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## **Animal industries of the 21st century : a meat industry viewpoint**

G. THOMPSON

Fortex Group Ltd, Christchurch

### **INTRODUCTION**

The New Zealand economy has for well over 100 years depended upon the productive capacity of the farming sector to produce the vast bulk of the country's wealth. The Meat Industry remains New Zealand's largest export industry, still individually contributing about 23% of our total merchandise exports.

The meat industry today is dominated by only six major owners of lamb at the point of export with a similar number involved with beef. The financial strains placed upon all companies in recent years have resulted in a number of notable exits from the industry with only limited evidence of new entrants, of which Fortex Group is one.

Because of its importance to the economy the meat industry (including the farming and meat processing sectors) has historically been the target of substantial Government incentives, subsidies and regulatory control. Over the years these measures tended to influence the pattern of the industry's development as much as, if not more than, genuine market forces.

In hindsight, most people now agree that this extended period of subsidisation and regulation had an undesirable and major distorting influence.

With the exception of the Meat Producers' Board's single desk selling controls over certain key markets (e.g. Japan), the industry has now been largely deregulated, in a manner consistent with the present Government's broad thrust across the economy.

Whilst substantial progress has been made by the industry over this subsequent period of deregulation it still retains much of the competitively weak structure and character it had developed prior to deregulation.

The two most serious industry weaknesses that remain as a legacy from this earlier period are:

(a) **An industry infrastructure, management philosophy and management skills that are heavily**

**biased towards low-value, high volume, basic carcass production.**

About 56% of all lamb is still exported in the frozen carcass state. For years, meat production in general and sheepmeat in particular has been production driven (to meet the needs of the farmers) rather than market driven (to meet the needs of our overseas customers).

- Farmers produced a standard product and in a standard seasonal supply pattern, which optimised the productivity of their farm.
- Carcasses were and still are graded on a carcass evaluation basis with little or no regard for meat yield or quality.
- The processing plants slaughtered these animals in accordance with this pattern and remain largely inflexible towards responding to the more modern and exciting opportunities in the overseas marketplace.

This product-oriented approach over a long period of time has inevitably led to an inflexible, unresponsive processing infrastructure which together with a lack of effective marketing skills has resulted in the NZ sheepmeats industry frequently being out-manoeuvred and out-marketed.

(b) **The second major competitive weakness remaining in the industry is the significant processing and distribution costs disadvantages.**

Compared with our most important competitors, namely the domestic suppliers in the main western markets, New Zealand obviously has an unavoidable cost disadvantage arising from having to freeze most of

our product and transport it long distances. But more significantly, the industry has also allowed itself to lose control of the unit of processing a carcass.

**The processing costs have been influenced by three major factors:**

1. **Wage Rates** - although much progress has been made over the last 3-4 years in terms of award wage settlements, the New Zealand meat industry still has high processing wage rates when compared with our major European competitors despite our relatively low per capita income.

2. **Labour Productivity** - notwithstanding the large size of the traditional processing plants, our labour productivity is relatively low compared to that of our major European competitors. Better productivity levels in early years have been eroded by a combination of stringent hygiene requirements imposed by EEC and USDA authorities and labour market inertia generated by central union control.

3. **Plant Utilisation** - New Zealand meat processing plants have an exceptionally low level of overall capacity utilisation in comparison with our competitors or indeed any other capital intensive industries. This is a direct reflection of our markedly shorter killing season and even within this shorter season, traditional New Zealand plants operate for fewer hours per week.

This traditional pattern of low plant utilisation has been further aggravated because of a 36% decline in lamb production from the peak kill of 39 million in 1985 to a projected kill in the current year of about 25 million. This has reduced the industry average level of plant utilisation for sheepmeat plants to only 95 days per annum at full production, on a normal 7-8 hour non-shiftwork 5-day a week basis.

One of the major influences on these cost factors has been the industry's very unhappy history of industrial relations. Traditional meat plants are particularly vulnerable to these problems.

This overview of the Meat Industry's current predicament is important to understand how Fortex has been able to emerge and develop into a strong and rapidly growing meat processor and international marketer.

## THE FORTEX GROUP

The ability of Fortex to survive through a very difficult period for the meat industry worldwide, and then ultimately prosper, is due to our adherence and belief in our long-term corporate strategy. To use a popular management phrase, we have simply "stuck to the knitting".

From an early stage the Company recognised that the key to our success lay in carefully focussing our marketing objectives in the most affluent areas of the world and with a range of specific customers.

Central to Fortex's business strategy is a philosophy of specialising in the high value-added end of processing and marketing. We have spent considerable time in identifying and creating higher priced returns from the food service sectors (restaurant and hotel trade) as this market sector is developing quite rapidly in all major markets.

We have led the field in the introduction of shiftwork and now operate our Seafield Plant on two shifts of 11 hours per day, six days a week. Thus, our plant is actually working for 114 hours per week compared with the average of the traditional industry of 35 hours per week, a 325% difference in plant utilisation.

It is now just over three years since our Seafield Lamb Plant was opened and since that time we have made no increases in processing charges, even though the Consumers' Price Index has increased by 23.7% in that period. It has therefore been possible to totally absorb inflationary pressures during the period as a result of shiftwork and other efficiencies.

The combination of strong marketing strategies and efficient processing techniques has enabled Fortex to provide more specific market signals back to farmers and in the current season for example we have paid an average of \$34.00 per lamb for all lambs purchased to date (compared to \$22.00 for the same period a year ago), with a preference for a heavier carcass than is sought by the traditional industry.

There are two specific areas which clearly differentiate Fortex. It is in adding value to most of the production and in spreading the kill through a much longer period of the year.

We earn \$15-20 more per lamb for the New Zealand economy by adding value compared to exporting in frozen carcass form. Spreading the kill and

thereby reducing the peak summertime kill provides the ability to properly market the product and maintain a consistent supply pattern, particularly for chilled lamb to the retail and food service industries in the UK, Europe and the USA.

The concept is also much more acceptable to the workforce which can benefit from a longer working season and better annual earnings.

My view is that the evolutionary process will dictate the eventual demise of the traditional New Zealand freezing industry. It has simply run its course. In recent years we have seen meat companies come and go, as they have endeavoured to cling desperately to the old ways with old facilities and outdated methods.

Changes in ownership generally represents another patch-up job. They simply cannot compete in the longer term.

Our research into the state of the meat industry worldwide suggests that even in the EEC and North America there is much regeneration required, although some of the beef plants in the USA are modern and efficient. In Australia there is a big scope for processing capacity renewal and in the United Kingdom the vast number of outdated and unhygienic abattoirs are now up for renewal or closure as all premises must be up to full EEC standard by 1992.

Advances in meat processing technology are able to contribute significantly to reducing costs and improving hygiene and productivity. In New Zealand the Hamilton based Meat Research Institute has developed a range of well-proven mechanical devices which have improved operating efficiencies. For example, the automatic pelt puller has been very successful on the slaughter floor and in the cutting room the recently released automatic loin boner is proving a great success in that it reduces manpower and increases saleable meat yield by up to 20%.

MIRINZ is also working on an automatic evisceration concept which if finally successful, could reduce manning on the killing chain quite considerably.

Meat processing is inevitably labour intensive but the potential of technological advances in future could conceivably reduce manning on the slaughterfloor by up to 50% in the years ahead. Unlike chicken processing total automation in sheepmeat dressing procedure does not seem to be an option, at least in the foreseeable future. The difference here is that with lamb

the skin (or pelt) must be removed from the carcass with great care to avoid damage in the form of knife cuts, torn edges, or strain. All such defects lead to down-grading of the skin and a subsequent price discount of about \$5 per skin.

## THE IDEAL LAMB

And so to the animal which is best suited for the modern demands of premium lamb production. For over 100 years the standard lamb produced for export by New Zealand farmers was that dictated by consumers in the United Kingdom. That demand was directly associated with the spending power of the consumer and thus the size of leg or loin which the consumer could afford for the weekly roast. The "ideal" lamb related more to an ability to pay and bore little relationship to optimal meat yield or toward maximising the potential meat production of any particular sheep breed.

But the demands for a lamb carcass weight range of between 11-16 kg did happen to be very complementary to the New Zealand natural pastoral growth curve, whereby lambs born in spring when the grass began to grow could conveniently be brought up to the required export weight between the months of December and April after which the freezing works had served their purpose for another year and closed down for up to 5 months until the next "new season".

By adopting the Fortex approach, we departed from the traditional lamb concept and focussed instead upon an objective towards encouraging maximum meat production per carcass.

For several years we have been offering special higher prices for lambs in the 17-25 kg range, whereas before, there was a specific price discouragement for farmers to produce lambs beyond the 16 kg threshold.

We also increased the GR measurement (i.e. the measurement of fat and tissue over the 12th rib) from 12 mm to 15 mm thus allowing for slightly more fat cover in heavy lambs than previously provided for under Meat Board "carcass" grading criteria. We were able to offer this practical encouragement to farmers because all our heavy weight lambs enter the cutting room in freshy chilled form where they are able to be fully fabricated into a wide range of boneless, part boned and bone-in cuts with full flexibility retained in order to remove any unwanted fat.

Fortex is not in the business of encouraging the production of fat but by increasing the CR to 15 mm for heavier lambs we have ensured that lambs are slaughtered while still on a rising nutrition plane. To us, it is more practical to trim excess fat from these high quality lambs with a knife rather than have it starved off on the farm - to the ultimate detriment of meat quality.

The challenge to animal scientists remains as strong as ever to develop breeds and strains of sheep which will produce large lean carcasses. This challenge has never before been more clearly signalled than now.

In the various export markets, Fortex is competing increasingly with the fresh chilled lamb products derived from within each respective domestic market, and generally the domestic lamb is of a basic superior weight and meat yield quality than that of the New Zealand comparison. In countries such as the USA, UK and Northern Continental Europe, domestic lamb is derived from the use of meat breed sires to produce high meat yielding 18-25 kg carcass weights at ages four months and upwards.

In New Zealand we depend on dual-purpose sheep breeds as wool production has tended to hold equal importance from a farm income viewpoint. But this has tended to compromise an ability to maximise lamb carcass weights at slaughter.

The introduction to New Zealand of the Texel, the Oxford Down and others is likely to show positive advantages for lamb meat production. Fortex has been closely associated with the development of these breeds and is particularly interested in the Texel.

The results of meat yield tests conducted by Fortex recently indicate that real progress can be made by using the Texel as a terminal sire for large lean lamb production.

## MOLECULAR BIOLOGY

The rapid developments in the field of molecular biology must hold the key to the potential of tremendous gains in the genetic improvement of our standard livestock breeds.

Using DNA probes for gene analysis and subsequent specific gene identification must provide scientists with an ability to develop excellence in livestock breeding quite rapidly.

Genetic improvement through DNA analysis will short-circuit progeny testing and provide a regime whereby selected traits in animals could be virtually guaranteed in subsequent generations.

We know that within all the major livestock breeds in New Zealand there is great variation in quality and traits. By developing molecular biology as a tool to genetic improvement the best qualities within our existing breeds could be much more rapidly expressed.

**New Developments** Fortex has commenced construction of a new "state of the art" lamb plant at Silverstream near Dunedin and the latest proven technology available in meat processing is to be installed. Every lamb slaughtered at the new plant will enter the cutting room for further processing. This approach represents a complete departure from blast freezing carcasses and provides an opportunity to introduce systems whereby farmers can be rewarded for producing yield of red meat.

Within the next few years Fortex anticipates introducing fully computerised systems which will allow for the individual identification of every lamb upon arrival off the truck at the processing plant. Each lamb will then be tracked individually right through to the cartoned meat stage and the farmer could be paid for the actual result of saleable product. By this means it will be possible to depart from the traditional carcass grading system.

Another important advantage from this concept is that the pelt will also be individually identifiable to provide an ability to reward those farmers who produce the best quality pelts, free of blemishes such as shearing cuts, seed or bacterial damage.

Changing the supply pattern and encouraging farmers to produce lambs on a year round basis means that greater emphasis needs to be focused by our plant breeders for the introduction of pasture species which will produce more dry matter during winter months. My understanding is that the potential exists to breed such species. In my view any improvement which helps to achieve the extended season concept would be of immense value to the New Zealand economy.

Fortex has been working on the feasibility and economics of feedlotting lambs over the last 2 years and we have contracted MAFTech to conduct a range of trial work concerning the project.

We have established quite conclusively that

good weights can be achieved consistently and from a practical viewpoint grain feeding is a definite option. There is a problem with the economics however, but that need not be the case forever. We need to be aware of the opportunities which feedlotting offers, especially in the area of off-season supply for high price market segments.

In conclusion, I believe the New Zealand Meat Industry has a very strong future providing it continues to adjust to modern marketplace requirements. There is huge scope for more efficiency in the processing and marketing sector as the industry continues to move

away from the frozen carcass concept.

But developments in the processing and marketing sectors must be matched with advances in livestock breeding and quality, particularly with lamb where there is a strong requirement to improve lean carcass weight at slaughter. In tandem with livestock improvement, plant breeders have a responsibility to develop pasture species which extend the growing season to ensure a year round supply of quality meat for processing and marketing.

The payback for New Zealand from such developments is potentially enormous.