak notes².

New Zealand's total milk production for the season to 31 May 2003 (including milk used on farms and in the domestic liquid milk market) is estimated at approximately 1,179 million kilograms of milksolids (kgMS) (around 13.8 billion litres of liquid milk). As with the past three dairy seasons,

² For a further explanation of this refer to the Dairy Situation and Outlook in SONZAF 2002, which can be found at: <http://www.maf.govt.nz/mafnet/rural-nz/statistics-and-forecasts/sonzaf/2002/httoc.htm>

this is again a record volume for the New Zealand industry. Of the total milk produced in the 2002/03 season, 1,135 kgMS (approximately 96%) is expected to be processed into dairy products. This is a 2.5% increase on the 2001/02 season's volume of milksolids processed.

While total milk production for the 2002/03 season is expected to be higher than last season due to the increased number of cows, average production per-cow is expected to be slightly lower due to dry climatic conditions in summer and autumn over many of the milk producing regions.

Growth in milk production over the outlook period to 2007/08 is expected to follow the same general trend as growth in cow numbers. However it is assumed that from 2003/04 onwards, average production per-cow returns to the underlying trend of 2% growth per season, due to genetic gain and improving farm management practices. Growth in the volumes of dairy products manufactured is generally expected to follow the increase in milk volumes.

We project that total milk production will reach 1.45 million tonnes of milksolids (approximately 16.9 million litres of liquid milk) by the 2007/08 season. Around 1.40 million tonnes of milksolids are expected to be used for processing, a 23% increase from 2002/03.

Provisional dairy product export volumes for the year to March 2003 were 1.83 million tonnes, worth \$5.92 billion. This was a 21% rise in volumes from the previous year, as Fonterra ran down its milkpowder, casein and butter stocks, particularly from October 2002 to January 2003. However, due to lower international prices and a higher NZD, total export value was 21% lower than the previous year.

Because the stock run-down made export volumes significantly higher than what they otherwise would have been, export volumes for the year to March 2004 are forecast to be 2.4% lower, at 1.79 billion tonnes, and to be worth \$5.59 billion. Export volumes are projected to increase out to just under 2 million tonnes in 2007/08, in line with increasing milk production, and be worth \$7.54 billion.

In the year to March 2003 wholemilk powder (WMP) was the biggest export earner, returning \$1.71 billion. It was also the product with the largest volumes exported, at 582,000 tonnes. Conversely, butter exports at \$0.970 billion earned the least of the five main dairy products (WMP, skimmilk powder (SMP) cheese, butter and casein), despite having the second largest export volumes (equal with SMP) of 380,000 tonnes. In NZD terms, casein was the highest priced product, with an average export price for the year to March 2003 of \$7,370 per tonne. Butter was the lowest priced, at \$2,560 per tonne.

We project that by the year ended March 2008 these relative rankings (in volumes, values and prices) will not have changed, with the exception that SMP will displace butter in terms of the lowest total earnings. This is due to stronger growth in butter export volumes than in SMP exports volumes.

In the year to December 2002, the US was the largest export destination by value, earning \$743 million. Earnings from the US were more than 75% higher than from the second largest market,

Japan, which returned \$417 million. Other significant markets were Mexico (\$361 million), Belgium (\$313 million), and The Philippines (\$305 million). Dairy products were exported to nearly 150 countries in the year to December 2002.

International prices in 2002/03

Early in the 2002/03 season international market prices for WMP, SMP, cheese, butter and casein all fell to prices that were the lowest for over a decade. As prices reached a trough, the depleted stock levels of traders combined with the low prices resulted in a resurgence in demand for most products. WMP and SMP prices rebounded strongly, while butter prices recovered at a moderate rate. In comparison, due to high international stocks cheese prices remained at very low levels for around four months before showing any sign of recovery. When they did start to recover it was at a sluggish pace.

By April 2003 WMP and SMP prices had regained around half of the ground they had lost from the highs at the beginning of the 2001/02 season, while butter prices had made up around 50% of the gap between the price cycle's high and low points. Cheese prices were still languishing, having only recovered 33% of the distance between the price cycle's high and low points.

International prices out to 2007/08

International dairy product prices are forecast to continue to rise over the medium term as a result of recovering world growth, and an increase in demand for milk and dairy products in Asian and non-OECD countries as incomes rise.

One of the effects of the recent animal disease outbreaks in the EU was that consumers had been substituting cheese for red meat. This trend has now ended, removing a source of cheese demand and leaving the international cheese market in a temporary state of over supply. However, the recent increases in the international cheese price are an encouraging sign that the market may be starting to come back into balance. The lower volumes of Australian cheese expected on world markets next season by ABARE forecasters should also help underpin a recovery in cheese prices. Over the medium term, cheese prices are projected to continue to recover out to 2007/08 as demand for convenience and fast foods (which often contain cheese) increases, and nations that have not traditionally eaten dairy products increasingly adopt western diets.

Butter prices are expected to continue to rise over the medium term in line with the forecast recovery in world economic growth, but annual price rises will be relatively small. While demand for butter from the high-quality restaurant sector is increasing, many of butter's traditional users are moving away from animal fats in favour of edible vegetable oils.

Both WMP and SMP prices are also expected to continue recovering over the medium term. However, the US has recently proposed the cessation of the United Nation's (UN) food-for-oil scheme for Iraq, and announced its intention to provide humanitarian assistance to Iraq in the form of SMP. These developments present significant downside risks to WMP prices, and possibly also to SMP prices, in the short to medium term. While some of the SMP food aid may come from the

USDA's Commodity Credit Corporation (CCC) stockpiles, it is likely that some supplies will also be purchased directly from manufacturers.

The US's proposals will displace the WMP that was until very recently being sent to Iraq as part of the UN scheme. New Zealand dairy companies had supplied a large portion of this WMP. If this outlet for WMP dries up, new markets for product will need to be found. This will significantly reduce the likelihood of a continued recovery in WMP prices in the short-term. In the medium term, however, manufacturers can adjust their product mix away from producing WMP to instead manufacture dairy products for which profitable demand exists.

The extent to which the US's announcements could negatively impact on SMP prices is unclear at this stage. It will largely depend upon the degree to which additional supplies of NDM are supplied as food aid to other countries besides Iraq, and displace commercial supplies from other nations.

Movements in casein prices are generally expected to follow movements in SMP prices, although casein prices tend to move more cyclically than SMP prices and casein is less prone to revisions in subsidy rates than SMP. Over the last year the USDA has been trying to sell off part of its SMP stockpiles to domestic dairy processors on the condition that it is used to manufacture casein - a product that the US currently does not make. The scheme has reportedly met with little success so far. This poor result, along with the potential for the use of part of the SMP stockpile as food aid for Iraq (among other countries) gives New Zealand's casein exports to the US market a temporary reprieve.

Milksolids Payouts

MAF Policy is currently forecasting an industry average payout of \$3.59/kgMS for the 2002/03 season, 33% lower than the 2001/02 season's average payout of \$5.32/kgMS. The main reasons for the lower payout are lower international dairy product prices during the season and less favourable exchange rates. From 2003/04 onwards payouts are forecast to improve in line with recovering world prices, and an industry average payout of \$5.13/kgMS is projected for the 2007/08 season.

Fonterra has recently introduced a new foreign exchange policy where it will no longer try and estimate future exchange rates. Instead, Fonterra's earnings for the next 15 months will be 100% hedged against any change in the value of the NZD against the USD. The new policy is designed to give farmers greater certainty around Fonterra's payout forecasts, although they will still be subject to fluctuations in international prices and product mix changes. Based on interest rate and spot exchange rate forecasts supplied by The Treasury, MAF Policy is currently forecasting that Fonterra will face a lower annual average USD/NZD exchange rate in the 2003/04 season than in the 2002/03 season, but a higher annual average USD/NZD exchange rate than 2002/03 for the remainder of the forecast period.

Table 2: Farm and Orchard Prices for Main Export Products

		1999	2000	2001	2002	2003e	2004f	2005z	2006z	2007z	2008z
September Year											
Lamb	Average \$/hd	41.82	49.91	63.65	70.73	62.50	59.00	59.90	59.60	60.40	60.90
Mutton	Average \$/hd	23.82	26.19	42.09	51.84	41.90	39.90	40.50	40.00	40.40	40.20
Beef	PSteer c/kg	241	306	363	375	280	282	306	300	270	236
June Year											
Wool (clean)	Auction c/kg	408	440	520	508	591	562	558	588	629	607
Venison	AP2 stag \$/kc	4.85	6.08	7.42	8.06	4.59	6.03	6.31	6.89	6.38	6.39
Velvet	Average \$/kg	46	114	79	96	95	90	88	85	80	80
May Year											
Milksolids	c/kg (Net of Industry Good levy)	358	378	501	532	359	378	411	466	496	513
September Year											
Apples	\$/ctn (export)	10.68	8.42	11.77	12.33	11.30	10.40	10.90	11.60	12.10	12.50
March Year											
Kiwifruit	\$/tray	6.81	7.90	6.87	7.23	8.46	7.28	7.38	7.68	8.05	8.44
Wine	\$/l (FOB)	7.34	8.47	9.86	10.72	10.50	10.00	10.40	10.60	10.80	11.10

Sources: Refer to Table 1.

3.0 Horticulture

3.1 Apples

Production and Trade

The production of New Zealand apples for the year ending September 2003 is estimated to fall by about 7% to 16.5 million cartons due to frost damage at the time of blossom in the spring of 2002. Over the medium term, New Zealand apple production is projected to remain stable. This follows an earlier period of significant removal of apple trees, particularly poorer performing varieties, and virtually no new plantings since, due to poor returns for the seasons ending September 1993 through to 2000.

However, improvements in apple returns over the previous two seasons are now resulting in renewed interest in apple orchards and anecdotal evidence points to growing demand for apple trees from nurseries. This is expected to lead to new plantings, largely replacing old and poor performing trees and varieties.

Total exports of apples in the year ended September 2002 were 17.7 million cartons, up 21% on the previous year. Of the total exported in 2002, 23% went to the United Kingdom, 39% to the rest of EU, 20% to North America, and 18% to the rest of the world. Market shares for these major destinations are expected to remain unchanged for the 2002/03 season. New Zealand apple exports over the medium term are expected to remain static at around 17.5 million cartons, reflecting static production levels.

Prices

Reduced apple production in the EU and the US for the calendar year 2002 and the lower New Zealand export crop for the 2003 season all point towards higher international prices for the current season. However, returns to New Zealand growers are expected to be lower than the 2002 season due to higher NZD exchange rates.

While New Zealand apple prices in the German market are only just starting to be recorded, early indications show that prices for Cox Orange, Gala and Braeburn are holding above the 2002 prices. Royal Gala and Cox Orange prices in Euro for the 4 weeks of the 2002/03 season, on average, were about 12% and 10% higher respectively compared with the same 4 weeks of the previous season.

Over the medium term international prices are expected to be relatively flat, as improving world economic growth and incomes are tempered by the generally sluggish international demand for fruit and competition from manufactured snacks.

3.2 Kiwifruit

Production and Trade

New Zealand kiwifruit production fell 11% to an estimated 242,000 tonnes in the year ended March 2003. The number of export trays supplied to ZESPRI Group Ltd at free-on-board ship (FOB) fell from 65.9 to 60.5 million trays. This was due to reduced flower and fruit numbers, resulting from dull wet conditions in autumn 2001, and cool wet conditions over pollination. The flavour of the crop was good.

Frosts in spring 2002 affected the crop to be harvested in 2003, resulting in production levels that are expected to be only slightly up on the 2002 crop.

In the medium term, volumes are expected to increase gradually due to the maturation of grafted and planted vines. Urban expansion is likely to reduce production around the city of Tauranga. By year ended March 2008, kiwifruit production is projected to be just over 300,000 tonnes. Crop projections assume that the outbreak of Varroa mite infestation in beehives will have no effect on pollination.

The key kiwifruit markets are the EU and Japan. In the year ending March 2003, 57% of New Zealand's kiwifruit exports went to the EU, and 20% to Japan (by volume). The top five destinations (the EU, Japan, the US, Australia and Taiwan) took 92% of the volume exported.

Prices

The total supplier payment per tray (at FOB) for the 2002 crop (year ended March 2003) of Gold kiwifruit (all grades) is estimated by ZESPRI International to be \$10.13/tray, 16% higher than the 2001 crop, and around 27% higher than the price for conventionally grown Green kiwifruit (at \$7.96/tray). Total payment for the 2002 Green Organic crop (all grades) is estimated at \$9.90/tray, 26% higher than for the 2001 crop, and around 24% higher than the price for conventionally grown Green kiwifruit.

Supplier prices for the 2002 crop are estimated to be some 17% higher than for the previous year's crop. This was related to the good flavour and lower volume of the New Zealand crop, the unusually small European crop, a strong promotional programme and favourable forward exchange cover arrangements.

Prices are expected to decline slightly in the short to medium term, due to increasing supply and exchange rate factors, with forward cover buffering the effects of forecast exchange rate movements. The supplier payment at FOB for year ended March 2008 is projected to be very similar to the return in the year ending March 2003.

3.3 Wine

Production and Trade

The increase in production of wine grapes, and the increasing profile of New Zealand wines in some markets, has resulted in a dramatic increase in wine export earnings to a provisional \$273 million in the year ended March 2003. A difficult season was experienced in the majority of wine growing regions during 2002/03 due to late spring frosts that decreased yields to 65,000 crushed tonnes, rather than the 130,000 previously forecast. Export volumes for the year end March 2003 were almost 20% up on the 2001/2002 season. The wine industry hopes to maintain this level for the next season, regardless of the much lower yield. This will be partly at the expense of stock levels.

Production of crushed grapes in 2008 is projected to be 162,000 tonnes. The increase in production is due to the expansion in vine planting in recent years, which is projected to continue over the medium term. The export volume of wine for the year ended March 2003 is estimated at 26 million litres, and is projected to almost triple to 65 million litres by year ending March 2008.

The UK is the largest market for New Zealand wine export and accounted for 47% by volume and 42% by value for the year ended March 2003. Other major destinations are North America (23% by volume) and Australia (17% by volume).

Prices

International wine commentators note increased competition in the global wine industry is resulting in falling world prices, highlighted by discounting in key markets. For the year ending March 2002 export prices for New Zealand wine increased to \$10.70 per litre (/l). However forecasts for 2003 and 2004 show decreases in the average price per litre to \$10.50/l and \$10.00/l respectively. The major factors influencing this slight decline in prices are the strong value of the NZD and expanding production volumes.

3.4 Other Horticulture

Cool weather conditions and late spring frosts in many parts of New Zealand in 2002 affected exports of other horticultural crops in the year ending March 2003. Crops affected include stonefruit, blueberries, and asparagus. In addition, wet conditions in the summer of 2001/02 affected

exports of processed vegetables and seed for sowing in the year ending March 2003. The appreciating exchange rate is expected to affect the FOB value of exports of other horticultural crops in the year ending March 2004. In the longer term, the value of exports of other horticultural crops is expected to increase as plantings of permanent crops mature.

Onions and squash continue to dominate fresh vegetable exports, and together are worth around \$150 million. Exports of frozen vegetables have increased steadily over the past four years, and are now worth over \$125 million.

It has been assumed in the projections that the Varroa mite infestation in hives of honeybees will not affect pollination.

4.0 Pastoral and Horticultural Exports

Based on the projections of key product prices and supply responses, Table 3 sets out the expected pastoral and horticultural exports for years ending March 2004 to 2008. Pastoral export value is provisionally estimated to fall to \$12.2 billion for year ending March 2003, largely due to both international price and exchange rate impacts. Pastoral export value is projected to rise to \$13.3 billion by March year 2008, due to rising dairy volumes and prices.

Comparing pastoral export values for year ending March 2008 to year ended March 2003:

- meat is projected to fall 14% due to falling prices
- wool to rise 4.9% due to rising prices
- dairy to rise 27% due to rising prices and volumes.

Horticultural export value is provisionally estimated to fall 1.1% to \$2.09 billion for year ending March 2003, mainly reflecting a fall in value of most products but moderated by rises for wine and apples. Horticultural export value is projected to reach \$2.83 billion by March year 2008, largely reflecting growth in wine and kiwifruit volumes. In value terms, wine exports are projected to surpass apple exports in March year 2005 and be close to kiwifruit exports in 2008.

Comparing horticultural export values for year ending March 2008 to year ending March 2003:

- Kiwifruit is projected to rise 30% due to rising volumes
- apples to rise 10% due to rising volumes
- wine to rise 163% due to rising volumes.

Table 3: Pastoral and horticultural exports for March years (\$NZm FOB)

Year ended March	1999	2000	2001	2002	2003p	2004f	2005z	2006z	2007z	2008z
Meat	2,878	3,244	3,928	4,494	4,362	3,810	3,890	4,050	3,890	3,760
Wool	800	760	861	832	821	816	798	826	867	861
Dairy	4,702	4,459	6,165	7,491	5,920	5,590	6,160	6,700	7,170	7,540
Other	959	896	1,169	1,211	1,092	1,017	1,024	1,103	1,132	1,139
Total Pastoral	9,340	9,360	12,123	14,027	12,195	11,230	11,870	12,680	13,060	13,300
% change	1.3%	0.2%	29.5%	15.7%	-13.1%	-7.9%	5.7%	6.8%	3.0%	4.9%
Kiwifruit	434	464	588	578	564	515	622	648	688	731
Pipfruit	384	485	372	363	374	367	363	378	397	411
Wine	120	151	199	241	273	261	363	478	596	719
Other	719	740	873	925	875	827	862	906	939	969
Total Horticulture	1,657	1,839	2,032	2,108	2,085	1,970	2,210	2,410	2,620	2,830
% change	7.8%	11.0%	10.5%	3.7%	-1.1%	-5.5%	12.2%	9.0%	8.7%	17.4%

Forecast and projection figures may not add or reconcile due to rounding
Sources: Statistics NZ and MAF Policy

5.0 Agricultural Sector Revenue and Expenditure

Revenue and expenditure items at farm or orchard gate are provisional for March years ended 2001 and 2002, estimated for 2003, and projected out to 2008 as set out in Table 4. These are based on the forecasts of key export products, together with forecasts of other farm products, such as pigmeat and poultry, and services that contribute to gross domestic product (GDP) for the agriculture sector.

Agricultural sector revenue is estimated to fall by 10% to \$16.0 billion for year ended March 2003. Revenue is projected to further decline to \$14.3 billion by March 2004 and then rises to \$17.7 billion by 2008. The estimated decline in revenue for the year ending March 2003 reflects falls from dairy, cattle, deer, pigs, sales of live animals, fruit, other horticultural crops and agricultural services. The further decline in revenue for the year ended March 2004 mainly reflects decreases from most products. The increase out to year ended March 2008 is mainly due to dairy and sheep meat.

For the year ending March 2003, contribution to GDP is projected to fall by 16% to \$7.97 billion and agricultural sector income (for taxation purposes) to fall to \$4.40 billion. Rising agricultural sector revenue out to year ended March 2008 is responsible for the increase in GDP contribution and agricultural sector income. The intermediate consumption also rises over this period.

Year ended March	1999	2000p	2001p	2002p	2003e	2004f	2005z	2006z	2007z	2008z	
Total gross revenue	11,407	12,396	15,735	17,814	16,030	14,300	15,200	16,200	17,000	17,500	
Int. consumption	6,222	6,296	7,670	8,388	8,062	7,200	7,620	8,160	8,560	8,800	
Contr to GDP	5,185	6,100	8,065	9,426	7,968	7,120	7,540	8,070	8,460	8,700	
Taxable income	2,481	3,268	4,904	6,115	4,401	3,630	3,910	4,280	4,420	4,540	
Contr to GDP % chge		0.1%	17.6%	32.2%	16.9%	-15.5%	-10.6%	5.9%	7.0%	4.8%	2.8%

Forecast and projection figures may not add or reconcile due to rounding
Sources: Statistics NZ and MAF Policy

6.0 Forestry

The forest industry continues to play an important role in the economy. Provisional export value for forestry for the year to March 2003 was \$3.71 billion, up 1.6% from the previous year.

This highlights a problem the industry shares with other New Zealand exporters, namely the strength of the NZD. Export volumes in all forestry categories are strong, with estimated results to March 2003 showing logs up 9.5%, lumber up 13%, pulp and paper holding steady and wood panels up 16%.

Weakness in the US lumber market is a further complicating factor, with the framing lumber composite price in early March 2003 showing an 18% fall against 12 months previously.

6.1 Logs and Lumber

Logs

The production of logs not intended for domestic processing all go to export, and therefore the overseas demand for New Zealand logs (discussed below) drives production. Logs that are not exported are inputs to other processes and so not counted under log production.

There was a large volume increase in log exports for the year ended March 2002 mainly because of large increases in a few key markets. For example, Korea jumped 44% to 4.26 million cubic metres and China surged a massive 128% to 1.01 million cubic metres, both on the back of increased economic activity. The provisional result for the year to March 2003 shows growth of 9.5% to 8.08 million cubic metres. Growth in export volumes in out-years (2003/04 to 2007/08) is based on economic growth in our main markets, particularly Korea at more than 5% per year, and on an expanding China market.

The average all-grades log price (in NZD) for the year ending March 2002 fell sharply, coming off an unusually high price in 2001. The high 2000/01 price (the highest since 1996) was partly exchange rate fuelled and partly a correction after significant falls during the 1997/98 Asian crisis, as Asian consumption increased with the recovering economies. The provisional result for log export prices to March 2002/03 shows a further fall of 4.8%.

A large drop in log export prices is forecast for 2003/04, due to the appreciating exchange rate (+8% on the USD). This pulls down the out-year forecasts, which are built around year-on-year percentage changes. Prices in USD terms are expected to rise slightly (around 2-3% per annum), with export prices being depressed by the stronger NZD.

Lumber

Lumber production for the year ending March 2003 is provisionally estimated to be 11% up on the previous year, reflecting increased overseas demand for New Zealand lumber (see below). Out-year growth is based on modelling domestic consumption as a factor of population forecasts, plus export volumes.

An increase in lumber export volumes of 7.5% between 2000/01 and 2001/02 was influenced by a rise in exports to the US, which grew by 40% and China, up 44%, due largely to increased acceptance of radiata pine in both countries, particularly in the US market for mouldings. The provisional result for lumber export volumes in the year to March 2003 shows a further large increase driven by increases in some key markets. For example, in the December 2002 year (over the previous December year) volumes to the US increased 9%, Australia 19%, and China 51%; this compares with a 14% rise in total export volumes. Provisional result for March year 2003 is for 1.86 million cubic metres (up 13% on the previous March year). This growth demonstrates the increasing market acceptance of radiata pine lumber and improved market penetration.

Out-year volume growth is driven by economic growth in target markets, e.g. Australia at 3% to 4% per year and the US at over 3% per year. The higher start point at March 2003 (because of the

increased estimated result for 2002/03) for year-on-year percentage changes also lifts export volume estimates.

Provisional results for the March 2003 year show lumber export prices falling slightly against the previous year, at \$496 per cubic metre (average, all grades). Export prices are forecast to fall by 19% in 2003/04 due to a much stronger NZD. Over the outlook period, prices in USD for lumber are expected to rise in the range of 4 to 5% per year, but export price rises will be tempered by the strength of the NZD.

6.3 Wood pulp, Paper Products and Panels

New Zealand has a fairly stable production capacity for pulp and paper, which is unlikely to increase over the medium term (except for relatively minor incremental increases from improving production efficiency). Export volumes for pulp and paper (including paper products) tend to be the residuals after domestic commitments have been met. New Zealand is largely a price-taker for pulp and paper, which generally is set according to world supply and demand cycles.

Pulp

Pulp production fell in 2001/02 against 2000/01 mainly because stocks were drawn on, being reduced by 12%. Also, there was a 43% rise in imports. The provisional result for the year ended March 2003 is for a slight increase back to the long-run average. Out-year growth will be constrained by production capacity.

There was a slight rise in pulp export volumes in 2001/02 versus 2000/01 with the sales out of stocks mentioned above going to export, as the domestic market is steady. A small rise in domestic consumption per year is forecast through 2002/03 to 2007/08, thereby slightly reducing the volume available for export (unless the increase is met from imports, which are not forecast).

International pulp prices follow clear cycles according to shifts in the balance between demand for pulp and installed capacity. New Zealand tends to be a price-taker, following international price trends. Pulp export prices increased 68% in 2000/01 compared to the previous year, which was partly driven by favourable exchange rates and partly a cyclical upswing.

The converse was true for 2001/02, when pulp export prices fell by 28%. The benchmark NBSK pulp price fell 29% in the year to March 2002. But after bouncing along the bottom of a cyclical trough it rose 7% in the 6 months from August 2002 to February 2003, and is showing signs of further recovery. The provisional pulp export price for the year ending March 2003 was \$637/tonne, down only 1.2% against the previous year. Strong buying from Asia late last year created a perceived shortage of pulp, putting upward pressure on prices. Out-year price movements are based on historical cyclical patterns, which indicates the next peak occurring in 2004/05.

Paper

Forecasts of year-on-year increases in paper production are small and incremental, along the track of the long-run average and based on domestic consumption patterns, until capacity is reached in 2006/07.

The estimated³ paper export volume for the March 2003 year was 515,000 tonnes, up 1% from the previous year. Export volume growth for paper in out-years is expected to reflect only small year-on-year increases. Overseas markets are available, but production capacity could be a constraint, with no foreseeable capacity increases.

International paper prices follow clear cycles according to shifts in the balance between demand for paper, installed capacity and the price of pulp. New Zealand tends to be a price-taker, following international price trends. The estimated result for the year ending March 2003 is for a drop of 4% compared to 2001/02. This is partly driven by exchange rate factors and is partly a cyclical drop.

Panels

Out-year growth in production of wood panels follows domestic consumption patterns plus exports volumes, but of these, increases or decreases in export orders are the biggest influence on production levels, as the domestic market is relatively steady.

Provisional export volumes of wood panels for the March 2003 year was 962,000 cubic metres, up 16% on the previous year. Projected out-year growth is based on expected economic growth in New Zealand's main wood panel markets, for example Australia at around 3% to 4% per year.

Provisional export prices of wood panels for the March 2003 year averaged \$560 per cubic metre, down 10% on the previous year. This decrease is mainly due to the appreciating NZD in the 2003 March quarter.

Wood panel prices display a cyclical pattern for similar reasons that are behind pulp and paper price cycles (price/production/capacity pressures). However, panel price cycles are weaker, especially with medium density fibreboard (MDF). Prices are expected to drop into a trough in 2003/04, exacerbated by the stronger NZD, with a 20% fall against 2002/03 to \$450 per cubic metre. Rises of around 7% to 9% per year are expected through to 2007/08.

Table 5: Export values for forestry products (\$NZm FOB)

Year ended March	1999	2000	2001	2002	2003p	2004f	2005z	2006z	2007z	2008z
Logs	429	574	716	714	744	637	736	853	935	1030
Sawn timber	542	678	774	825	920	772	844	932	1002	1064
Wood pulp	374	424	675	513	491	505	551	498	463	603
Paper products	438	451	597	625	606	573	700	679	595	677
Panel products	303	409	509	515	539	449	503	577	652	720
Other products	300	377	431	459	412	400	425	453	469	481
Total products	2,386	2,913	3,702	3,651	3,712	3,340	3,760	3,990	4,120	4,580
% change	-1.0%	22.1%	27.1%	-1.4%	1.7%	-10.0%	12.6%	6.1%	3.3%	11.2%

Forecast and projection figures may not add or reconcile due to rounding
Sources: Statistics NZ and MAF Policy

³ A provisional result for paper products is not available at the time of writing

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Appendix: New Zealand Macroeconomic Assumptions

The New Zealand macroeconomic variables used in the product forecasts are essentially working assumptions and are not specific forecasts. It is not possible to forecast exchange rates over the medium term because of the large number of variables involved. The macroeconomic assumptions are as at 18 March 2003.

Because of the predominance of primary production for export, returns to New Zealand producers of food and fibre are significantly impacted by movements in exchange rates.

Macroeconomic Assumptions:									
Year to March	2000	2001	2002	2003p	2004f	2005z	2006z	2007z	2008z
Nominal Exchange rates 1\$NZ = \$US	0.518	0.441	0.419	0.496	0.560	0.548	0.528	0.520	0.520
UKP	0.322	0.299	0.293	0.319	0.339	0.324	0.320	0.320	0.320
Yen	57.35	48.68	52.38	60.46	65.88	64.25	62.25	60.25	58.00
DM	0.00	0.49	0.47	0.50	0.51	0.50	0.50	0.50	0.50
Trade Weighted Index (TWI)	56.057	50.478	50.225	56.375	60.375	58.75	56.875	56.5	56.5
GDP Trading Partners % growth	4.3	1.5	2.7	2.7	3.4	3.4	3.5	3.5	3.5
CPI % - NZ	0.3	3.0	2.5	2.7	1.8	2.1	2.2	2.0	2.0
CPI % - Trading Partners	2.4	2.4	2.2	2.3	2.3	2.3	2.3	2.3	2.3
90 Day Bill yields %	5.2	6.6	5.4	5.9	5.4	5.7	6.0	6.0	6.0

Sources: Consensus Forecasts and The Treasury

The table below shows the effects of a 10% movement in product-related exchange rate assumptions for 2002/03, except for kiwifruit which applies to 2003/04 as the 2002/03 crop had already been sold. These effects should be treated as indicative only.

Effects of 10% Exchange Rate Movements on Product Prices

Prices	Depreciation	Appreciation		Depreciation	Appreciation
	%	%		%	%
Dairy ¹	7	-6	Kiwifruit ⁵	8	-7
Beef ²	14	-11	Apples ⁵	20	-17
Lamb ³	15	-12	Wine ⁶	11	-9
Wool ⁴	9	-8	Lumber ⁷	11	-9

¹ Farmgate milksolids price (c/kg). The effect is spread over several seasons, with relatively little impact in the short term because of Fonterra's use of forward exchange cover.

² Manufacturing cow at works (\$/kg).

³ All grades average lamb at works (\$/hd).

⁴ Average wool auction price (\$/kg clean). As this price is an international price, exchange rates tend to be factored in to buyer decisions.

⁵ Average total payment per tray for kiwifruit. The higher multiple for apples reflects the lower ratio of grower returns to international prices received.

⁶ Wine at FOB (\$/m3).

⁷ Lumber at FOB (\$/m3).