



Strategic Manufacturing Planning

Basic Assessment

Viability Study

for

Angora Rabbit Fur

In

Australia

This document has been structured as an example only.

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1. *Executive Summary*

Australia's well established reputation for the production of natural fibres, from both plant and animal sources has been a major foundation for the Australian economy. The Angora rabbit industry currently not present in Australia has been considered a potentially new industry, despite Australia's recent attempts to revive the industry failing.

2. Introduction

2.1. What the Industry is about/does?

Angora Fibre production is the third largest animal fibre industry globally, the largest fibre production being Sheep fine wool followed by Goat Mohair. Australia's role in fibre production has been significant in the international and national trade. Currently absent from the Angora fibre trade, Australia's skill in fibre production and management makes the Angora industry a possible alternative to the wool, mohair, cashmere and alpaca industries that currently operate.

2.2. How it developed historically?

Angora rabbit has been used in textiles for at least the past two thousand years. The use of Angora fibre in garments was first dated in 1870 with its main producers being the French up until the 1950's where China became dominant. Eight times warmer than sheep's wool, only a little Angora is required to give garments full warmth and fluffiness that Angora is best recognised for.

2.3. What problems it is experiencing?

In the 1930's there was a small Angora industry in Australia, due to sudden increases in synthetic fibres, the depression, and pressure from farmer groups saw Australia's only Angora industry no longer present. It wasn't until the 1980's that Australia's Angora industry could have revived, however with Australia's economic position, business did not seem viable and so the industry, until now has been deemed unsuccessful and unprofitable, while the industry continued to develop globally in Asia and South America.

2.4. How we approached the issues in the case study?

The case study presented by CSIRO Livestock Industries has been analysed and identified the 'Gaps', following the ESC model, first, we discuss the environment of Angora industry and its implementation for Australia. Second, we discuss the business-level strategy for the Angora industry including a SWOT analysis. Last, we present our recommendations and further suggestion to the industry and its viability for Australia.

3. Strategic Analysis (ESC Model)

3.1. Environmental

Angora is a labour intensive industry and currently has only a small number of producers globally, China owning 90% of the market are involved commercially. The average wool yield of English angora is 200 - 400 grams per year, whereas for German angora it is in the region of approximately 1 kg/year. Thus, the genetic origin of stock bought in is of critical importance to the commercial producer. White angoras have been favored in selection because of the associated ease of dyeing. However, some move towards naturally colored fiber is evident in angora as in other fiber markets. The normal practice for harvesting the wool in the West is shearing, which takes place four times a year, providing a fiber of 5 - 6 cm in length.

3.1.1. Why the industry failed in the 1980's?

There were international recessions in the early 1970s, 1980s and 1990s. We have also just been through one in the early 2000s, although economists are still debating whether it was deep enough to be added to the list of its three predecessors. In the 1970s, 80s and 90s, Australia also experienced recessions roughly in co-incident with international ones. On each occasion our unemployment rate rose sharply, to 6.5 per cent in the 1970s, to 10.3 per cent in the 1980s and to 10.8 per cent in the 1990s. Thus it may be evident that the Angora industry was only trialed as a means of creating new employment and income. The industries poor timing during a recessive global economy may never have been financially viable.

3.1.2. Who are the world leaders in fibre blending?

Paradise Fibers

3.2. Strategic (SWOT Analysis)

3.2.1. Strengths

Australia has the reputation and the technical know how to create the finest wool anywhere in the world, with Australian Marino wool being one of the most sought after exports this country has to offer to the textile industry. These skills range from technical skills in animal fibre production to the grazing and diet knowledge required to produce high quality wool. This combined with the Chinese angora fibre would produce a viable export that could become a large industry and in time stand side by side with China in the global Angora fibre industry.

As with any economic entity selling price is proportional to demand. This holds true from the diamond industry to the angora industry. A strength that Australia would have over its Chinese competitors is that Australia's main textile export is wool. Due to the nature of this industry where demand is greatly dependant on global fashion trends at least Australia can always export just wool without blending it with Angora. However since China has such a large share in the global Angora market, if demand drops virtually the whole industry is crippled. As a consequence there is a significantly smaller risk of Australia entering the angora industry in any capacity due to their lack of dependence on a flourishing angora industry.

Another factor that has to be taken into consideration is Australia's dollar. The global currency is the US dollar when it comes to global trade. One key advantage Australia has is that the AUD is currently lower in comparison to the US dollar as a result this would give Australia an economic advantage against countries that have a stronger currency in comparison.

3.2.2. Weaknesses

As with any business venture there are risks involved. The general aim in any business is to minimise the risks and maximise the profit. The only reservations held against Australia entering this industry is the fact that there are too many variables that play such a big factor in the outcome of whether this venture is a profitable one or not.

These major factors include the fluctuation in the Australian dollar, the price of Chinese angora fibres and the global demand of the product. Of these variables none can be predicted with any sufficient degree of certainty, as a result this industry can be a risk to the Australian economy. It is also recommended that a close analysis of all expenses and expected profits is undertaken before this option is considered as a viable alternative. You will see by data submitted in section 2.3.1 (Labour cost comparison China vs Australia) that the world leaders in producing Angora have a significant labour cost advantage.

3.2.3. Opportunities

Currently the Chinese Angora industry is on the decline due to a lack of global demand. As already stated with all economic entities, when demand is low so is the price. As a result Australia has the chance to purchase Angora fibre for a lower than normal price and use it to blend with Australian wool. This would allow the Australia to provide a high quality product at a very competitive price.

Not only would this product be very competitive in price, but it would allow Australia to offer the textile industry a very high quality product.

Something that can also be looked at to “kick start” the industry could be government subsidies. This was used in the USA when it was at the pinnacle of the global angora industry, the only problem was that once the subsidies were removed the angora industry crashed and ever since the mid 1980’s the USA has struggled to compete with China in this industry.

3.2.4. Threats

When it comes down to it what is stopping China from doing the exact same thing that is proposed in this brief. Slowly over time the Chinese took over and controlled the angora industry. There is not much stopping them from importing wool from Australia or producing their own and blending the wool there.

This may not be a threat in the immediate future as China does not have the same level of expertise in the wool industry as Australia, however this must be viewed as a long term threat that could destroy the Australian industry if it is not well established in time.

Another big threat is that of demand. Demand in this industry has shown in the past to be unpredictable and as a result the industry could turn from being very viable to a disaster in the space of a few years. As a result this industry should be viewed as an industry that is constantly under review at least until Australia becomes an acknowledged global supplier of Angora-Wool.

3.3. Capability

3.3.1. Physical Requirements

- Temperature maintained between 5°C and 25°C. Good ventilation is critical, especially in breeding areas.
- Individual hutches - 0.33 x 0.33 x 0.25 m³.
- 80 - 100 g/day pellet concentrates (for wool-only animals).
- Replacements every 3 - 4 years.

The following costing information is general and current prices should be sought for budgeting purposes.

3.3.2. Costs comparison Australia vs China

All quoted estimation is given in Australian dollars at time of research. Prices may be subject to change in currency fluctuation and costs.

Description	Australia Cost	China Cost (in AUD)
Buildings	\$105 - \$200/head. 10 sq ft/cage (incl. passage)	\$40 - \$80/head. 10 sq ft/cage (incl. passage)
Hutches	\$50 - \$70/head	\$10 - \$20/head(Bamboo)
Does (1st cross)	\$150/head (import costs)	\$40/head (established)
Bucks	\$100/head (import costs)	\$10/head (established)
Total	\$405-520/head	\$100-150/head

3.3.3. Running Costs

Variable costs per quarter (shearing period); Note: data supplied in the case study referred to meat eating rabbits. In fact, Angora rabbits require additional supplements as the rabbit must produce over 2kg of dry proteins a year in fur. This is equivalent to 7 or 8kg of muscle. On average an Angora rabbit will require 120g per day.

The largest contributing factor comes in the form of labour cost. As published in www.hopkins.k12.mn.us Australia has an average rural wage of approximately \$22.04/hr compared to China average of \$0.47/hr. That is a whopping 46:1 ratio. Based on a labour cost stated in the case study that 1 operator can accommodate 500 rabbits the following costs were calculated. This calculated cost does not even take into account further processing costs for spinning and further more blending.

Description	Australia Cost	China Cost (in AUD)
Feed @ \$430/tonne	\$1.54/head	\$1.54/head (assume same)
Labour	\$21.16/head	\$0.46/head
Vet Medicine	\$0.5/head	\$0.5/head
Bedding	\$1/head	\$0.25/head
Sundry Expenses (lighting etc.)	\$3/head	\$1 /head
Sub Total	\$27.20/head	\$3.75/head

3.3.4. Returns

Although female rabbits normally produce up to 20-30% more fur an average production rate of 800g per year was used to make the following calculations. This can vary depending on age, strain, conditions and environment. According to statistics given in www.margaret-peel.com.au Angora fetches approx. \$133/1000g.

Description	Australia Cost	China Cost (in AUD)
Fibre/3 month period Based on an average of 200g/head	\$26.60	\$26.60
Sub Total	\$26.60/head	\$26.60/head
Total Margin	-\$0.60/head	\$22.85/head

Clearly the cost of labour alone makes Angora fibre production not viable in Australia. One might argue that China must additionally pay for export of the fibre to other countries, however the cost of export per kg is much less than the \$100 per kg margin that China has over Australia and secondly this is only an advantage to Angora fibre sold locally. The same export cost will apply for Australia to send the wool globally. Clearly the low labour costs of China is a major contributor to the low market value of Angora fibre.

3.3.5. Additional returns

Apart from labour alone the Chinese industry has one other unique advantage, that is its booming rabbit meat industry. At the end of a rabbit's 4 year useful life the meat of the rabbit can also be sold for approximately \$4 per kg. Considering a rabbit weighs approximately 4kg this generates an additional value of \$16 per rabbit. It allows for an immediate response to market demand. When demand for fur is high, rabbits are processed for their fur. If demand becomes low, costs may be reduced, by simply processing the rabbits for their meat. China is the world's largest exporter of rabbit meat.

Country	Rabbit meat imports (1988) (tonnes)
Italy	17,500
France	12,200
Japan	5,600
West Germany	4,300
Holland	3,800
United Kingdom	2,500
UAE	1,500
USA	120
Singapore	20
Total	47,540

Australia rabbit consumption is very minimal and would require a significant cultural change before rabbit meat production in Australia would yield considerable quantities to generate profits from.

3.4. *Is there an export market to the USA after blending?*

Unfortunately, even after blending there may be little or even no chance for Australia to export Angora blended fibre to the world market. Current world leaders in blending exist in the USA and deliver various blends of Angora product across the board and internationally. Unless the market demand for blended Angora became so great, thus making world leaders outsource for increased product.

3.4.1. Costs for blending Angora

Blend Type	Blend %	(\$AUD) Price/oz (1-3)	(\$AUD) Price/Lb
Angora top	100%	\$ 7.80	\$ 78
Hand plucked Angora	100%	\$ 10.20	\$ 122
Angora/Marino top	20/80	\$ 6.70	\$ 66
Angora/Lambs wool top	50/50	\$ 6.70	\$ 66
Angora/80s Merino/Bombyx Silk	20/50/30	\$ 8.15	\$ 82

World prices of Angora fluctuate considerably. With the Chinese dominating the supply of Angora fiber, cheap imports from China hold down the price. The German suppliers tend to operate on a large scale at an intensive level and to supply the thermal underwear markets. The price depends on the quality of the fiber. At present the price is around \$133AUD/kg.

4. Recommendations and Viability Statement

After deliberation and consideration conclusions reached were that it is virtually impossible for Australia to compete with the global market when it comes to the Angora Fibre industry. Especially since China has approximately a 90% market share of all global exports and is keeping the market price of Angora down with low labour costs.

China's ability to maintain this oligopoly comes from sub-standard nature in which they maintain and run their rabbit farms in comparison to Australian standards, the prospect of Australia ever being a threat to these global juggernauts seems impractical as well as not being financially viable.

However, one option can be that explored is "value adding". A process where Angora fibres can be imported from China and blended with Australian wool which yields a much higher re-sale value. As stated in the Angora Rabbits case study conducted by the RIRDC (Rural Industries Research and Development Corporation) 100 tonnes of Angora fibre for blending was purchased for AUD\$7 million and once it was blended with wool generated an "add-on" value of AUD\$80-85 million. This statistic shows there is an 1100% increase in resale value for the Angora once it is blended with wool.

Since Australia has such a thriving wool industry it is our recommendation that if Australia were to enter the Angora industry on a global scale the only viable method would be to purchase Angora fibre from China, blend it with Australian wool (which is globally renowned as one of the highest grades) and re-sell the Angora-Wool blend on the global market.

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