Economic overview of the French and world markets for Angora rabbit wool

H. Ossard [1], R-G Thébault [2], J-L Vrillon [2]
D. Allain [3], H. de Rochambeau [3]

[1] INRA-Economie et Sociologie Rurales, Toulouse, BP27 - Castanet-Tolosan France
[2] INRA, Poitou-Charentes, Le Magneraud, BP52 - Surgères France
[3] INRA- SAGA, Toulouse, BP27 - Castanet-Tolosan France

SUMMARY

Since the end of the second world war, the market for angora fibre has experienced three distinct phases. From 1950 to 1976, world production was stable at around 1000 tons a year. Demand was variable, but following a regular cycle, and prices depended on a classic competitive equilibrium between supply and demand. From 1976 to 1988, demand rapidly increased. Production could only increase slowly at first, so prices inflated rapidly and remained at 60% more than the former level. From 1988 onwards, world production, which had by this time increased substantially since 1983, remained stable at 13,000 tons/year, but raw material price falls down from 50 to 17 US$/kg .

The current French situation reflects this history. Traditionally centred in the Pays-de-la-Loire and Poitou-Charentes regions (once 200 to 300,000 angora rabbits, 100 to 200 tons/ year of angora wool), the industry developed during the second period in other French regions (Britanny, Normandy, etc.). Due to its particular quality, the price of French angora is 50% or 60% higher than the world price. The international price fell after 1988, and the substantial difference between the production costs in France (400 FRF/kg) and world price (100 FRF/kg) explain why production of French angora wool collapsed, leading to the disappearance of many farms. The production of quality angora could be maintained in the European Union, especially in France, if certain conditions are satisfied. These are: a significant increase in world prices; an agreement by processers to use French angora to make up-market articles and so to maintain the reputation of angora as a luxurious fibre; or the development of a short, direct distribution channel.

ANGORA: A LUXURIOUS FINE FIBRE

Angora is a keratinous textile material, produced by the long-haired Angora rabbit. This fibre is one of the "luxury fine fibres", which also include mohair, cashmere, and alpaca. These speciality wools only represent 3% of world clean wool production, but their price can be 10 to 30 times more than that of sheep wool. Several factors contribute to this difference, including their toughness, lightnesss, fineness, softness, and also their image and reputation.

Angora is a medullated fibre, which makes it light and soft. It is as fine as the best cashmere, that is, about 14 to 16 µm. Angora is a heterotypic fleece. It contains some coarse hairs, called bristles, at a rate of about 1%. But, unlike other textile fleeces (especially mohair), bristles are considered desirable, as they prevent felting and impart the characteristic fluffiness.

Angora rabbit breeding appeared first at the end of the 17th century in England. It was introduced to France at the beginning of the 18th century and then later to Germany, Belgium, and other countries.

THE EVOLUTION OF THE WORLD MARKET

Angora production is truly an international industry. Angora producing countries tend not to be those with their own processing industries. The latter are not usually significant consumers of finished articles. For example, France is not a large consumer of angora wool, and for a long time, French angora production was developed mainly for the export market. The same situation exists today, for China, Argentina and Chile. Processing industries are based in Japan, Korea, Italy, Germany, and Mauritius. The main retail markets are in North America, Western Europe, and Japan. There are obviously exceptions to this, for example, India, which is a significant producer, but which does not export. It is a producer, processer and consumer country.

From 1950 to the present (Figure 1), there there have been three distinct periods in the evolution of the world angora production and consequently in the angora trade (Rougeot & Thébault 1984, Schlolaut 1985, Tasset & Lemaire 1987). This paper analyses each of these periods to explain the present situation of the French angora industry. During the first period, from 1950 to 1976, world production increased slowly from 900 tons a year to 1200 tons. It may therefore be considered to have been around 1000 tons a year during this period. The second period lasted 12 years, from 1976 to 1988. At the end (1988), angora production was ten times greater than in 1976. During the third period (from

1988), production remained at a high level.

First period (1950-1976)

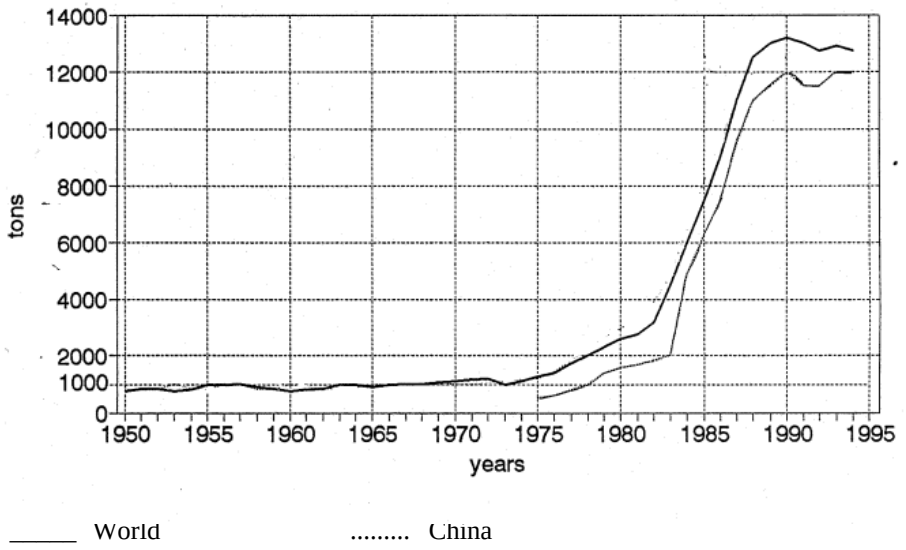

Figure 1 : Raw angora rabbit wool - World and China production

During the first period, production and demand were closely matched. However, the angora market was not steady, but cyclic (Figures 2 and 3). Demand increased each three or four years, though in spite of these price variations, a classic competitive equilibrium may be observed (Figure 4). Supply and demand can be represented by equation (1) and (2). Supply is an increasing function of price:

(1) $$q_s = f(p), \text{ with } dq_s/dp > 0$$

Demand is a decreasing function of price:

(2) $$q_d = g(p), \text{ with } dq_d/dp < 0$$

For each sub-period (t), price is set by the equilibrium between supply and demand:

(3) $$q_{s,t} = q_{d,t}$$

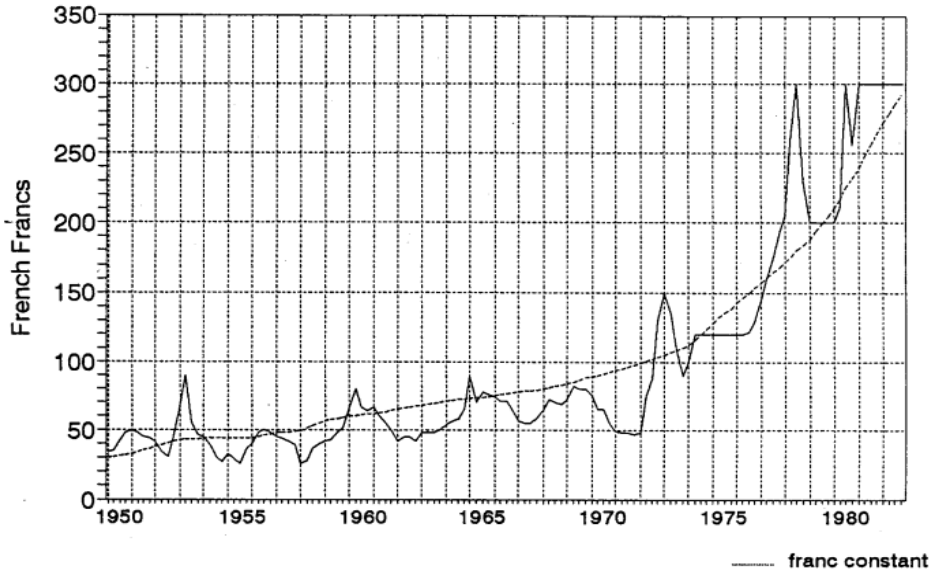

Figure 2 : Raw angora price paid to french farmer

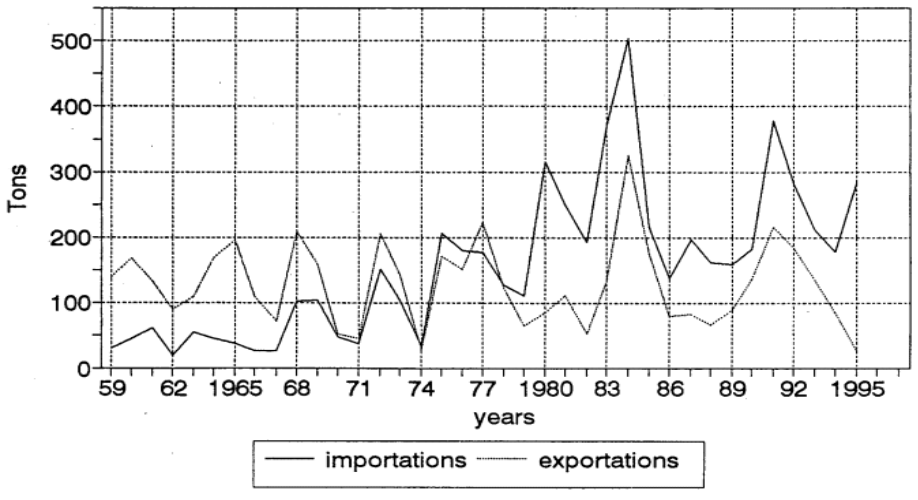

Figure 3 : Raw angora french foreign trade

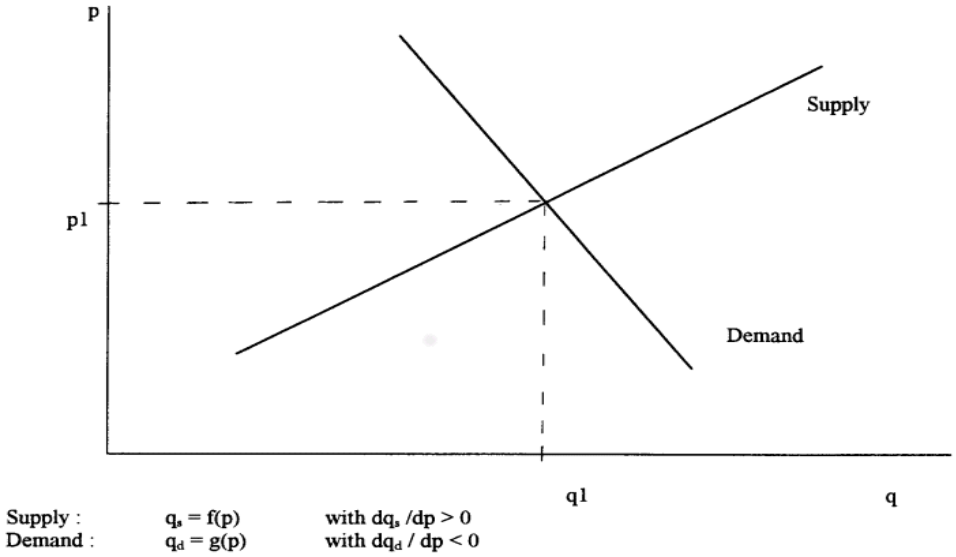

Figure 4. World market for raw Angora rabbit. Equilibrium during the first period

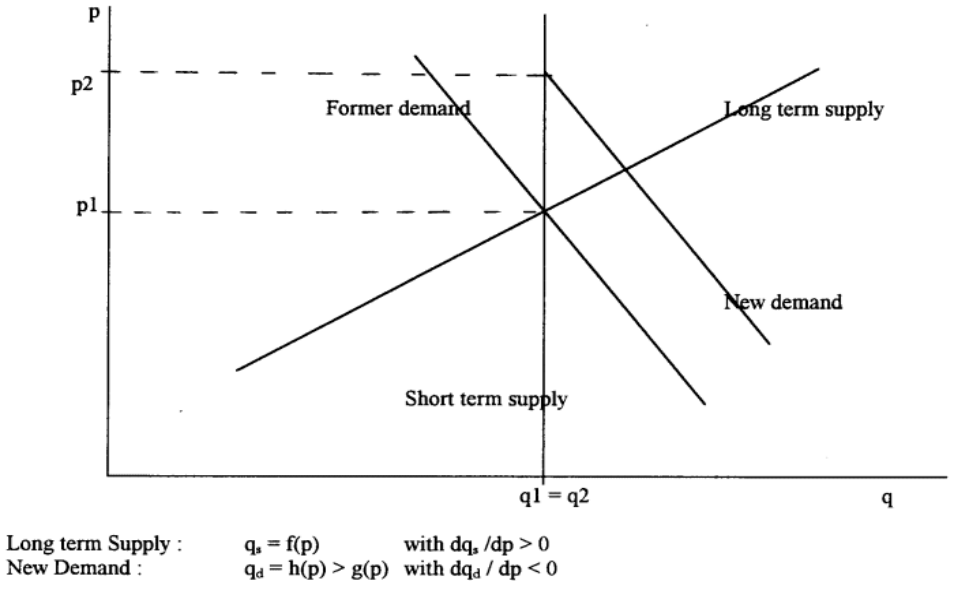

Figure 5: World market for raw Angora rabbit

The quantity of angora traded was almost constant. There was a cyclic equilibrium around (q_1, p_1). Price increased as the demand curve moved to the right and decreased when demand curve moves to the left. When there was no more in storage, there was first a high price followed by a collapse in trade because of a lack of supply. Due to financial constraints for investments and incertainty about future prices, farmers were not able to increase production.

Second period (1976-1988)

During the second period, there was a sharp increase in the demand which now increased to a higher level than earlier (Figure 5):

(4) $$q_d = h(p) > g(p)$$

The new price (p_2) was now higher than earlier (p_1). Supply remained constant (q_2=q_1) in the short term, because supply did not change immediately. Change in supply takes time, as for most agricultural products (Tomek & Robinson, 1990). Second period equilibria is (p_2, q_2), with: $p_2 > p_1$ and q_2=q_1. Though several countries were steadily increasing production of angora, for example China, of course (Figure 1), but also Argentina, Chile (Figure 6), Hungary (Figure 7), and France (Figure 13), production did not increase as far as demand. Supply reached a high level only 8 years after the beginning of high prices.

Third period (1988-1995)

During the third period, demand remained constant, but supply increased, as producers adapted to meet the new demand. New suppliers (Chile, Hungary) entered the market or boosted their production (China, Argentina, France). At first, prices fell once more to their former level (p_1), but, with more and more being supplied and a stable demand, prices fell further (Figure 8).

In Figure 9, the three periods of evolution of raw angora prices from 1960 up to 1995 (Figure 9) may be clearly seen. There was an initial equilibrium during the first period up to 1976. During the second period, price was 60% higher, followed by market collapse in the third period.

ORGANISATION OF THE ANGORA INDUSTRY IN FRANCE

Angora has been a traditional economic activity in France for a long time.

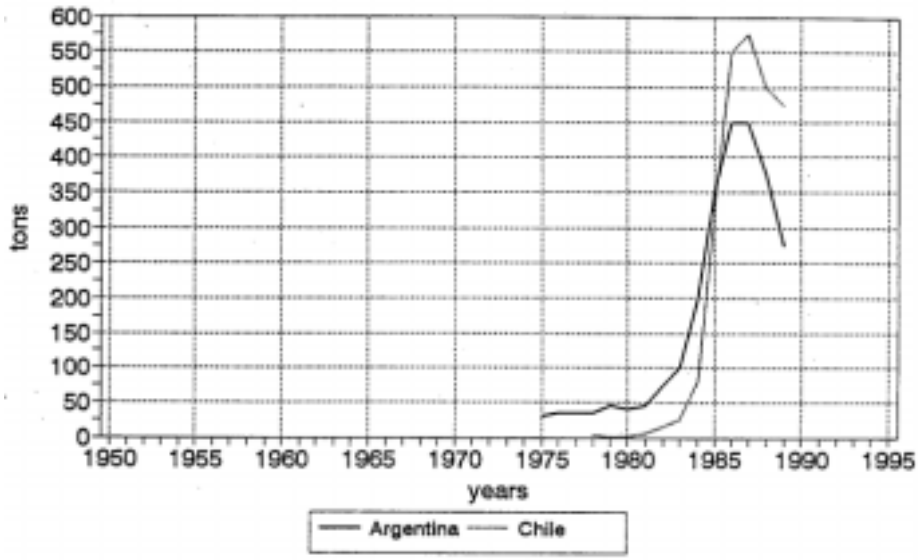

Figure 6 : Angora production in Argentina and Chile

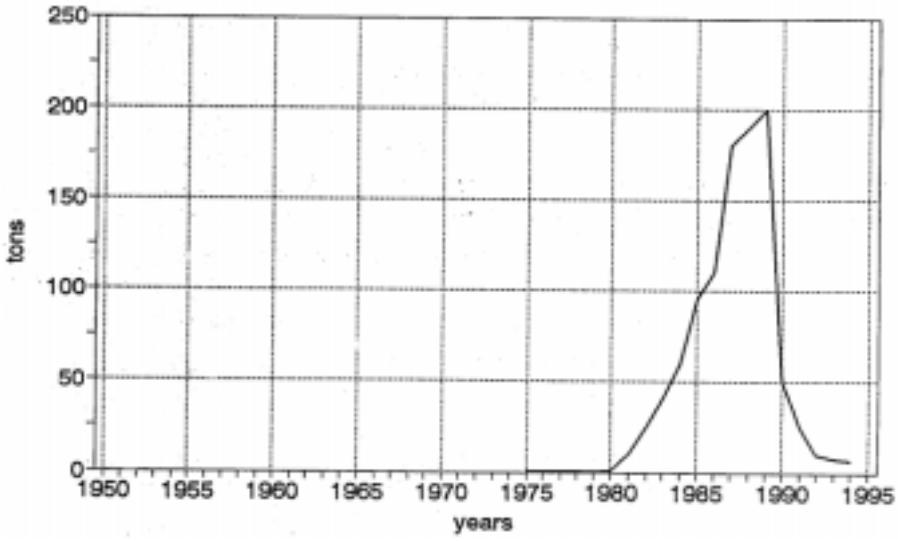

Figure 7 : Angora production in Hungary

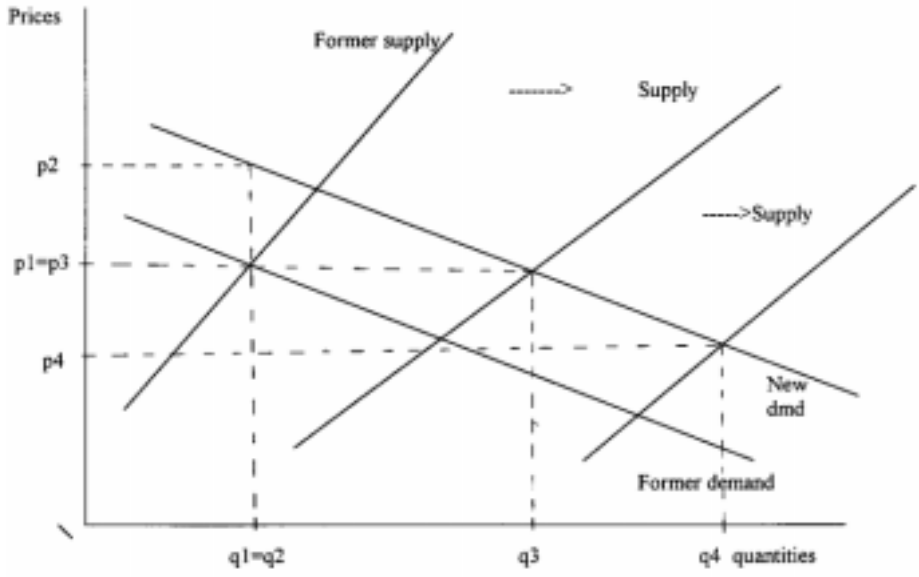

Figure 8: Third Period (1988-1995)

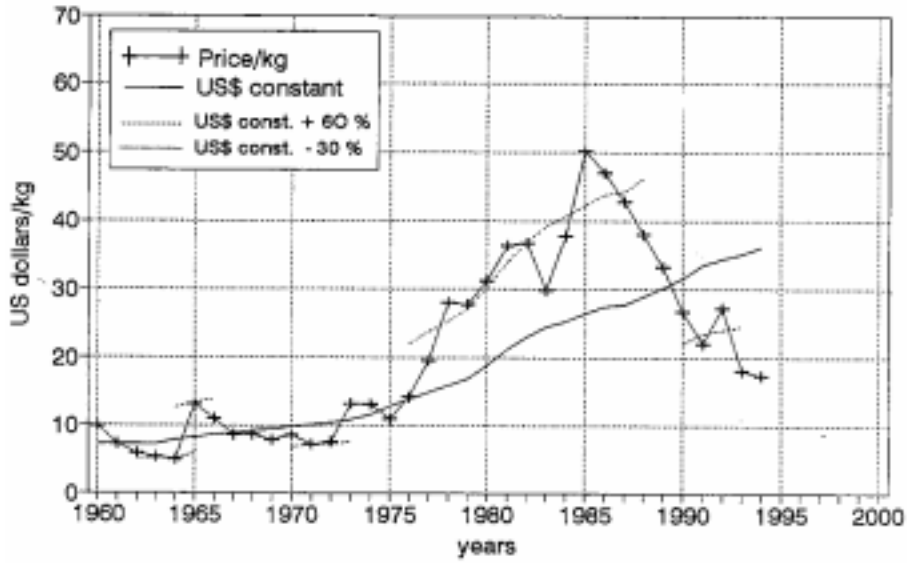

Figure 9 : Raw angora world price (Average price of French imports)

During the 19th century and the first part of 20th, Angora rabbit breeding developed mainly in France. Up until 1965, France was the leading world supplier. Production began in the French alps (Aix les Bains), and afterwards spread to Burgundy and Normandy. At the beginning of the 20th century, Angora rabbit breeding was established in the Loire valley and in the area between the Loire and the Charente rivers. Around 1930, Angers became the main production centre, and Nantes one of the main world markets for angora fibre. From 1955, French farmers, with the assistance of INRA, began a genetic improvement program which developed a specific French quality of angora that was better suited for up-market articles. This raised the French price to 50 or 60% higher than the international price (Figure 10).

Up until 1988, angora production was a profitable enterprise for farmers in France. Usually, French farmers were selling raw angora through brokers or merchants. These intermediaries were selling either to French spinning mills,

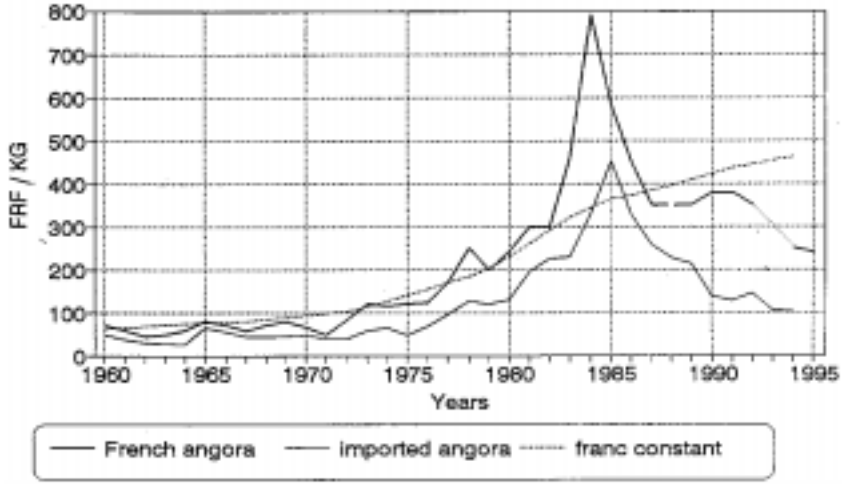

Figure 10: Raw angora - Average prices in France

or were exporting raw angora abroad. French spinning mills were also exporting wool tops or yarn abroad (Figure 11). After the collapse of the world price for raw angora, the 60% difference between the world and French price was not enough to sustain profitability in France, nor in any region of western Europe (Figure 12).

In recent years, there has been no supply of French angora. As the price is below the marginal cost of production. Suppliers have been reluctant to sell, preferring instead to store the fibre. This situation may be represented as a

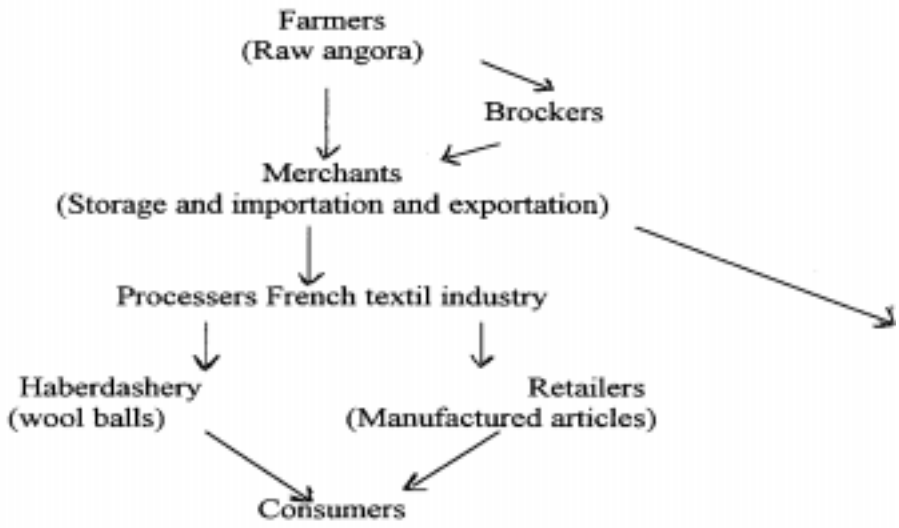

Figure 11: Vertical relationships in the angora market.

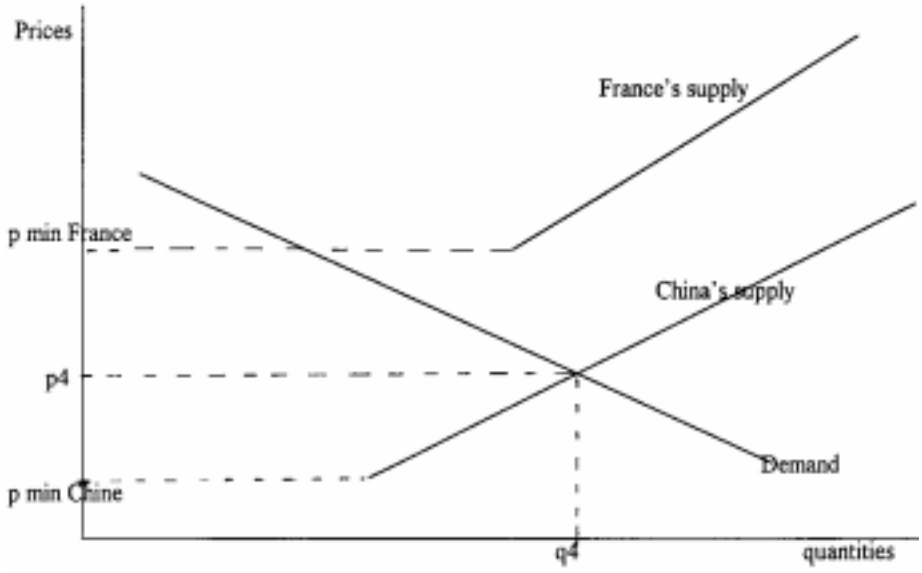

Figure 12: Third period in France

discontinuous supply function. When price is less than a minimum, the French supply curve does not meet the demand curve.

The supply function in China is not the same because the marginal cost is different. The minimum price is, therefore, lower and there is an equilibrium (p_4, q_4), without any supply from France. This situation led to the collapse of

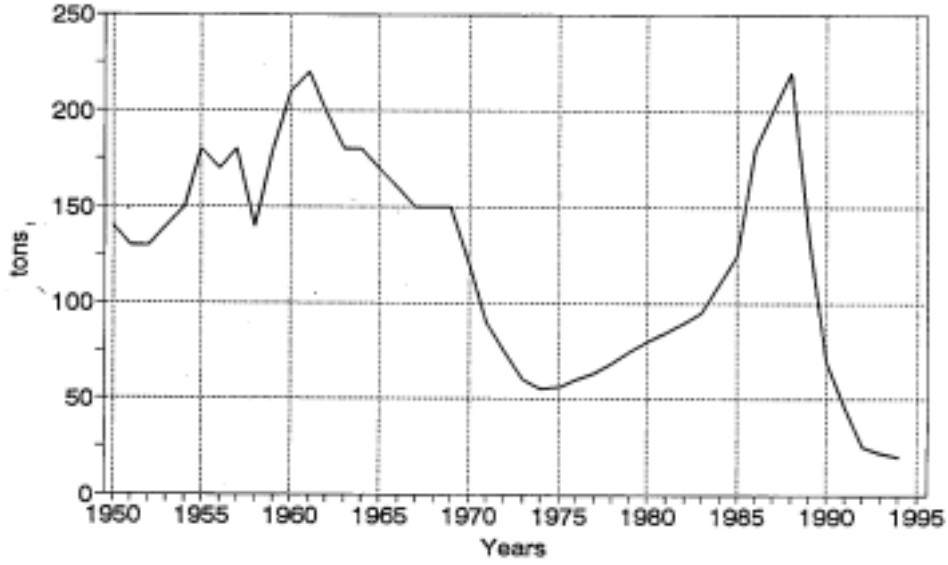

Figure 13: Production of raw angora in France.

French production from 1988 (Figure 13). For many years, French angora production was between 150 and 200 tons/year, with more than 2000 breeders, and 200,000 to 300,000 angora rabbits. The first fall, around 1970, was due to the restructuring of French agriculture, when small farms disappeared, along with traditional production systems on larger farms. This decrease ended after the 1976 increase in the angora wool price. Until 1988, production increased once more to reach around 200 tons a year, though only for a brief period.

The breeders' " last handful " is still surviving. Fibre is currently marketed in a similar way to French mohair. Farmers no longer sell raw angora wool but transform it into processed products: wool balls, pullovers, waistcoasts, cardigans, etc. This enterprise may be profitable, though the market niche is narrow.

CONCLUSION: THE FUTURE OF FRENCH ANGORA INDUSTRY

Until 1988, angora production had a large economical, cultural and social influence on the rural society of western France. The rising importance of Chinese raw angora wool production disturbed the European market, especially in France and the price fell.

However, this activity still has potential, relying on the French genetic strain and the appropriate technology. Production could be maintained in the European Union, especially in France, if three conditions are met:

1) There is a rise in the international price, either due to an increase in demand like at the beginning of the eighties, or a diminution of supply.

2) There are two separate prices for the two different qualities. There needs to be a specific demand for up-market articles. The price of raw French angora should be at least at 400 FRF/kg. The French quality of raw material is essential for the manufacture of these up-market articles. If processing industries use only the second quality raw material during the next few years, the specific consumer demand for top quality angora could disappear.

3) There is a sustainable, short distribution channel. Consumer demand in France is low, so the current marketing channel can only allow production to be maintained on a small scale.

REFERENCES

Lemaire N. & Tasset P. (1987): *Diagnostic d'une filière en mutation: l'angora français en 1987.* Mémoire de fin d'études de l'Ecole Supérieure d'Agriculture d'Angers, pp 149.

Rougeot, J. & Thébault R-G. (1984): *Le lapin angora, sa toison, son élevage.* Le Point Vétérinaire, Ed. Maisons Alfort, France, pp182.

Schlolaut W., (1980): *The angora rabbit.* Deutsche G.T.Z., GmbH Ed., pp 98.

Tomek W. and Robinson K. (1990): « Agricultural product prices », Cornell University Press, Ithaca.

Analyse économique du marché français et mondial du poil du lapin angora

H. Ossard, R-G. Thébault, J-L. Vrillon, D. Allain, H. de Rochambeau

RESUME

Dans cet article nous analysons la situation du marché de l'angora.

Depuis la fin de la seconde guerre mondiale, ce marché a connu trois périodes caractéristiques. De 1970 à 1976, la production mondiale est stable, voisine de 1000 tonne par an. La demande est variable mais selon un cycle régulier et les prix sont le résultat de l'équilibre classique entre l'offre et la demande. De 1976 à 1988, la demande s'accroit rapidement, la production ne réagit que lentement au début et les prix augmentent, se situant en moyenne à 60% au-dessus du niveau de la période précédente. Depuis 1988, la production mondiale, qui a beaucoup augmenté à partir de 1983, se stabilise à un niveau élevé: 13000 tonnes par an. mais le prix de la matière brute chute, passant de 50 à 17 USD/ kg.

L'élevage français suit cette évolution . Solidement installée dans les régions des Pays de Loire et Poitou-Charentes, pendant la première période (200 à 300000 lapins angora; 100 à 200 tonnes d'angora par an), l'activité se développe durant la deuxième période dans d'autres régions (Bretagne, Basse-Normandie,...). La qualité spécifique de l'angora français, particulièrement adapté à la confection de vêtements en laine fleufflée de haut de gamme, permet de la commercialiser 60% au-dessus du cours mondial. L'effondrement de ce dernier à partir de 1988, et la différence importante entre le coût de production (400 FRF/kg) et le cours mondial (100 FRF/kg), fait disparaître la demande de poil angora français et entraine la disparition de la plupart des élevages.

On peut envisager de maintenir la souche française de lapin angora et son système de production si certaines conditions sont satisfaites telles que: une augmentation importante du cours mondial; une prise de conscience, par les industriels, de la nécessité d'utiliser de l'angora français pour fabriquer certains produits de haut de gamme et maintenir ainsi la réputation de l'angora en tant que fibre noble; ou enfin, le développement des éleveurs commercialisant directement des produits finis.