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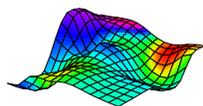
Australian Wool Innovation

Benefit Cost Analysis of AWI's Merino Touch™ Investment

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BACKGROUND

BDA Group was commissioned by AWI to complete a benefit cost analysis (BCA) of their research, development and marketing investment for the Merino Touch™ campaign. This investment was made under AWI's 2010-13 Strategic Plan, Off-Farm R&D Strategy 4 Fibre Quality, Innovation & Textile Development, Program 4 Improved Aesthetics. The investment was also supported with AWI marketing funds. The analysis was completed with the primary purpose of providing a robust assessment of the potential returns to Australian wool growers from that investment.

The analysis reported here also includes a Program Investment Logic which provides a brief summary of the value of the investment to Australian Wool Growers, investment targets and activities and identified funding gaps that will aid in directing future funding in this area (Attachment).

INVESTMENT

Merino Touch™ relates to the production of soft yarns and fabrics that provide a touch of luxury in an affordable knitted garment¹. Production of these garments requires the treatment of wool tops with the AWI developed mercerised merino process. This process involves the removal of the fibre's surface scale and treatment with a silicone polymer. This results in an improved hand feel of around 2-3 microns finer.

The mercerisation process was developed by AWI in the 1980's and has subsequently been taken up by wool processors. The technology was also promoted under a "Soft Lustre" label and was introduced into China in the late 1990's by The Woolmark Company. However, product imitations led to a reduction in garment quality and reduced the viability of producing quality mercerised yarns.

In 2008 AWI invested in the Merino Touch™ campaign, which sought to re-establish the quality perception of garments made from mercerised yarns. The trade campaign was launched in China and was focussed on international markets to which China is a major supplier. AWI investment in the Merino Touch™ campaign will total \$2m over four years (see attachment).

There are two key planks to the Merino Touch™ campaign².

(1) Trade Marketing

- Partnerships with supply chain participants to produce a range of Merino Touch™ products.

¹ AWI Media Release 13th July 2010, Merino Innovations to be Showcased at SpinExpo Shanghai trade show.

² 3 March 2008 Board Paper for approval of campaign.

- Production of Merino Touch™ sales kits that are presented to retail partners during seminars and workshops.
- A range of media events to stimulate trade interest in Merino Touch™ products and awareness of product quality.

(2) Consumer Education

- Partnerships with a number of retailers to promote AWI's product range.
- Production of Merino Touch™ sales kits that are presented to retail partners during seminars and workshops.

BENEFITS

At the commencement of the campaign in 2008 a 5% increase in mercerised wool production by project partners was sought³. This increase in wool production can be attributed to the success of the campaign as it re-positions mercerised wool products as high quality. While there might be some capture of consumption in the cashmere segment the greatest value is likely to be achieved from increased consumer acceptance of quality Merino Touch™ products. Consequently, consumers would be prepared to pay a premium for these products.

1 Estimated Premium

The extent to which increased consumer willingness to pay would translate to increased yarn prices was estimated at 15%⁴. On an average mercerised yarn price of \$30 per kg the value of the premium would be \$3.90 per kg⁵. Offsetting this premium is the added cost of producing the mercerised yarn (process at the top stage). This extra cost, including fibre loss during dyeing, was estimated at \$1 per kg⁶, and therefore the net benefit to yarn makers would be a margin of some \$2.90 per kg.

2 Additional Sales Volumes

AWI staff in the China office consulted with five Chinese top makers to estimate the change in mercerised top production between 2008 and 2011 which could be attributed to the Merino Touch™ campaign. They estimated that annual production had increased from 7,440 tonnes to 9,520 tonnes over this period, an annual increase of 8.6%.

³ This target has been achieved.

⁴ AWI Staff estimate.

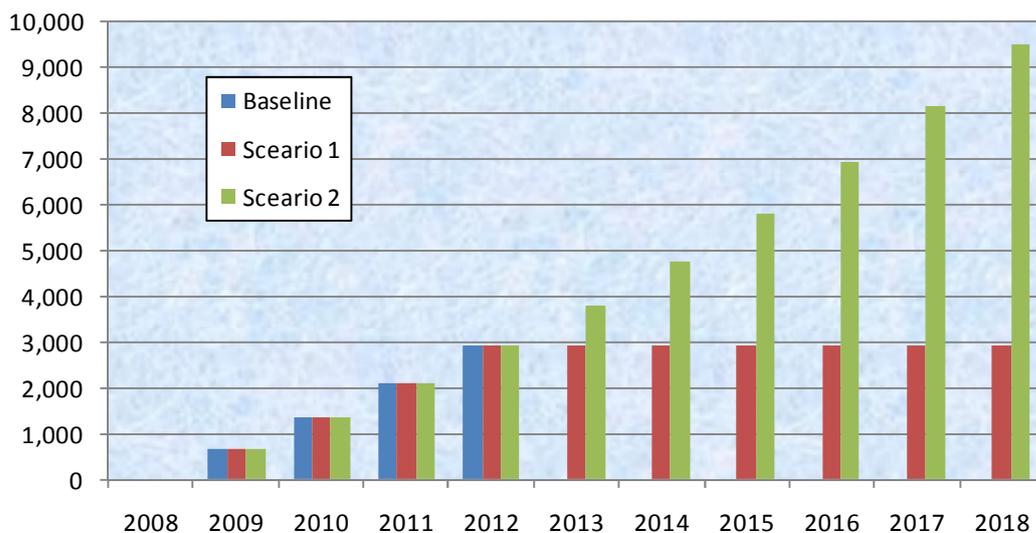
⁵ This price was estimated in consultation with AWI staff involved in purchasing mercerised yarns (of different microns) to support trade marketing activities. For example AWI purchased 540 kgs of 17.5um mercerised yarn on 100 June 2011 at US\$47.76 per kg. The premium estimate was also deemed reasonable when compared to average micron differentials of 2-3 microns for 20 micron wools – average differential was 268 cents kg clean over the past three seasons.

⁶ This cost was sourced from background information submitted in project proposals to AWI in 2008.

For the purpose of this evaluation an increase of 2,080 tonnes of mercerised wool top was used as a baseline increase that could be attributed to the AWI investment. It was, however, recognised that the investment in 2011/12 would be expected to strengthen demand further, and therefore it was assumed that a similar annual rate of growth could be achieved in 2012 (an increase in 2012 to 10,335 tonnes). The baseline increase represents the minimum volume increase that can be attributed to the AWI investment.

Two other scenarios were considered. These are shown in Figure 1. For the first scenario it was assumed that there would be no further growth past 2012 and that volumes would remain at the 2012 level. For the second scenario it was assumed that the success of the AWI investment would promote continued growth in the industry, at the same annual rate that has been achieved to date. For both scenarios volumes were only considered to 2018, as it was assumed that without AWI investment other parties would have slowly developed and marketed innovative mercerised wool products to consumers⁷.

FIGURE 1: ESTIMATED INCREASES IN MERCERISED WOOL PRODUCTION ATTRIBUTABLE TO AWI INVESTMENT: TONNES



Over the ten year period considered the total value of the premium generated for mercerised yarn producers was estimated at:

- Baseline = extra 6.9 m kgs valued at \$20m.
- Scenario 1 = extra 24.3 m kgs valued at \$71m.
- Scenario 2 = extra 45.8 m kgs valued at \$133m.

⁷ This is the assumed counterfactual. An assumed lag is reasonable given the AWI investment prior to 2008 with European spinners and the familiarity of the industry with mercerised wool products.

3 Australian Wool Grower Capture

Increased profitability in yarn production will, to some extent, flow back to Australian wool growers in the form of higher prices (all else being equal) for greasy wool. This occurs as a result of yarn producers responding to increased profit opportunities from the innovative mercerised wool products by increasing their production and hence demand for wool tops and ultimately raw wool. The level of capture has been estimated using various economic models, with the main driver of capture being cost shares⁸. For worsted yarn production the following parameters (Table 1) were assumed from which a capture share of 25% was derived.

TABLE 1: ESTIMATED AUSTRALIAN WOOL CAPTURE SHARE

Item	Volume	Value
	%	\$ /kg
Australian Wool	71%	9
Other Wool	29%	9
other Inputs	100%	5
Total Top		14
Wool top	64%	14
Non-wool top	36%	5
Yarn Making inputs		15
Total Yarn		26 ^a
Australian Wool Grower Capture Share		25%

(a) Calculated as 64% * \$14 kg plus 35% * \$5 per kg plus \$15 per kg.

Over the ten year period considered the total value of benefits captured by Australian wool growers was estimated at:

- Baseline = extra 6.9 m kgs valued at \$5m.
- Scenario 1 = extra 24.3 m kgs valued at \$17m.
- Scenario 2 = extra 45.8 m kgs valued at \$33m.

PAYOFF

In this section the estimated pay off on the AWI investment is reported. Measures are reported in Table 2. It was estimated that, under the baseline assumptions, the AWI investment will generate a net return

⁸ BDA Group has prepared a separate report detailing the extent to which Australian wool growers capture a share of profit increases generated in wool processing. Prices were modified in this evaluation to reflect the use of, on average, finer wools (20um).

to Australian wool growers of just over \$11m in present value terms⁹. This represents a return of \$7.00 on every dollar invested by AWI in the Merino Touch™ campaign between 2008 and 2012. If the success of the campaign can sustain interest in mercerised products beyond 2012 then substantially higher benefits will flow back to Australian wool growers. If the increased level of production can be maintained the net pay off to Australian wool growers would increase to \$38m (in present value terms), and if further growth is achieved then the payoff would increase to nearly \$70m (in present value terms).

TABLE 2: INVESTMENT PERFORMANCE MEASURES

Performance Measure	Baseline	Scenario 1	Scenario 2
Present value of Benefits (\$m)	\$13.1	\$39.5	\$70.7
Present value of Costs(\$m)	\$1.9	\$1.9	\$1.9
Net Present Value (\$m)	\$11.2	\$37.6	\$68.8
Benefit Cost Ratio	7.0	21.2	38.0

CONCLUSION

It was estimated that the AWI investment in Merino Touch™ campaign will deliver a positive return to Australia wool growers. The value of the AWI investment was deemed to be in increasing the use of the mercerised process at top making, and thereby increasing consumers' willingness to pay for the additional quality of produced garments. A minimum pay off of \$7 on every dollar invested was estimated, with greater returns being generated if the market for mercerised wool products is maintained into the future and expanded even further.

⁹ Benefits were adjusted to reflect the level of capture of profit gains by Australian wool growers – estimated at 75%. A discount rate of 5% was used.

ATTACHMENT AWI PROGRAM INVESTMENT LOGIC

Off-Farm Strategy	Strategy 4 – Fibre Quality, Innovation & Textile Development				
Program	Program 4 – Improved Aesthetics				
Value to AWI <i>Why is AWI investing in this area? In what way will value be captured by Australian woolgrowers (metric)?</i>	Potential increase in demand for wool as mercerised wool products replace competitive fibres in blended products such as cashmere. Larger value likely to be obtained from increased yarn quality and hence premium paid to yarn manufacturers.				
Target market(s)	Prior to the current strategic plan the emphasis was on demonstrating the benefits of mercerised wool products at the retail level. (2005-2009). From 2009 the emphasis shifted to working with yarn manufacturers to include mercerised wool yarns in their product range. Manufacturers are mainly Asia based.				
Measure <i>What could be measured to demonstrate that the value has been achieved?</i>	Measure based on increased mercerised yarn production (above that produced already – such as underwear yarns) and increased premium obtained by yarn manufacturer.				
Target(s) <i>For the measure selected what is the target change sought under the strategic plan?</i>	5% annual increase in volume of yarns from 2008 to 2011. 10% premium on yarn value – given processing cost increase around 6%. (Note: targets have been achieved.)				
Investment Activities <i>What activities have been undertaken with AWI funds to achieve the target?</i>	Mercerised processing systems were already available to the industry. Investments involved trade marketing and consumer education and included: <ol style="list-style-type: none"> 1. the design and production of swing tickets / labels 2. inclusion of products in catalogues 3. support of mercerised merino at retail shows. 4. Manufacture of mercerised yarns for distribution to spinners to trial and develop new yarns. 5. working with different spinners to supply manuals and other expertise to yarn manufactures interested in producing mercerised wool products. 6. R&D into processes for mercerising fabric (this will be on-going). 				
Investments	2008/09	2009/10	2010/11	2011/12	Total
AWI External costs	\$0.3m	\$0.3m	\$0.1m	\$0.3m	\$1.0m
AWI Internal costs	\$0.3m	\$0.3m	\$0.1m	\$0.3m	\$1.0m
Total AWI	\$0.6m	\$0.6m	\$0.2m	\$0.6m	\$2.0m
Co-funding by others					
Total All Parties					
Gaps <i>What gaps currently exist in which AWI investment might be required in the future to ensure target is met?</i>	Lack of trained staff to transfer technologies. Financial climate reducing the level of risk being taken by manufacturers (process adds cost to yarn) Information on extent of mercerised wool production. Information on the extent that mercerised wool substitutes for other wool versus new demand from increasing content in wool cashmere blends.				