SHEEP INDUSTRY OUTLOOK TO 2009-10
strength in meat but weakness in wool demand

Richard Perry

• The outlook for Australian lamb and mutton prices remains positive, with growing demand from key export markets.

• The outlook for wool continues to be weak, driving further change in the Australian sheep industry toward greater focus on meat production.

• Assumed modest income growth in OECD markets is expected to lead to further easing of wool demand

• Assuming that average seasonal conditions prevail, favorable sheep meat prices are expected to support ongoing flock rebuilding.

Overview of the Australian industry

Historically, the Australian sheep industry has been dominated by conditions on global wool markets, with sheep meat production a relatively minor coproduct of wool growing. Despite a decline in global and Australian wool production, wool prices in real terms have been trending downwards since the early 1990s. In contrast, prices for sheep meat have risen in recent years, leading to sheep meat production being generally more profitable than wool production for many sheep producers.

Over the past decade or so, specialist wool producers in particular have faced multiple challenges, with demand factors contributing to lower prices. The market for woollen textiles has contracted, resulting in reduced demand for shorn wool and other downstream products. Competition from other fibres — both natural and synthetic — has increased, as their func-

Productivity of farms with prime lambs
1988-89 to 2001-02

<table>
<thead>
<tr>
<th></th>
<th>Total factor productivity growth</th>
<th>Terms of Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td><strong>All sheep farms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime lamb receipts &gt;20%</td>
<td>1.6</td>
<td>−0.7</td>
</tr>
<tr>
<td>Prime lamb receipts 5–20%</td>
<td>2.1</td>
<td>−1.4</td>
</tr>
<tr>
<td>Prime lamb receipts &lt;5%</td>
<td>1.2</td>
<td>−1.8</td>
</tr>
<tr>
<td><strong>Sheep specialist farms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prime lamb receipts &gt;20%</td>
<td>0.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Prime lamb receipts 5–20%</td>
<td>2.8</td>
<td>−1.8</td>
</tr>
<tr>
<td>Prime lamb receipts &lt;5%</td>
<td>0.3</td>
<td>−2.0</td>
</tr>
</tbody>
</table>
tional performance, particularly of synthetic fibres, has improved. Changing tastes and fashion preferences have also affected demand for wool, with a broad shift away from more formal attire (which favors wool textiles) to casual, easy care fashion that is dominated by cotton and synthetic fibres.

The Australian wool industry has not achieved sufficient productivity gains to offset declining farmers’ terms of trade. Compared with other major agricultural industries, productivity growth in the wool industry has been relatively low. As a result, resources have been moved out of the industry, and the size of the Australian sheep flock has contracted.

In contrast to specialist wool producers, sheep meat producers have benefited from rising prices and relatively strong productivity improvements that have outweighed declines in the terms of trade. These factors have induced a structural change in the Australian sheep industry, with meat breeds increasing their share of the flock.

Sheep numbers forecast to rise
After relatively stable sheep numbers in the mid 1990s, rising prices for sheep meat and drought led to a sharp decline in the size of the Australian sheep flock to 2003-04. With improvement in seasonal conditions in some regions, sheep producers have been rebuilding sheep

### Ewe joinings, Australia

<table>
<thead>
<tr>
<th></th>
<th>Merino rams</th>
<th>Short wool rams</th>
<th>Long wool and other breeds of ram</th>
<th>All ram breeds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>million</td>
<td>%</td>
<td>million</td>
<td>%</td>
</tr>
<tr>
<td><strong>Merino ewes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996-97</td>
<td>41</td>
<td>74</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>2004-05</td>
<td>32</td>
<td>63</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td><strong>First cross ewes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996-97</td>
<td>0.2</td>
<td>0.4</td>
<td>2.6</td>
<td>4.7</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.4</td>
<td>0.9</td>
<td>5.1</td>
<td>10</td>
</tr>
<tr>
<td><strong>Other ewes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1996-97</td>
<td>0.1</td>
<td>0.2</td>
<td>0.6</td>
<td>1.2</td>
</tr>
<tr>
<td>2004-05</td>
<td>0.0</td>
<td>0.1</td>
<td>1.2</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Source: ABARE Australian agricultural and grazing industries surveys.
flocks. Because of firmer prices for lamb, sheep producers are expected to focus on retaining lower valued adult sheep as a means of building flock sizes. The rate of flock growth, however, is likely to be constrained by weak prices for wool.

Wool

Wool prices to fall as supply increases

Wool prices are forecast to average lower in 2005-06, reflecting higher wool supplies and weaker wool demand. Assuming that average seasonal conditions prevail, Australian sheep producers are expected to expand the size of the Australian sheep flock, leading to a rise in the Australian wool clip.

In 2005-06, the eastern market indicator is forecast to average around 740 cents a kilogram (clean), compared with 750 cents a kilogram in 2004-05. Over the medium term (to 2009-10), real wool prices are projected to fall gradually, as demand eases further and competition from alternative fibres increases. Relatively favorable sheep meat prices, however, are projected to help maintain the size of the Australian sheep flock.

Animal welfare issues and demand for wool and live sheep

Recently, the Australian sheep industry has come under increased pressure from animal rights groups. This relates to animal husbandry practices (with a focus on mulesing) employed in the wool industry, and to conditions allegedly experienced by sheep in the live export trade during transport and on arrival at export destinations.

In response to pressure from lobbyists, some large clothing brands in the United Kingdom and the United States announced boycotts of wool that cannot be certified as being shorn from unmulesed sheep. The boycotts of Australian wool add some uncertainty to the outlook for wool demand and prices.

Falling wool demand in key markets

One major feature in the world wool market over the past decade has been falling wool demand. This trend is forecast to continue into the medium term. Income growth, competitive pressures and changing fashion preferences are the key drivers of wool demand.

Australian wool outlook

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern market indicator (clean)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– nominal</td>
<td>Ac/kg</td>
<td>1049</td>
<td>820</td>
<td>750</td>
<td>740</td>
<td>730</td>
<td>731</td>
<td>733</td>
</tr>
<tr>
<td>– real a</td>
<td>Ac/kg</td>
<td>1100</td>
<td>840</td>
<td>750</td>
<td>723</td>
<td>696</td>
<td>681</td>
<td>665</td>
</tr>
<tr>
<td>Auction price (greasy)</td>
<td>Ac/kg</td>
<td>682</td>
<td>533</td>
<td>488</td>
<td>481</td>
<td>475</td>
<td>475</td>
<td>476</td>
</tr>
<tr>
<td>Sheep numbers</td>
<td>million</td>
<td>99</td>
<td>94</td>
<td>101</td>
<td>106</td>
<td>112</td>
<td>114</td>
<td>114</td>
</tr>
<tr>
<td>Sheep shorn</td>
<td>million</td>
<td>118</td>
<td>105</td>
<td>109</td>
<td>114</td>
<td>120</td>
<td>122</td>
<td>122</td>
</tr>
<tr>
<td>Cut per head</td>
<td>kg</td>
<td>4.25</td>
<td>4.51</td>
<td>4.48</td>
<td>4.48</td>
<td>4.48</td>
<td>4.47</td>
<td>4.47</td>
</tr>
<tr>
<td>Wool production (greasy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– shorn</td>
<td>kt</td>
<td>499</td>
<td>475</td>
<td>487</td>
<td>510</td>
<td>536</td>
<td>547</td>
<td>545</td>
</tr>
<tr>
<td>– other b</td>
<td>kt</td>
<td>48</td>
<td>48</td>
<td>44</td>
<td>47</td>
<td>50</td>
<td>51</td>
<td>52</td>
</tr>
<tr>
<td>– total</td>
<td>kt</td>
<td>547</td>
<td>523</td>
<td>531</td>
<td>557</td>
<td>585</td>
<td>598</td>
<td>597</td>
</tr>
<tr>
<td>Total closing stocks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– weight (greasy)</td>
<td>kt</td>
<td>105</td>
<td>126</td>
<td>136</td>
<td>137</td>
<td>137</td>
<td>135</td>
<td>134</td>
</tr>
<tr>
<td>Wool exports (balance of payments basis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– volume (greasy equiv.)</td>
<td>kt</td>
<td>505</td>
<td>474</td>
<td>487</td>
<td>513</td>
<td>540</td>
<td>552</td>
<td>550</td>
</tr>
<tr>
<td>– nominal value</td>
<td>A$M</td>
<td>3545</td>
<td>2778</td>
<td>2519</td>
<td>2709</td>
<td>2810</td>
<td>2878</td>
<td>2882</td>
</tr>
<tr>
<td>– real value a</td>
<td>A$M</td>
<td>3717</td>
<td>2845</td>
<td>2519</td>
<td>2648</td>
<td>2680</td>
<td>2678</td>
<td>2616</td>
</tr>
</tbody>
</table>

a In 2004-05 Australian dollars. b Includes wool on sheepskins, felting-tered and slip wool. c Privately held stocks of unsold wool. f ABARE forecast. z ABARE projection.

Sources: Australian Bureau of Statistics; Australian Wool Exchange; ABARE.
Variations in growth in consumer incomes will affect wool demand through the effects on consumption of woollen apparel and carpets. Over the outlook period, world economic growth is assumed to ease from the high rate achieved in 2004. Continued weak economic performance in European countries, especially Italy and Germany, easing economic growth in the United States, and an assumed return to relatively low economic growth in Japan are unlikely to support a significant increase in final wool consumption in these important markets.

China’s importance increasing

China’s importance in the world wool market has increased over the past few decades. It is the world’s largest importer of raw wool and exporter of finished woollen apparel. China is also a significant producer of raw wool and has a large domestic market for woollen textiles and apparel. Australian Wool Innovation Limited has estimated that around 65 per cent of Australia’s raw wool exports to China are absorbed by China’s domestic market. Reflecting assumed strong income growth over the medium term, China’s domestic demand for woollen textiles and apparel is forecast to strengthen.

One important issue that could influence China’s wool imports in the short term is whether China revalues its currency. China has pegged its currency to the US dollar since the mid-1990s. There has been significant international pressure for China to revalue its currency. While there has been a commitment from China’s government to adopting a more flexible exchange rate regime, the timing remains uncertain (see ‘Economic overview’ for details).

A significant revaluation (appreciation) of China’s currency would lead to a reduction in the cost of Australian wool in Chinese currency terms, which would in turn increase China’s demand for raw wool. Offsetting this effect, at least partly, would be a reduction in the competitiveness of Chinese woollen textile and apparel exports in international markets.

Competitive pressures from alternative fibres

Competition from alternative fibres, especially from synthetic fibres, has been increasing over many decades. Innovation and improvements to the functional properties of synthetic fibres have expanded the range of applications to which such fibres and textiles can be applied.

Over recent decades, productivity improvements in the manufacture of synthetic fibres have substantially reduced production costs, raising the competitive pressure on alternative fibres, especially wool. Simultaneously, innovation and functional improvements have allowed textiles and clothing manufactured from synthetic fibres to encroach on the applications where woollen textiles dominated in the past.

Examples of the substitution between synthetic fibres and wool include the manufacture of thermal wear garments and blankets. The market for thermal wear manufactured from natural insulators like wool, down and feathers, and fur has been largely replaced by products manufactured from synthetic fibres. Additionally, synthetic fibres with improved stain removal or wear resistance characteristics are increasingly being used in the manufacture of carpets.

Wool exports highlight global processing changes

The global wool processing sector has changed substantially in recent years. Not only has the industry downsized substantially as the consumption of wool has contracted, but there has been substantial transfer and restructuring of wool processing capacity.

Textile fibre prices

![Textile fibre prices graph](image-url)
China has emerged as the dominant processor of wool, and is now Australia’s largest export market for greasy and semiprocessed wool. In 2004-05, China is forecast to take around 47 per cent of Australia’s wool exports. While China has increased its share of Australia’s wool exports over the past decade, the volume of Australian wool exports to China has increased only moderately.

The increased market share of China in the global wool processing sector reflects not only advancements in China’s processing sector that have improved its capacity to produce higher quality textiles, but also of the competitive pressures experienced by mills in higher cost countries, such as the Republic of Korea, Japan and Italy, that had previously been major buyers of Australian wool.

End of the Multi-Fibre Arrangement

The Multi-Fibre Arrangement (MFA), first agreed to in 1974, was intended to slow the progress of trade liberalisation in the textile sector, in an effort to protect textile manufacturers in developed countries. Under the arrangement, clothing and textile import quotas were allocated to selected developing countries, of which China was not included. The aim was to provide support for clothing and textiles industries in high cost developed countries by limiting market access from lower cost producers.

The MFA was phased out on 31 December 2004. The expiry of the MFA is expected to provide improvements in market access for the textiles and clothing industries in developing countries. China, in particular, is likely to benefit significantly.

Under the rules of the World Trade Organisation (of which China is a member), member countries are permitted to impose safeguard measures when it can be successfully demonstrated that Chinese textile imports threaten or cause market disruption. In recognition of the impact on its textile industry of possible safeguard measures imposed in key export markets, the Chinese Government has applied small specific export duties to its own textile exports from 1 January 2005. The specific duties are mostly in the range 0.2–0.3 yuan (US2.4–3.6 cents) per item or set.

Sheep meat

Prices have been favorable

Australian saleyard prices for sheep and lambs have been strong during 2004-05 and are forecast to average around 355 cents a kilogram for lambs and 195 cents a kilogram for sheep. Lamb prices have been supported by strong export demand, particularly from the United States. Sheep prices have been underpinned by strong domestic restocker demand. Sheep producers have sought to rebuild and adjust flock composition in favor of cross bred and short wool breeds. In 2005-06, saleyard prices for lambs and sheep are forecast to ease to 340 cents a kilogram and 175 cents a kilogram respectively.

Strong demand from the United States

The United States is Australia’s largest export market for fresh, frozen and chilled lamb exports. It is also a major market for mutton. Australia supplied 61 per cent of the United States’ sheep meat imports in 2003-04. New Zealand is Australia’s only substantial competitor in the US sheep meat market. In 2003-04, New Zealand supplied 39 per cent of US sheep meat imports.

In 2003-04, Australian exports of lamb to the United States accounted for 42 per cent of total lamb exports by value (28 per cent by volume), and 10 per cent of Australia’s lamb production by volume. Australia’s exports of lamb to the United States have increased substantially over recent years, rising from over 11 000 tonnes in 1995-96 to 33 000 tonnes in 2003-04.

US sheep industry in decline

The average number of sheep per farm in the United States is low. In 2004, the US Department of Agriculture reported that over half of sheep farms reared no more than 25 sheep and lambs, and only 2 per cent of sheep farms reared more than 1000 in 1997. The US sheep industry has been in a long term decline, despite various support programs that started as far back as 1938. Most of these programs have been progressively abandoned.

In the United States, per person consumption of sheep meat is relatively low. For example,
per person consumption in Australia and New Zealand is up to 40 times higher than in the United States. Despite falling US domestic production, US sheep meat consumption has been increasing gradually since the mid 1990s. Partly reflecting the effect of removing trade distorting policies designed to protect the domestic industry, imports from Australia and New Zealand have increased markedly in recent years.

The Australia–United States Free Trade Agreement commenced at the beginning of 2005. Under the agreement, Australia is granted duty and quota free access for almost all Australian sheep meat exports. The free trade agreement is expected to facilitate exports of Australian sheep meat to the United States, although market access barriers were not large prior to the implementation of the agreement.

**US import demand to rise**

Over the medium term, US import demand is expected to rise as consumption of sheep meat is projected to increase and domestic sheep meat production continues to decline. Despite this projected increase, larger supplies of sheep meat in Australia and New Zealand, resulting from flock rebuilding and ongoing changes in flock composition and industry focus, is projected to contribute to lower lamb prices in real terms over the medium term.

**Other lamb export markets**

The United Kingdom and Papua New Guinea alternate as second place destinations for Australian lamb exports. Since 1995-96, Australian lamb exports to the United Kingdom have increased from around 3800 tonnes to 13 200 tonnes in 2003-04. Over the same period, exports of lamb to Papua New Guinea have increased from 9600 tonnes to an estimated 11 100 tonnes in 2003-04.

In addition to the United Kingdom, strong growth in lamb exports has been recorded in several markets. Mexico has also increased its imports of Australian lamb considerably over the past decade, reaching a peak in 2000-01. China has been most notable, increasing from around 299 tonnes in 1998-99 to an estimated 8700 tonnes in 2003-04. Strong income growth in China is expected to encourage further expansion of lamb exports to that market over coming years.

**Live sheep exports**

Australian exports of live sheep cater to markets mainly in the Middle East. Over the period 1995-96 to 2003-04, several countries dominated Australia’s live sheep exports. Prior to the Cormo Express incident of late 2003 and the subsequent cessation of trade with Saudi Arabia, Australia exported an annual average of almost 6 million sheep. Saudi Arabia was the single largest export market for Australian live sheep exports, importing around 2.3 million Australian sheep in 2002-03.
There is considerable uncertainty about the outlook for live sheep exports, as it is dependent on whether an agreement of trade resumption will be reached between Australia and Saudi Arabia in the near future. In preparing the current outlook for live sheep exports, it has been assumed that the resumption of trade with Saudi Arabia will occur in mid-2005. Consequently, live sheep exports are forecast to increase in 2005-06.

Over the medium term, mutton prices are forecast to decline in real terms, partly because of an expected easing of restocker demand. Given forecast lower mutton prices in real terms and an assumed weakening in the value of the Australian dollar, live sheep exports are forecast to increase gradually toward the end of the outlook period.

### Australian sheep meat outlook

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Saleyard price for sheep</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– nominal Ac/kg</td>
<td>167</td>
<td>199</td>
<td>195</td>
<td>175</td>
<td>171</td>
<td>163</td>
<td>167</td>
<td>163</td>
</tr>
<tr>
<td>– real Ac/kg</td>
<td>175</td>
<td>204</td>
<td>195</td>
<td>171</td>
<td>163</td>
<td>152</td>
<td>152</td>
<td>144</td>
</tr>
<tr>
<td><strong>Saleyard price for lambs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– nominal Ac/kg</td>
<td>338</td>
<td>372</td>
<td>355</td>
<td>340</td>
<td>335</td>
<td>320</td>
<td>330</td>
<td>330</td>
</tr>
<tr>
<td>– real Ac/kg</td>
<td>355</td>
<td>381</td>
<td>355</td>
<td>332</td>
<td>319</td>
<td>298</td>
<td>300</td>
<td>292</td>
</tr>
<tr>
<td><strong>Retail price for lamb</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– nominal Ac/kg</td>
<td>1 039</td>
<td>1 142</td>
<td>1 089</td>
<td>1 043</td>
<td>1 028</td>
<td>1 014</td>
<td>1 075</td>
<td>1 096</td>
</tr>
<tr>
<td>– real Ac/kg</td>
<td>1 090</td>
<td>1 170</td>
<td>1 089</td>
<td>1 020</td>
<td>980</td>
<td>943</td>
<td>976</td>
<td>971</td>
</tr>
<tr>
<td><strong>Sheep numbers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>million</td>
<td>99</td>
<td>94</td>
<td>101</td>
<td>106</td>
<td>112</td>
<td>114</td>
<td>114</td>
<td>113</td>
</tr>
<tr>
<td><strong>Slaughters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep '000</td>
<td>13 657</td>
<td>10 421</td>
<td>11 346</td>
<td>11 434</td>
<td>11 490</td>
<td>11 546</td>
<td>11 636</td>
<td>11 727</td>
</tr>
<tr>
<td>Lamb '000</td>
<td>16 870</td>
<td>16 562</td>
<td>16 977</td>
<td>17 622</td>
<td>18 291</td>
<td>18 986</td>
<td>19 708</td>
<td>20 354</td>
</tr>
<tr>
<td><strong>Production b</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutton kt</td>
<td>268</td>
<td>220</td>
<td>245</td>
<td>249</td>
<td>253</td>
<td>257</td>
<td>262</td>
<td>266</td>
</tr>
<tr>
<td>Lamb kt</td>
<td>329</td>
<td>341</td>
<td>350</td>
<td>363</td>
<td>377</td>
<td>391</td>
<td>406</td>
<td>422</td>
</tr>
<tr>
<td><strong>Consumption per person</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutton kg</td>
<td>3.3</td>
<td>2.4</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
<td>2.2</td>
<td>2.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Lamb kg</td>
<td>11.4</td>
<td>10.4</td>
<td>10.2</td>
<td>10.4</td>
<td>10.5</td>
<td>10.6</td>
<td>10.6</td>
<td>10.6</td>
</tr>
<tr>
<td><strong>Exports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mutton kt</td>
<td>119</td>
<td>120</td>
<td>148</td>
<td>151</td>
<td>154</td>
<td>157</td>
<td>160</td>
<td>164</td>
</tr>
<tr>
<td>Lamb kt</td>
<td>98</td>
<td>112</td>
<td>125</td>
<td>134</td>
<td>143</td>
<td>152</td>
<td>161</td>
<td>170</td>
</tr>
<tr>
<td>– to United States</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live sheep '000</td>
<td>5 843</td>
<td>3 843</td>
<td>3 535</td>
<td>4 478</td>
<td>4 872</td>
<td>4 921</td>
<td>4 970</td>
<td>5 020</td>
</tr>
</tbody>
</table>

a In 2004-05 Australian dollars. b Carcass weight. c Fresh, chilled and frozen, shipped weight. f ABARE forecast. z ABARE projection. Sources: Australian Bureau of Statistics; Department of Agriculture, Fisheries and Forestry; ABARE.
Introduction

Background
Brent Finlay is part of the ever-decreasing institution known as a family partnership. He is a 3rd generation wool producer from Southern QLD, in an area known as the ‘Traprock’, after the regions’ predominate soil type. The partnership operates a diverse farming business that includes fine & superfine wethers, Hereford cattle for the weaner market & a feedlot feed supply business.

Brent’s major responsibility is the sheep side of the business, purchasing wethers from the New England region of Northern NSW and of those, 5000 are under coats. The wool produced is in the 15-18micron range and surplus sheep are supplied direct to meatworks. He is also involved in an importing business with his wife, manufacturing, importing & retailing sheep coats under the Wool-Overs Brand.

Brent is an Ausfine Wool Company Shareholder and Queensland consultant. This company promotes traditional fine and superfine wool for the spinners markets of the world, focusing on quality & clip preparation. Ausfine currently holds membership for 170 wool producers across Australia, including many prominent studs.

Brent has been a member of Traprock Wool Association- since it’s inception in 1991 after the reserve price scheme’s collapse. It is with this Association that the process originates…

The Traprock Wool Association [TWA] has close to 70 members, consisting of professional wool producers, running over 350 000 merino sheep in the Traprock region of Southern QLD, covering around 1 million acres.

This association has been instrumental in the course of developing our resource management. Taking part in this process as a group, has made it achievable and within our means. Whereas trying to take on such goals as individuals would be an enormous and overwhelming challenge.

The very first steps taken in managing our resources came with the creation of TWA’s internationally recognised Quality Assurance Scheme [Total Quality Management-TQM]. The Association also launched into ‘brand’ marketing by way of promotion of greasy wool direct to the trade, and a limited range of garments sold under the Traprock brand.

TWA has always been a very pro-active organisation, involved in education of its’ members and innovative in its’ best practice pursuits. The strength of the organisation lies in the fact that the members come from such diverse backgrounds & areas of expertise.

Over the years, I have held the position of President and also as the representative for ‘Buyer Communications’ which has taken me to many Wool sales to promote Traprock wools to the buyers.

TWA’s focus on education has seen many well attended field days encompassing quality wool production, and a high standard of clip preparation. Both land holders and shed staff are encouraged to attend these days, and often our customers are also included, the wool buyers...
themselves, to address the group. In this way we work closely with the buyers to prepare our clips to their stringent requirements.

Expanding on the Traprock region and group:.
- Over 60,000 superfine and fine wool sheep under coats in the area, and these wools have created both buyer and grower interest.
- Returns/head are up to double that of the uncoated wools.
- Native pastures and supplementary feeding regime, combined with careful selection of genetics from the New England region, have seen average fibre diameter decrease by 4 micron over the past 5 years.
- TWA targets the Italian and Korean spinners markets.
- Wool produced from 11.9 to 22 micron range.
- Developed relationships with local abattoirs and most surplus sheep are sold directly to them, with stock produced to their requirements.

In the late 1990's whilst holding the position of TWA president, the most asked question by industry bodies was in regards to how we as primary producers saw the major challenges facing the sheep & wool industries over the next 5 years.
Apart from the obvious commodity price issues, my response was that Resource Management & proving that our production systems are sustainable, would be the big concerns.
At this time all levels of Government became increasingly involved in legislation in relation to natural resource management, workplace health & safety, animal welfare and property rights & responsibilities.
Members of TWA identified this increasing legislation to be encroaching on the viability of primary production.

This all coincided with an idea in the Traprock to utilise our QA scheme, the reputation of the Traprock name for producing high quality greasy wool off native pastures, to further promote the produce and our unique landscape.
The search was on for a label to embody these characteristics, and the idea of an eco-label was considered.

In order to go down this path, we had to prove our resource management credentials. To do this we needed a Management System that would encompass all the aspects, and address the impacts of our production systems, while maintaining the viability of our properties.

We soon became conscious of the developing awareness of Environmental Management Systems [EMS] and ISO 14000.
As TWA already had a Quality Assurance scheme developed to ISO 9000 standards [TGM], we decided to take the next step to develop a Management System incorporating EMS and Quality Assurance, into what we termed Traprock Integrated Management Systems. [TIMS].
To this we would add marketing, Workplace Health & Safety, Chemical usage & storage, livestock management, and Human resource development & training.

Initially we needed to develop detailed Property Plans, then long term development plans & strategies for both individual members’ properties and also across the region.

As this was a huge undertaking by the volunteer management committee, professional assistance was sought and found with local Stanthorpe & Inglewood Landcare coordinators; Border Rivers Catchment Management Association [BRCMA]; and the QLD Murray-Darling Committee [QMDCC].

At this point we formed 10 sub-catchment groups, and all landholders were invited to be involved. The size of each group varied from between 5-15 property owners.

My role in all this was to facilitate a series of workshops where we developed these property plans and long term strategies. The groups identified and discussed the issues that affected their individual businesses, and the impacts that these would have on their production systems.

Common issues across the region included:

- Vegetation management
- Water and property rights
- Noxious weeds and feral animals
- Increasing cost of production [from $13/head in 1999 to $20 in 2004]
- Decreasing Commodity prices
- Lack of capable human resources
- Aging workforce [landholder and experienced employees]
- Community perception
- High cost of maintaining and developing property infrastructure

There were many issues that were unique to certain catchment groups, including loss of permanent water due to downstream irrigation, and increased property development for real estate.

The detailed property plans were then incorporated into sub-catchment plans, and then into a region plan.

During this process we identified the need for assistance in assessing the value of the native vegetation and the accompanying biodiversity that existed and to define our most productive land. We approached AWI with this in mind and together have developed a Toolkit that will monitor and assess these habitats, while maintaining profitable and productive farming enterprises.

AWI, together with Land & Water Australia, is working with Traprock Wool Assoc., Uni of Southern QLD and the QMDC on a project to link the TIMS system to this Toolkit, which endeavours to integrate paddock and catchment planning.

To date:

- Completed 110 property plans [out of a possible 111]
- Mapped over 1 million acres
• Identified and established 25 water monitoring sites
• Developed catchment targets in relation to waterways and vegetation
• 11 region grass-check sites also established.
• 15 vegetation monitoring sites
• Introduced some property legislation to land owners
• Initiated visitor induction processes and erection of property entry signs.

We have had approaches from neighbouring sub catchments to facilitate the process with them, but have not at this stage had the resources to do so.

Over the past 10 years Traprock land holders have diversified, through financial need, into various other commodities. These include early stone fruit, cattle breeding and agistment, small crops, aquaculture, piggeries, fat lambs and timber harvesting. All these commodities are now incorporated into the Traprock Integrated Management System [TIMS].

This system is now at the stage of our first internal Audit. We have 4 individual properties to be audited, including my own. We have commenced the final series of workshops to implement the TIMS across the individual properties.

Obviously not all 110 land holders will incorporate the full system, but even if only half implement the system fully, and the remainder take part of it and put it to use, we would consider this a huge success.

Thus far it has been a laborious process, utilising a massive amount of voluntary work from many Traprock members. We are excited about progressing into the next stage, and showcasing our products and the systems that will underpin their consistent qualities.

We are now in the position of having developed the following strategies for our resource management:

1. Being part of a group- Traprock Wool Association, and associated stone fruit faction, [information dispersal, education, marketing etc]
3. Building close relationships with our key customers and our livestock suppliers.
4. Developing alliances with existing concurring industry bodies.
5. Constant training and skill development.
6. Utilisation of targeted specialists [ecologists, EMS consultants etc]
7. Being proactive in value-adding [coating of sheep and diversification]
8. Involvement in development of legislation.
9. Developing efficiencies within Workplace Health & Safety/chemical usage/human resources/livestock management.
10. Identifying and addressing land degradation through managing vegetation, salinity & erosion.
11. Implementing strategies to increase grass cover of selected species.
12. Trialling various grazing systems - i.e. from continuous to rotation.
13. A detailed property plans for individual land holders and across the region.
14. Development of an *eco-label* and subsequent marketing and promotional opportunities.
15. Implementation of TIMS for possible ISO 14000 certification.

This whole process of resource management is designed to encompass much more than just the sheep and wool industry it was originally intended for. It can include all the diverse entities now farmed in our region, and can also be used as a template across many other industries.

Traprock, as a group, has not waited to be legislated into a corner, but rather been proactive, and stepped up to the challenge, and with some professional help, has developed these strategies.

The road ahead will see us continually striving for improvements within our systems by constant reviews and planning processes.

We certainly hope it becomes a benchmark in management strategies.

See over for contacts:

---

Additonal information:

**Traprock Wool Association**: enquiries to Rick Goodrich [President] 07 4624292
Marg Smith [Secretary] 07 46857151


**Uni of Southern QLD**: Prof. Charlie Zammit email: [zammit@usq.edu.au](mailto:zammit@usq.edu.au)
The Future of Wool: Dream or Reality?
Trevor Flugge
Chairman, Australian Wool Services

Someone once said that to make your dreams come true the first thing you have to do is wake up. It is common sense but it serves as a useful reminder to us that following our dreams often requires a wake up call.

The dream I have is of an industry that is demand driven; an industry that can support investment in capital and labour; and an industry that can provide a growth path of profitability and personal satisfaction for those involved.

As an industry it may bear little resemblance to that of today or even that of past. But it will be an industry that has a technological base and a focused targeted program of marketing. It will be an industry that is environmentally sustainable and that continues to produce an environmentally friendly product. Importantly in this industry all participants in the value chain from the farm to the consumer will all have the same objective – a seemingly simple and common sense objective of delivering what the consumer wants.

In speaking to the topic of this address there is a real temptation to place too much emphasis on the dream and not enough on the reality. The dream can become reality but reality is harsh and it is a tough market out there. From an industry perspective prices are never at high enough levels for growers; for others in the pipeline long lead times and poor risk management tools creates uncertainty in making forward commitments; while for garment manufacturers the fact that wool remains above three and four times the price of synthetic fibres and cotton is a major disadvantage.
Each of these members of our industry has their own view of the world and where they fit. If we are to get within reach of the dream for this industry then we need each and every person in our pipeline to know and believe that they are part of a global textile market. To put it in perspective the apparel market alone is worth anywhere up to US$900 billion per year – and wool currently holds about 8-10% of this market.

It is a big target and the reality is that we are a small player in a big market. That said we are a highly specialised and highly valued player in the marketplace. Our significant competitive advantage is that we produce some 90% of the fine wool so demanded by customers in the lightweight apparel market.

The fact that it earns the Australian economy between AUS$2.5-$3.5 billion in exports is great, but in reality it only highlights the need for a strong focus. Specialised, small industries only survive on their ability to meet the needs of the market and we lose sight of this at our own cost!

So before we have a look at the future of wool it is important to have a quick look at where we have come from over the last few years. There is no doubt that the last few years have seen volatility and uncertainty in the market. In 2002 we saw wool prices rise rapidly and then fall back just as quickly in 2003. Growers were hit with the fickle nature of our weather, facing one of the most severe droughts on record – which in turn took a toll on our production and demand.

In mid 2004 we predicted that some stability was starting to return to the supply and demand for Australian wool. From the low point in 2003-2004 we believe there was the potential for a modest recovery in production on the horizon for 2004-2005. We could see demand for raw wool picking up on the back of accelerating global economic growth, more competitive prices for wool and signs of a fashion resurgence for wool type products at retail.
Unfortunately we could also see that while the balance between supply and demand would be more stable, the price volatility seen during the 1990’s would continue.

**Looking at 2004**

So taking a step back from our forecasts what did happen during 2004? Well an editorial in the international journal “Wool Record” highlights the fickle nature of the industry.

“A year of weak prices despite strong retail conditions”

In a year that saw the prices for other resources rise – including cotton for a period - 2004 was disappointing for wool to say the least. As a result wool is facing a number of challenges throughout the supply, production and retail pipeline.

Strong demand for apparel wool at retail, backed by generally favourable economic conditions would normally point to a good outcome for industry. The fact is however that we faced weak auction prices, particularly at the fine end of the clip. Auction prices in fact were so weak that the Eastern Market Indicator slumped to a three year low at the end of November as our dollar strengthened against the US.

On the supply side of the equation, these prices have forced producers to look ever more closely at their options and their return on investment.

For many, sheepmeat production is looking increasingly attractive and this is reflected in reports that significant numbers are moving away from wool producing sheep and into meat producing sheep breeds. And who can blame them. Like any business there needs to be a suitable return to maintain supply and in turn maintain an effective presence in the marketplace.
The recent price drop in fine wool has been particularly disappointing, given that producers had responded to demand with sharply increased production over the past ten years. In the area of medium merino wool a drop in production saw prices in better shape than for fine wools but they too were not immune to a price drop in 2004.

And while price levels have the ability to encourage production it is stability that is needed to consistently take wool through the rest of the pipeline. Throughout the industry the impact of the 20% surge in prices that we saw at the end of 2002 and into early 2003 is still making itself felt. Combers and spinners have still not recovered from this price squeeze and, combined with an overcapacity in early stage processing, they are struggling to make acceptable margins.

The extent of the pressure facing the wool textile industry in these difficult conditions cannot be underestimated.

**Fighting for market share**

While 2004 saw generally strong demand for wool at retail there remain some key areas in which wool must fight hard for market share – most notably in women’s wear and knitwear.

In women’s wear the unique performance qualities of wool – drape breathability, comfort, durability - are discounted against the emphasis on price, fashion, handle and fabric fluidity. Wool has lost market share to blended fabrics of up to three or even more fibres that can better meet the performance and price combinations required.
Knitwear is an area of both growth and competitive pressure. Global consumption of filament and spun yarns for knitted textiles is forecast to grow by almost 25% in the first ten years of this century. While at face value this sounds like great news for wool, the fact is that wool is losing ground to cotton and man made yarns.

In the key markets of US, Japan and Italy wool has lost out to both cotton and synthetics. In Japan where prices for wool knitwear have fallen, cotton knitwear prices remain cheaper and have in fact fallen in price more than wool. In the US wool knitwear prices have risen while cotton has dropped, placing cotton knitwear at less than half the price of wool knitwear.

Let no-one tell you any differently – it is a competitive marketplace that turns on any number of factors within each market segment. Wool is in there fighting but the competition is intense. At a time when high oil prices allow us to close the competitive gap between wool and synthetic fibres – still at three times the price - we turn around and then face the threat of falling cotton prices expanding the relative price gap between wool and cotton to over five times the price.

**The Dream**

So given this background to the market conditions let me now focus on where we see the future for wool and the ways in which the industry needs to operate to give itself a real future.
What do consumers want?

Determining what consumers want is a little like taking a group of hungry children to an ice cream shop on a hot day. They know they are hot and they know they want an ice cream but after that the solutions are as varied as the flavours on offer. The fact is that there is no single magical model of consumer behaviour.

The behaviour of consumers is increasing difficult to define as people seek to be different things at different times. As global wealth rises, consumers place more emphasis on value moving spending away from areas such as clothing and shoes and into areas such as entertainment and leisure.

A rapidly ageing population, particularly in developed countries will also have a major impact on how we do business, with seniors placing comfort above fashion. And just as understanding the mindset of these new “seniors” is important we need to understand that other consumers are striving to balance work and relaxation – and are willing to pay for convenience, performance and practicality in order to save time – and reduce stress.

So where does this all leave wool?

Today’s consumers, particularly the younger adult, are favoring cheaper, disposable fashion. It is a trend that favors man made fibres and cotton over wool and we need to look at ways of placing wool in this frame with consumers.

Consumers want excitement in fashion and the next decade could also see the return of more individual style, design and structure in smarter and more relaxed clothing.
For baby boomers they want modern and versatile smart casual apparel and they want high performance active wear clothing that travels well and performs in terms of comfort, insulation, weather protection and appearance.

Busy modern consumers will want products that are easy care, that are machine washable and dryable, non-iron, crease resistant, pilling free and wrinkle free.

Consumers – even those who appreciate natural fibres and trust the wool “brand” - will continue to demand convenience and performance and if we do not deliver – and at an appropriate price - then our competitors will.

**Consumer perceptions**

If we look at how consumers perceive wool in comparison to other fibres it is clear that we have failed to get out and strongly sell its key attributes.

Ask consumers what they think of wool and they will tell you. Unfortunately they talk about the issues that have plagued wool for a long period including: that it is prickly, that their jumpers pill easily and shrink; that garments are hard to wash and difficult to iron; that wool is not easy care, it is too heavy, too traditional, too expensive.

Go to any woolgrower meeting around Australia and you will hear it is a great natural fibre with traditional quality, elegance and class.

Ask the technicians and they will tell you yet another story. They will tell you that perceived negatives – such as weight, durability and breathability have been addressed.
The fact is that wool has not sold itself well. It has not made clear to consumers the compelling benefits of wool. It has not appealed to consumers at a rational or emotional level.

Wools ranking with consumers is heading down at the same rate cotton is heading up. Wool is losing the fight for the hearts and minds of consumers and it is an issue that must be addressed.

**Strategies to meet consumer needs**

If we are to succeed then we need to communicate and market effectively the positive attributes of wool. We must build wool’s image of quality, of comfort, of value for money in the minds of our consumers. The message that wool is able to meet their contemporary liftestyles must be made as strongly as possible.

Like any good battle we must engage in a profitable attack and defence strategy aimed at clawing back ground in areas were we are losing market share to other fibres and increasing market share in areas where wool is strong.

Women’s wear and knitwear must be key targets. In the area of women’s wear we need to work hard to address the emphasis placed on price, fashion, handle and fabric fluidity to drive up market share. Knitted textiles and apparel is forecast to grow by almost one quarter over this decade. While wool has lost ground to cotton on price, a trend to softer and lighter merino knitwear, the emergence of wool / cashmere blends and niche opportunities for high performance wool and blends must all be exploited to gain ground in this area.
In men’s formal wear wool has a strong presence. We need to protect and grow this market. Wool currently has a 90% share by value of men’s suits in Japan and an 86% share by value in the US. It has a 72% share in men’s jackets in the US and yet while it holds this strong position, wool has lost share in trousers to cotton and other man man fibres.

So where is the potential?

Forecasts suggest that economic and income growth will remain robust in the US and UK over the next five years; continental Western Europe and Japan will improve only a little. If we are to see increased demand for wool in these countries we need to see improved economic growth.

Strong economic and income growth is predicted for developing countries, such as China, Russia and India. China is already a major wool consuming country, while Russia and to a lesser extent India have potential. Populations will continue to grow strongly which can only further lift demand for textiles and apparel, although low per capita income levels will maintain the current high levels of price sensitivity.

If we look at specific markets the number one target is China. It is a large emerging economy with a significant growth opportunity in terms of population and temperate climate. The middle class of almost 100 million households – and increasing – offers itself as a significant market for Australian wool. It is a market that is becoming more sophisticated and embracing western style casual fashion – something that unfortunately places wool in direct competition with cotton.

What wool needs are specific strategies for particular countries and market segments. It is a complex marketplace and wool needs to respond with strategies that take into account not only consumer trends but also real drivers of demand in key markets throughout the world.
Realising the Dream

Outlining potential is the easy part of the equation. Explaining how we turn potential into reality is the difficulty.

The one given in the equation is that we need improved communication; we need improved marketing of the many and varied positive aspects of wool; and we need to strongly tell the positive stories of wool at every opportunity.

In a perfect world what we would have is a unified industry that was focused on meeting consumer needs. An industry that carefully looked at its inputs; an industry that understood the importance of the relationships between each sector; and an industry that was able to move quickly to bring product to the market that met these needs.

The reality is that this industry is far from perfect and while our perfect world is not likely to arrive any time soon, there are some clear steps that must be taken – and taken quickly and decisively - to improve the situation.

Incremental change simply will not cut the grade. If we want a robust, invigorated industry with a clear vision of where we are going then some tough decisions need to be made – and made yesterday. Anyone can put forward some dreams, but unless we take on the challenge of change that is all that will be left of a great industry – dreams!

So let me give my thoughts on where to start.

In my mind there is a real need for further rationalization and vertical integration along the wool textile chain. What does this mean? In a practical sense this may mean supply chain linkages from the farm gate. Global sourcing is an increasing trend there is little doubt, and as trade barriers are further reduced it will only increase.
Vertical integration will be driven by companies who understand their very future lies with be able to better meet the demands of consumers. Our industry is a bit like the Royal Yacht the Queen Mary 2 - it is big on tradition, it has plenty of quality but it is bloody hard to turn around. And when consumers and retailers are crying out for a change of direction what we need are companies who can deliver and delivery quickly.

Rationalisation is also required in the wool textile industry. We currently have a situation where we have excess machinery – notably at combing. It is a radical suggestion but for the longer term good the scrapping of older machinery would at least force open the door a little to innovation. The fact is that innovative technologies used by other fibres have not been adopted by many wool companies. The fragmentation of our supply chain and the financial and competitive pressures facing companies has seen technology investment lag behind other fibres.

Sure we can take the approach that we need to become a cheaper fibre to process. We can also address the issues of fibre processing efficiency and quality and overcome the relative disadvantages of processing wool against other fibres and synthetics. The difficulty still remains the uptake of this new technology. It is counterproductive when we have textile manufacturers seeking new technologies to reduce costs and meet a diversity of consumer demand, when at the same time we have suppliers lagging behind.

For that reason investment by our industry in the development of new technology must be evaluated on its ability to not only create value and benefit for wool products but also on its ability to be implemented by processors.

The efficiencies that are required throughout the chain could well see people departing the industry.
Producers have always shown themselves to be resilient but production pressures have shown that many are now considering their options and moving into other business operations. Those that do remain will need to continue to lift productivity.

Off farm the commercialisation of outcomes from research and development will also play a key role.

I have talked earlier about different strategies for different markets. The same approach applies to innovation and market development. We need to address the features of each market and strike an appropriate balance between investing in those areas with growth potential and investing to defend our current position.

This attack and defence approach must be undertaken with vigor and purpose on behalf of the whole industry. Why? Because quite simply the fragmentation of our wool textile chain means that no company has the resources or the potential to capture all the benefits from these activities.

In the early days of the previous industry structures the argument centered on combined industry investment in those areas in which there was “market failure”. The market failure has not disappeared. If anything it has become more pressing as we fight to maintain a position in an ever changing global marketplace.

Responding positively to the global demand opportunities and challenges for wool requires a renewed vision, mentality, energy and confidence on the part of all participants in the diverse wool supply chain. The traditional sector differences and old agendas have to be replaced by more cohesion and partnership.
As an industry we need to move away from a narrow focus of looking at how to deliver a better raw product ever more efficiently. We need to develop a strong demand side focus rather than a supply side focus. Our key question must be – What is demand for our product telling us and how can we best respond?

The need for communicating to consumers, for accelerated product innovation, targeted product marketing, and retail support and promotion has never been higher. We all must face the reality that without successful innovation and promotion, wool risks being trapped in a set of small, mature or declining market niches.

We also have to recognise that successful innovation in textiles is not just about technical developments. The most successful man-made fibre companies, such as Toray and Invista (formerly Dupont), have backed their technical development with high levels of technical support to textile manufacturers and well funded branding and marketing to communicate their specific fibre benefits to textile users, retailers and their customers.

**Promotion and Marketing**

All bodies within the wool industry must face the challenge of finding better ways to do business.

The current discussion among woolgrowers and industry about the need for additional expenditure on promotion and marketing of wool is a healthy debate to have. Industry must however be prepared to live by the decisions it takes, or fails to take as the case may be.

To be competitive companies need tightly focused marketing and promotion activities to help drive business. Wool is no different. All the new product
development in the world will be of limited value unless it is promoted and marketed effectively.

**Conclusion**

They say silence is golden but in the case of wool our overwhelming need is to loudly convey the benefits and win consumers back to wool. If we remain silent; if we do not grasp the opportunity to communicate our message; if we do not market our product confidently to consumers, then we will fail. And at a time when it is crucial that we move ahead.

The future from where I sit lies with targeted and highly commercial marketing, QA and product innovation programmes. It lies with the re-invention of the appeal of wool products to meet modern consumer demands and value expectations.

In the current tough environment, wool has limited marketing funds to support and accelerate their market penetration. As a result, progress is often slower than we would like and heavily dependent on commercial partner contributions.

A future for wool driven by innovation will not achieve its full potential without a dramatic increase in marketing and promotional activity. Despite all of our work and there will be no success without sales and no sales without marketing.

The time is therefore right for the wool sector and its leading participants and service organisations to come together to believe in its future and develop a new marketing led vision, strategy and well funded promotional programs to increase and sustain final demand.
From where I sit dreams are dangerous things, because everyone has one and yet not many have the resources, skills or expertise to make it a reality. What we need is a common dream and a common commitment.

We cannot afford to waste resources by duplication of effort.

We cannot afford to waste skills and expertise that have taken years to acquire.

We cannot afford to reward inefficiencies in our production and supply chain.

Quite simply we cannot afford to waste time.

When one door closes another door opens; but we so often look so long and so regretfully upon the closed door, that we do not see the ones which open for us. ~Alexander Graham Bell