NUFFIELD SCHOLARSHIP REPORT

Environmental and Animal Welfare Issues
Dairy Industry Structure

Murray Douglas
Whangarei, New Zealand

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CONTENTS

Some Quotes to Remember

"Quality product is not worth a penny a pound without a good processing and marketing structure"
Malcolm Isaac, International Water Cress Grower and the major supplier of fresh salads to Marks and Spencer

"You can sell in any language but to market you must know and understand the language and culture of your customers"
Dennis Brosnahan, Kerry Foods.

"Our traceability scheme will ensure that we, the supermarkets and ultimately our customers can have confidence in the safety of our product"
Chrissie Dunn, Danby Foods, Yorkshire

"Food is a like a new religion, you ignore that at your peril"
Astrid Neilson MD foods

Supermarkets are now crossing international borders, we must not be frightened, we must get alongside and grow with them"
Astrid Neilson MD Foods

"We have 58 million pairs of eyes watching to make sure that we comply with environmental and animal welfare standards"
UK dairy farmer

"BSE has shown how emotive our customers are and even with all the scientific evidence how difficult it is to regain that lost ground"
Ben Guild NFU

'The basic business principle...take cash...too often we forget it"
Simon Beckett Birmingham

And to finish on a lighter note:

"You farmers in New Zealand get up to milk your cows, In Ireland we milk our cows when we get up"
Michael Drea Irish dairy farmer

Some Key Observations

South East Asia
Even though Asia has been in a severe recession there are still huge opportunities there for us. The population has been continually affected by western culture. Eating habits are steadily changing to include the type of foods that we traditionally produce. We must continue to build long term relationships to further develop our opportunities in the market.

Traceability
The supermarkets are taking this very seriously and believe that this is the approach that will provide quality food for their customers.

The average customer does not want to know the actual details of how their food is produced. In fact the actual details may well put them off purchasing some of the actual products. They just want to "feel" that it is okay to be able to have confidence in the process.

The strength of the consumer should not be underestimated. We tend to concern ourselves with the government to government approach to trade but the final battle will be won or lost on the supermarket shelves. We must not forget that the average consumer wants to buy produce at a good price and to be able to believe that it has been produced in an environmentally sound and animal friendly operation.

Animal Welfare
Animal welfare is a key issue for us to be able to continue to market into Europe. We are exposed particularly in the areas of induction. Our industry must aggressively work to significantly reduce this. The debate based on "that it saves a cow's life will be unacceptable to the consumer". We must be prepared to stand scrutiny and be able to sign off on the five freedoms with confidence. (Refer Animal Welfare Issues p8)

Environmental Issues
Our industry must continue to invest and research in this area so that we can further develop the most practical solutions to meet market requirements. New Zealand faces the risk of a "backlash" from our competitors during the next round of GATT if we are unable to show that our environmental management is as good as theirs. We have made positive progress in this area and will be able to stand scrutiny as farmers comply with the RMA.

Management of nutrient inputs will become a greater issue on the farm. We have the possibility that phosphates as well as nitrates may become a greater concern to the wider community.

Subsidies
International subsidies are not going to be reduced dramatically. They will just be delivered under an environmental label.

Milk Quality
Very similar internationally with the benchmark being the EU standards.

Which of These Photos Depicts the Future of the New Zealand Dairy Industry?

To have a successful international future:

- We must be large scale, totally integrated and competitive
- We need to make a conscious decision as to how quickly we grow and how to fund that
- Our business must portray a quality image able to withstand international scrutiny
- We must aggressively target people with the right language, cultural and marketing skills to assist in the development of our business.

South East Asia

I was fortunate to be exposed to some aspects of business in South East Asia. Having the opportunity to travel through Singapore Malaysia and Thailand as part of the Study group was a unique opportunity.

Even though Asia has been through a recession there are still huge opportunities for us there. The population is being continually affected by the Western culture and eating habits are steadily changing to include the type of foods that we traditionally produce.

An example of this was in Thailand where the Government had been supporting milk into schools for children. This and a gradual acceptance in the society of milk products had moved consumption from 3 liters per head of population to 15 liters over a 10-year period.

The area that impressed me the most was that in talking to business people there was the need to build up long term relationships if you are to market effectively in this area of the world. There is no doubt that we need people from those cultures to assist us in the development of our products and then the marketing of them. The area of long-term relationships is crucial and I left Thailand in particular with the impression that this was one country where Australia was doing a better job than we were.

Supermarkets in Bangkok impressed me with the quality of presentation and product being as good or better than most New Zealand Supermarkets. Also in Foodlands there they made very effective use of their loyalty cards. They were continually updating information on product purchased, and who by. However the most effort was put into following up with customers whose shopping patterns had changed and would contact those people who had stopped purchasing to find out if the company was doing something wrong and what could be done about it.

Dairy Chiller Cabinet – Foodlands. Bangkok

Traceability

This is a well-used catch phrase and has received major publicity since the potential tie up with BSE and CJD. Also adding fuel to the fire has been the E.Coli deaths in the UK.

Politicians have been using this as an election platform and the purchasing public is very aware of it. With this in mind most businesses in the food area are putting in place a program to provide a trace back system of some degree.

There has been a raft of schemes developed and the challenge is that they must stand up to public and or external audit. Many of the initial schemes relied on self-assessment with very few external checks. I am not advocating a massive policing system but in any scheme such as this it must surely be a requirement that the consumer, or their agent (normally the supermarket) is able to have confidence in a traceability system that will stand scrutiny.

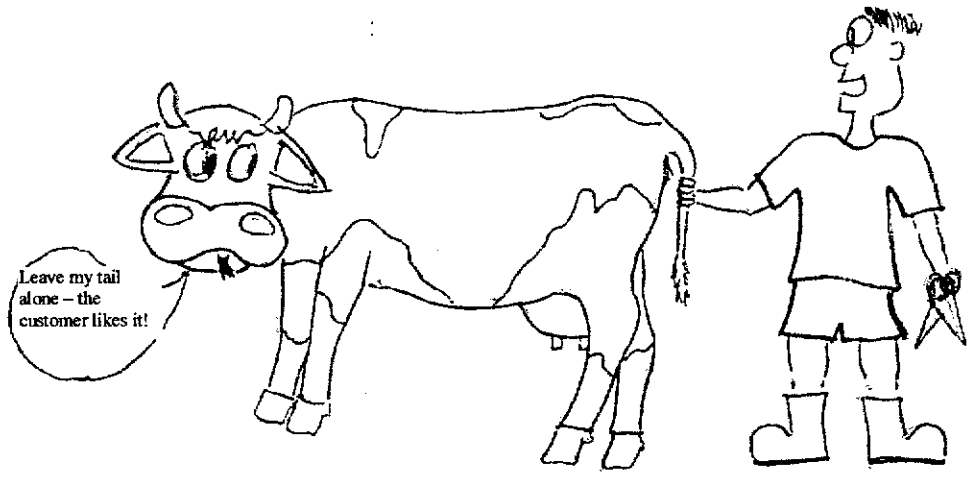
An example of an extreme traceability scheme was in one factory in Yorkshire producing TV dinners. Every meal that left the factory had a unique serial number that could be tied back to the shift that it was produced in, the people that were involved in its production.
As well all of the ingredients could be traced back to their source. This was to a level that the carrots could not only be traced back to a particular farm but to a field within that farm.
If there was a problem then it could be easily identified and dealt with. A supermarket chain had recently audited the process and been very happy with the standard. This however has repercussions for other suppliers. This may well become the expected standard as the supermarket chains put systems in place to protect themselves (and supposedly their customers) from food scare type situations. The supermarkets are taking this very seriously and believe this is the approach that will provide quality food for their customers.

In the livestock areas the supermarket chains are looking to have their suppliers with a quality assurance scheme that provides not only a quality product but also one that is produced in an environmentally and animal welfare friendly manner. (See the following sections)
The average consumer does not want to know the actual details of how their food is produced. In fact the actual details may well put them off purchasing some of the products. They just want to "feel" that it is OK and to be able to have confidence in the process.

The repercussions as seen in an instance such as the BSE/CJD tie up are immense. Once the consumer loses confidence in your product it is a major battle to bring them back to purchasing again. Emotions run high and all the scientific evidence available will not necessarily change their minds.

The move to traceability will not change this but with competitors aggressively following this approach we risk losing our marketing opportunities if we don't keep pace
The final word will be with the supermarkets that will quickly refuse to stock product if they are not comfortable with its origin.

ANIMAL WELFARE ISSUES



Tim Douglas©

These issues are coming further to the fore as animal welfare groups continue to make ground internationally. While many of these people are seen as "nutters" by the majority of the population they are having the effect of moving society's perception of what is acceptable all the time closer to their stance.

Several businesses were moving to provide a signed off animal welfare statement from their suppliers so that they were able to move towards marketing their product as being animal friendly. Some of these were basically very simple and others required that farms accept a high degree of external auditing.

The inference from this type of marketing is that the competitor is not animal friendly. The concern is that this will further raise the consumer awareness and therefore interest in this topic. We must make sure that we are not vulnerable in this area.

Basis of Animal welfare statements

The first area mentioned is always the 5 freedoms.

(1) Freedom from hunger, thirst and malnutrition.
(2) Freedom from discomfort.
(3) Freedom from pain, injury or disease.
(4) Freedom from fear or distress.
(5) Freedom to express most normal patterns of behavior.

All of these statements then go on to cover a wider range of issues

Animal Health
The thrust of this area is that farmers must keep a written herd health plan that is available for inspection. It must cover both preventative as well as routine care and medication. Also covered must be injury, lameness fertility and mastitis.

Complete records must be kept of any antibiotics used.

A planned breeding program should be undertaken to minimize stress at calving

All animals must be individually tagged, recorded and records of events kept that relate to that individual cow.

Nothing to be done to the animals that effectively harms their wellbeing.

Nutrition
All animals must be fed a balanced diet and have ready and continual access to fresh, clean feed each day. Statements such as "Cattle must not be kept in a situation where food of appropriate nutritional content is withheld, except for short periods" are common.

All animals must have access to potable water and some of the statements go as far as to say that there should be enough trough space for up to 30% of them to drink at any one time!

Housing and shelter
This area covers providing adequate housing areas with facilities that keep the animals free from injury. Some of the new standards for areas for animals were felt to be excessive and well above what is adequate for the welfare of animals.

It also talks about providing adequate shelter for animals that are outside.

Staff Training
Extensive coverage is given to the level of training that is required to be able to manage and milk cows. People in charge must be able to demonstrate good knowledge of procedures and must be competent in managing the welfare of the herd.

Milking
Machines must be kept in good order and checked once a year.

Milkers must be adequately trained. The milking process must be such that it doesn't impact on the welfare of the cow and is carried out in a quiet manner.

Handling and Transportation
Much is covered in this area including not having feed available for the last 4 hours before transport through to the use of electric prodders and the area an animal must have to be able to be transported safely.

What are the implications from this for the New Zealand Dairy Farmer?

As discussed elsewhere in the report the consumer will have the last say albeit through the supermarkets. Our competitors are rapidly signing up to animal welfare type documents particularly in the UK. While we can argue that housing of cattle is cruel and that spending their lives on concrete is not animal welfare the signing of the above statements sends a message to the consumer.

Do not underestimate the likelihood of our opposition farmers encouraging media to "make a meal of it" as the competition strengthens.

We are exposed particularly with Inductions. If the average consumer (supermarket) was to have this portrayed to them it has huge potential to harm our exports. New Zealand would rapidly lose its clean green image. All the scientific evidence once again will not stop consumers from responding negatively to such information.

Tail Docking is another area where we must work towards reducing the incidence. An interesting aside is that I saw more cows with docked tails in the US than I have in New Zealand.

Stand off areas must be adequately constructed to look after the wellbeing of the cows.

We need to be able to document our progress and realize that to remain competitive we may also need to sign off on similar documents.

ENVIRONMENTAL ISSUES

This is an area that is set to have a far greater impact on us in New Zealand as time progresses. Our competitors are aggressively targeting an approach to achieve their perceived form of sustainable agriculture. The focus is on ensuring that farming can operate in a manner that is acceptable to the wider community and in particular the consumers. The strength of the consumer should not be under estimated. We tend to concern ourselves with the government to government approach to trade but the final battle will be won or lost on the supermarket shelves. We must not forget that the average consumer wants to buy produce at a good price and to be able to believe that it has been produced in an environmentally sound and animal friendly operation.

New Zealand faces the risk of a "backlash" from our competitors during the next round of GATT if we are unable to show that our environmental management is not as good as theirs. If this was to be the case it then indicates that our community is allowing an environmental subsidy to NZ farmers to allow them to produce a low cost product. Should it be proved that we are having a greater detrimental effect on our waterways for example, I am sure it would be raised in the trade debate as well as bought to the attention of the supermarkets. This requires us to continue to monitor what is happening in New Zealand so that we can show our progress and therefore our competitiveness internationally.

The Resource Management Act while of major concern to farmers here in NZ is providing the groundwork to keep us internationally competitive in this area.

Environmental issues cover a wide range and while they all have the same underlying concerns each country tends to have a slightly different focus. The message from Europe and the UK in particular is that they have to meet very stringent criteria. This includes total containment of effluent and no discharge at all to waterways. There is a perception among some UK farmers that the NZ industry is not as focussed on environmental issues because our regulations are not seen to be as stringent as theirs are. Once the effects of the RMA are explained that myth is dispelled.

This whole area is becoming a major issue through most of the developed countries that I visited. The European Union appears to be aggressively targeting subsidies to deliver results that are acceptable to the majority of the population. These results include water, soil and air quality but also a very strong emphasis on visual quality. There seems to be an emphasis on retaining the face to agriculture that many people remember from their youth.

Environmental Payments

There is a very strong trend to delivering subsidies related to the environment. Payments in this form are said to be acceptable under GATT. I continually had reinforcement during my tour especially from officials. These people were adamant that the subsidies would move towards an environmental base. This will mean a decoupling from a direct per head or production payment in the livestock industry to a more area related payment. Part of the selling process for this (if they need a selling process in Europe) is the benefits to the wider community and the visual effect is often accentuated.

Examples of payments giving a visual Environment effect

Environmentally sensitive areas

These areas designate distinctive landscapes and wildlife habitats. 20% of Scotland's agricultural land is tied up in ESA's. There is continued encouragement to expand on this. Under this scheme farmers voluntarily agree to accept management constraints in exchange for a subsidy.

Less favoured Areas (LFA's)

These areas are not the most suited to normal productive farming .
The term L F A refers to

(a) mountain areas;
(b) rural areas threatened by depopulation;
(c) An area with specific natural handicaps where farming is necessary to "protect" the countryside and local livelihoods.

In the UK the majority of LFA's are in the hill areas. More than 60,000 full time farms are affected. Two thirds of the UK's breeding cow and ewe herds are farmed on these properties. Over half of the EU agricultural land is designated as LFA's.

The focus is definitely on providing a continued visual value. The payback is seen in the contribution that these areas provide to Tourism and recreation

Areas of special scientific interest.

These are determined by the level of conservation values that they have and from that an area payment is usually made. Once again very stringent management restrictions are applied to ensure a conservation outcome is achieved. This may be something as simple as a field with very low fertility grasses that they wish to preserve in its natural state.

The interesting outcome from all of this is that some farms have got areas that can fit into one or all of the above categories and receive payments based on each of the different schemes.
The continued justification of the payments was in particular the visual effect that could be provided to the wider community.

Farm Waste and Surplus Nutrient Issues

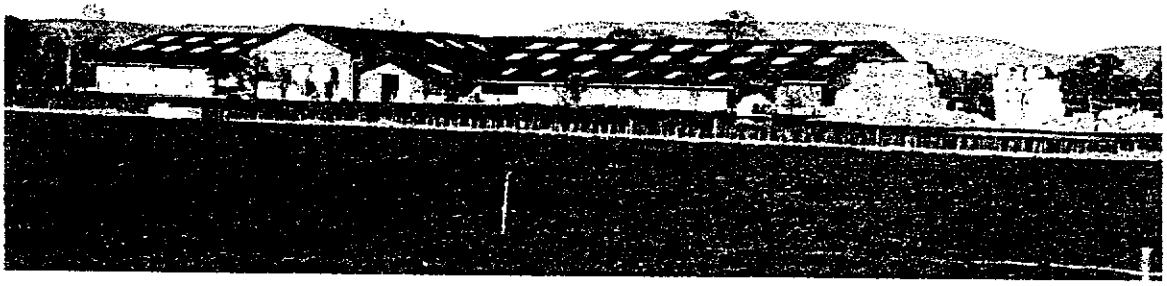
Much has already been written about the sheer volume of effluent that is generated through housing cows. This is accentuated with the large areas of concrete that are associated with confinement type farming operations. Each of the countries visited had slightly differing requirements as to how these issues should be handled.

Wastewater

Large amounts of concrete giving a significant runoff area are a major issue on most farms particularly the larger operations in the UK. The challenge is to minimize it . On many properties this is done by covering large areas with buildings so that the water straight off the roof area can be directed into streams without any environmental damage.

This has added huge capital costs to these businesses. With the current drop in dairy prices this may well make many of these operations uneconomic, as buildings need replacing.

Example of Large Covered Facility - UK



Most wastewater is applied directly to land normally by spray irrigation. The aim is to apply low levels at less than 50 cubic meter's per hectare in a 21-day period to minimize the chance of runoff. It has been found from ongoing research at Hillsborough in Northern Ireland that a large area is needed to dispose of this dilute waste. They spray approximately 7,000 cubic meters over a 10 ha area per year. A portion of this includes silage leachate.

They have also followed up by recommending that ongoing soil analysis be put in place, as it is extremely likely that there will be a build up in nutrient levels over time.

The European system is about minimizing the amount of water that is contaminated and then requires to be disposed of to land, as the likelihood of runoff into streams is very high. With a high population density the likelihood of people being caught is increased. This is a major issue for farmers particularly in the south of England.

A number of farmers spoken to, have been fined due to breakdowns in their systems and the authorities had normally been notified by members of the public out walking their dogs!

Effluent

There is a range of regulations across countries as to the requirement for storage. The highest is in Denmark where a minimum of nine months capacity is required. This is normally held in large constructed tanks in Europe, while in the United States tends to be contained in earth dams.

Effluent Tank for 60 Cow Dairy, Denmark

The key issue on all of the farms visited was minimizing the amount of water that was mixed in to the slurry so as to keep the cost of storage to a minimum. To achieve this some means of physical scraping is normally used for cleaning. While here in New Zealand we normally use large volumes of water during cleaning this is generally unacceptable elsewhere (other than in Australia). This then means a need to spread thick slurry at some stage of the year onto pasture or arable land.

Spreading of effluent is normally done from early in the spring until mid autumn. The aim is to allow the nutrients to be taken up by actively grown plants and to minimize the amount of runoff into waterways. In Denmark and Holland it is illegal to spread slurry outside of these times.

In many instances farmers are actively using the slurry on arable areas to allow incorporation into the soil and for use of the nutrients to be achieved by the crops.

Fertilizer

The definition of fertilizer is quite different in Europe and the term is generally used as a reference to nitrogen rather than phosphate as it is in New Zealand.

Nitrogen
Extremely high rates in comparison to New Zealand are the norm with levels of up to 200 kilograms of Nitrogen per hectare being applied on some properties to promote the first cut of silage. Annual usage on some properties appeared extreme to a Kiwi. However there is no focus at all in growing clover to provide nitrogen fixation. Rates in excess of 500 kg/ha were not uncommon.

This has led to high levels of nitrates in the waterways. The challenge for this area and a lesson for us here in New Zealand is the period of time that it can take the nitrates to move through the soil profile. In discussing this issue with some researchers in the south of England on the chalk hills, they are finding that the nitrates are only moving through the soil profile at a little over a metre a year. Their concerns were that the peak in nitrates was yet to come. With EU limits for nitrates in drinking water now at 50mg per litre there is greater pressure coming on agricultural management.

Nitrogen Sensitive areas (NSA's)
Some areas have been identified as having too high a level of nitrogen by the condition of the waterways or ground water. The area is then designated as a N S A and management restrictions are then put in place. The above management techniques are all used as well as limits on the amounts of nitrogen that can be applied.

Phosphates
An issue here for New Zealand to perhaps keep a close watch on. While our soils are phosphate hungry in comparison to the older soils of Europe it appears to my relatively untrained eye that we are perhaps in a situation that would be comparable to say Northern Irelands soils some 15 years ago.

Currently in Northern Ireland the issues of phosphates in waterways is becoming very important. There is a lot of effort going into research in this area. This issue is particularly important where Lakes are involved and phosphate is potentially leaching into these. Major concerns are arising from the fishing sector and pressure is being brought to bear on agricultural practice.

The approach is to encourage farmers to operate a farm nutrient balance sheet to minimize the potential build up of Phosphates beyond the level that is ideal for plant growth. The outcome from this is to ensure that leaching is minimized and that farmers only have to spend the minimum of money without having a detrimental effect on grass production. I believe that this is no different to good practice here in NZ.

Riparian Management
This has become one of the " buzz" words internationally with it being trundled out by all planners and Water Quality monitoring people as the means of solving non point source runoff and pollution of waterways. Upon being pressed the majority had very little scientific data to back up their expected outcomes. The standard stock answer seemed to be that "we are in the process of collecting data".

In the meantime there is encouragement for farmers to spend on fencing and planting riparian strips.

Fencing

It appeared that all people spoken to were in favor of fencing livestock out of streams as this was the largest area of concern. This was said to achieve a marked reduction in nutrients directly reaching the water. However the greatest benefit was presumed to be the minimizing of soil erosion from the banks of the streams.

Once again very little data actually available and it is a relatively new process that is rapidly gaining recognition.

Conclusion

Sustainability and environmental responsibility have become the buzzwords in agriculture amongst the developed countries. The consumer in these more affluent markets is looking to purchase food produced in an environmentally acceptable manner.

The challenge is in managing our inputs to maximize our on farm production whilst minimizing environmental impact. This needs to be achieved by the encouragement of good farm practice. New Zealand needs to keep this in mind and needs to be aware of what our international competitors are doing. We need to be able to show that we are competitive in this area. The fortunate thing from a marketing perspective is to note that we are already moving down this track. The RMA while disliked by many farmers is putting controls in place that will allow us to achieve the above objectives.

Our Industry needs to continue to invest in research in this field. Being the lowest cost producer in the world will be of no use to us in these markets if it is not achieved in an environmentally acceptable manner. Our clean and green image needs to be developed to ensure that it will stand up to International scrutiny

Milk Quality

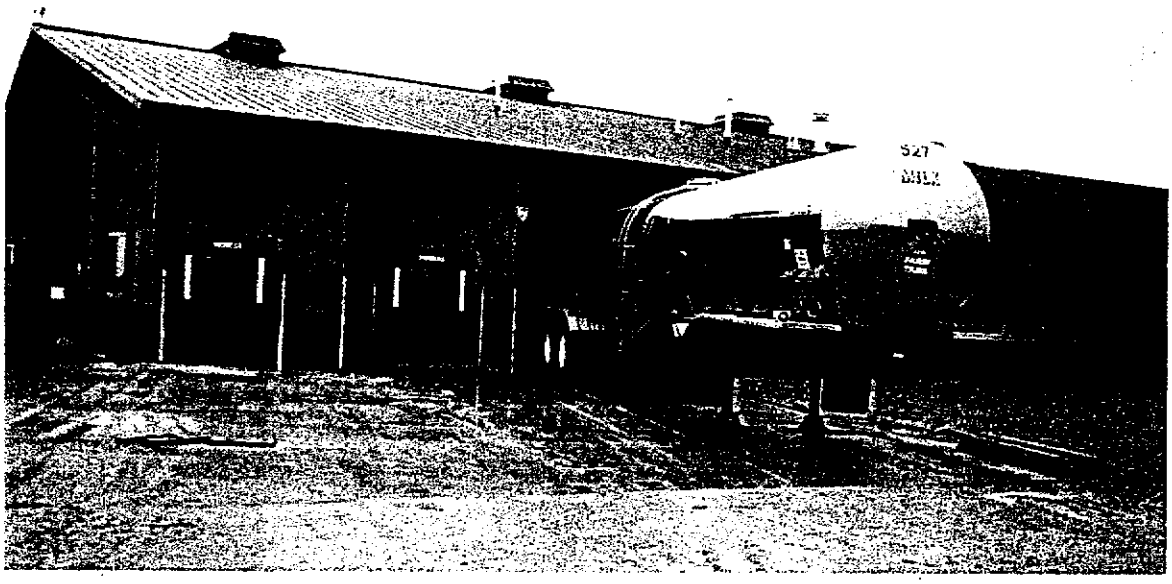
Most companies requirements are similar and are generally based round EU standards.

Temperature

The main difference to here in New Zealand is the need to have it cooled to 4 degrees Celsius at collection time. One company had a requirement to achieve 4.5degrees within 30 minutes of the completion of milking.

Milk cooling is primarily done with direct expansion units however there was a range of ice bank type units available. These were often used when the cost of peak power was very high. Also in some large units in the US there were no cooling facilities on the tanks and all cooling was done by heat exchangers. At some of these dairies there were no permanent milk tanks, as we know them. They would have a semi trailer backed up to the dairy and when it was full the milk hauler would bring an empty one and take the full one away to the processor.

Semi-Trailer being filled at new 1500 cow Wisconsin dairy, USA



Inhibitory Substances
A very aggressive approach was taken to grading these with all tankers going through a Quick test upon arrival at the factory. Contamination if it showed up meant the dumping of the milk and the offending supplier may well be liable for the cost of the whole truckload.

If a supplier tested individually to a test the minimum charge was equal to the value of the milk i.e. no payment, up to 5 times the value of the milk the most aggressive penalty.

Milk Collection
Generally once every 24 hours and some of the companies only collected during the day. Night collections were just beginning. Milk Marque, UK's largest co-operative, was receiving some farmer resistance as it tried to follow the New Zealand example to reduce its collection costs.

The longest period between collections was in the Kerry Group in Ireland where some farmers were out to three days. The company had experienced no fall off in quality and they intended to continue especially during periods of low milk flows.

Somatic Cells
There was a range of testing for these. All companies were using an averaging system to give monthly results. This was generally then combined to make a 3-month rolling average. Payments were then based on this.

Some companies were starting to penalize from 250,000 but most were using the base figure of 400,000.

The bottom line was that not all milk had to be provided at under the EU standards of 400, 000 to meet first quality payments.

Dairy Industry Structures

I visited a wide range of companies with many different forms of ownership structures. An expectation that a particular structure would deliver the best results to its owners was challenged at every step and the underlying result was that the key is the quality of the management and Directors in each case.

Each company was a different animal and had achieved varying levels of performance. The area of most interest became how the results were being made and the companies' philosophy as it moved into the future.

There were some underlying messages as all companies were trying to get to a larger size. No matter what the individual company's size it was perceived that to be part of a larger entity would give it greater strength in the market place.

The second area was in a continued move to get closer to the customer with some companies aggressively trying to get right into the provision and stocking of cold cabinets with a wide range of products in the supermarkets in the belief that this would give them a marketing edge.

In comparing the difference between the progress made in New Zealand and that of offshore companies it is imperative that the differences of the last 15-20 years are taken into account. The following attempts to show some of the differences between the NZ Industry and the leading companies in Europe. Each strategy was developed to meet the particular situation and environment that was being operated in.

COMPARISON BETWEEN NEW ZEALAND INDUSTRY AND EUROPEAN LEADERS

Growth from own milk supply	Quotas so no milk growth
Amalgamation to improve performance	Some amalgamations available
New plant to handle increased milk flow	Very little investment in new plant
Absolute focus on large scale, low cost throughput	Continuation of small plants
Major capital investment in stainless steel	Strategic investment starts in growth strategy
Joint ventures and acquisitions to enhance the marketing of New Zealand milk products	Acquisitions to grow the total business
Very little access to high paying markets	Operating in EU with assistance of export subsidies

Cooperative Organisations

A range of these was visited and all had obvious strengths and weaknesses, as did proprietary organisations. The main issue of concern was -

Shareholding
A number of Co-ops's had allowed their shareholding basis to become very widespread. Much wider than the original core business of milk collection processing and marketing. Several had allowed rebates to be taken up as shareholdings as bonus shares with full voting rights. This was particularly evident in organisations that were in the business of providing farm supplies to farmers.

I believe it was a direct result of the management and company philosophy rather than a feature of a co-operative. The point to note however is that I didn't find a problem such as this in PLC's.

Dairygold
Irelands largest co-op and it certainly had this problem with its shareholding. The Dairygold business was made up of three parts, Milk 51% Meat 27% Trading 22%.

It had for a number of years provided full voting shares instead of rebates to the customers of its Merchandise stores and people that sold to its meat businesses. While the rebates being provided to these people had saved the company some cash on the way it now had major implications in the control of the dairy business. The growth in shares was coming mostly in the area of Merchandise and Meat. The control of the company was starting to slip out of the hands of the original dairy farmer owners by default. The secretary of the company jested "that we must be careful what day of the week and time of day we hold our meetings now to ensure that we have enough dairyfamers present to have a voting majority".

The issue however for this company was much wider than just shareholding as there was a focus on, to use an Irish term "Parish pump politics". This means the focus and debate is carried on around the local areas and the effect on the local community.

An example of this is the fact that two years before my visit two co-ops had come together to make the Dairygold. The two head offices of the contributing companies were still in full operation with the preceding chief executives one now chief executive and the other company secretary still operating out of their old offices with their old staff. No change and an opportunity to improve the performance of the company lost.

The second area was that of supply stores. They were operating 72 of them. Not because it was profitable but so that people didn't have to go past their local service town (normally less than 7 km away) to purchase goods. The directors and management were trying to balance social responsibility with financial performance and through it missing out on opportunities.

I believe this is an extreme case, not comparable with any co-op in New Zealand.

Proprietary Companies

A number of these were visited in the UK. The message from these people was that they were processors and marketers of milk products. They as a rule tended to target the larger better farmers with contracts for supply. This would normally include a small payout just ahead of the competing cooperative to ensure supply. Payment was normally targeted to just beat the competition rather than as a direct result of the market.

These companies had the most strict supply conditions and were rapidly including animal welfare and environment conditions within the contracts signed by the suppliers. Most were aiming to have a minimum of 50% of supply tied up on this basis with the intention of getting an edge in marketing.

In some cases supermarkets had an involvement with these companies as it was said that it gave them a greater opportunity to be able to have better traceback systems. I saw no specific evidence of this.

There can be no doubt that the aim is to maximise return to shareholders rather than have the best milk price paid to the farmers.

Publicly listed Companies PLC's

There are several of these particularly in Ireland. These have normally started from a cooperative base and have been floated on the stock exchange to allow for a major injection of outside capital. This has normally been in tandem with a major change in direction and philosophy within the organisation.

The normal procedure is to set up a new company with the original cooperative holding the majority of the shares in the new entity. This then allows the balance of the new company to be floated off and the capital raised is used for acquisitions and development. For this to be successful the original company must already be well run.

The Kerry group in Ireland has done very well with this but the key here is the management.

At the opposite extreme was a company called Waterford who had attempted to follow Kerry's lead and had made some investment decisions that had not gone well. This company was in a very difficult trading situation. For the farmers (who still had the majority of the shares) the choice was to sell to another PLC or to accept a very low milkprice for the next 4-5 years to allow repayment of debt. With the extra purchases that that had been made, none of the co-ops were in a position to fund a merger with Waterford. The result for farmers was a less than favorable takeover by Avonmore PLC.

The message here is that taking in extra capital can be beneficial but even when the farmers still supposedly have control if the outside investment goes wrong it may well be enough to bring the whole business down.

KERRY PLC

This company is based in Tralee in County Kerry in Ireland.

Has a small milk collection area with a volume similar to 1/3 of Northland Dairies

Had been unable to grow the business with internal milk flow

Funding of these investments required more capital than farmers had available

Began making strategic investments as a result of this

Initial investments with borrowed money

The company then looked at ways of getting in equity capital.

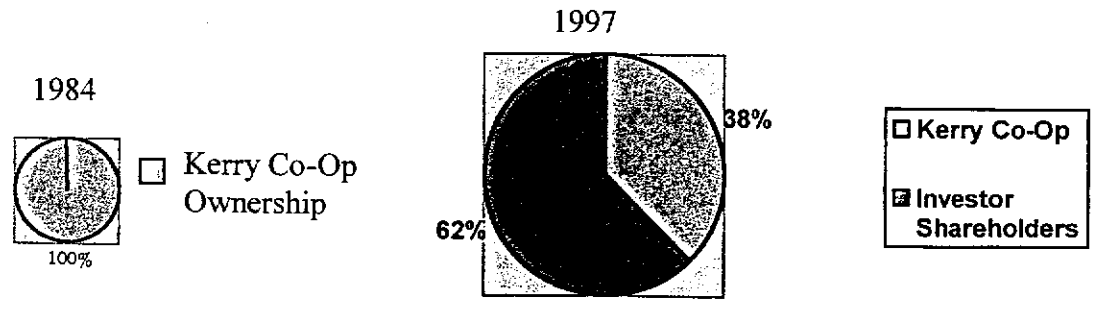
Expanded by setting up new company (Kerry PLC) initially sold of 15% of new company balance held by Kerry Co-op. At this point many of the initial investors were the farmers.

As the new company expanded and to meet growth targets there was a continual need for outside capital. Selling more shares to a stage where Kerry Co-op now holds only 37.5% of the Kerry PLC has funded expansion of Kerry PLC.

Company's aim is to double in size and profitability every 5 years.

Kerry's home milk is now only 4% of turnover and 1% of profit to the company

Kerry's total turnover now in excess of the New Zealand Dairy Boards



COMPARISON OF FARMER SHAREHOLDERS OWNERSHIP OF KERRY 1984 to 1997

Kerry's Philosophy

To double in size and profitability every 5 years

To return a milk price to its farmers as good as the rival companies

To have a management team trained at all times ready for the next acquisition

To aggressively target graduates from university of the caliber required achieving this

All entrants into the management area of the company must be fluent in at least 2 languages and preferably have a working ability in at least one or 2 others.

To have a team of Quality people continually assessing companies available for purchase.

Why Kerry's success

It is not possible to say that the reason is simply due to its structure as there have been other companies operating under the same conditions and structure that have failed.

Dennis Brosnahan the Chief Executive officer of this company is a great strategic thinker. Everywhere that I travelled in Ireland when the discussion came up there was reference to the "Brosnahan factor". The farmers there hold this man in awe. Every time that he said he would achieve he has delivered. Hence farmers almost blind faith in following his wishes. This is the main reason that farmers have accepted a minority share in the business.

Would it have worked in a cooperative? With the quality of Brosnahans management I am sure that it would have, however there would have been major capital restraints which would have slowed the process down.

The company is very focussed and is continually striving for excellence. Very high standards are set for the new entrants into the management team.

Outcome for Kerry Dairy Farmers

Most of the growth in value has been in their shares and farmers who invested in the initial float have done very well.

They supply a small processing facility that is now only a small part of a major international business.

Currently they have a "Kerry" man at the helm of the company. The question that arises is when he retires there is the possibility of this international food business relocating.

There is the added possibility that this processing facility may well be sold off, perhaps back to the Kerry co-op shareholders.

Farmers are confident at the moment but some have concerns relating to this in the future with the realisation that the outcome is now totally beyond their control.

Farmers have continued to receive a competitive price for their milk.

Farmers' extra investment beyond their milk is not related to their milk price and so the returns can be identified as such.

Farmers had the option of investing in the growth of the company.

MD Foods

This company is based in Aarhuus in Denmark

Founded in 1970 with 9 % of Danish milk

Is a true cooperative with farmer shareholders owning the company

Now has 72% of Denmark's milk under its control

Vision is to become the largest cooperative dairy company in Northern Europe.

With the reduction in EU export subsidies and Quota the company has decided to put most of its efforts into the EU area to ensure that it gains a big as share as possible from this high paying market.

8,900 farmer members supplying milk.

90 million litres of Organic milk. 75% of their milk goes to the liquid market.

54% of their product marketed in EU 21% in the Middle East.

Unable to continue to expand in Denmark so began buying elsewhere.

Investments in the UK Brazil Saudi Arabia and Korea

Aim is to strengthen key accounts particularly in Europe.

Aim to get closer to the supermarkets. As supermarket chains grow and cross international borders MD Foods intends to grow alongside them and keep a good relationship.

Starting to recruit local people in the market but still have a preference for MD trained staff who understand the company philosophy

No active sourcing of graduates but a continual training program within the company.

Languages in order of importance from MD's perspective. English, German, French, Spanish

MD's Structure

8,900 Farmer Shareholders

Elected supervisory board 13 farmer members and 2 staff

Elected by 2 electoral lobbies, staff elected by staff and Farmer members
By farmer shareholders.

Management team of 5 that run the company.

MD's Philosophy

To remain a true cooperative

To keep strongly focussed on sales within Europe and to build market share.

To provide a total cold cabinet approach and provision of milk products to the supermarkets.

To promote the sale of organic product and to return the extra value back to the farmers.

Strong ethical stance on food Quality and that it must be safe to eat.

Concern and likely prevention of the use of GMO modified feeds. Definitely not allowed on the organic properties.

MD's Success

An ability to secure supermarket shelf space

This was evident in the UK where with the purchase of Northern Foods had given it greater exposure to the supermarket shelves. However this subsidiary had not returned a profit in the two years that it had been owned.

Achieving a premium for its organic milk of 40% over its ordinary milk.

Regular auditing by its customers

An ability to have the majority of staff and farmers supporting the company in its move to strategic investments this was achieved with excellent communications with information updates once a week.

A very competitive return to shareholders for their milk.

Outcome for MD dairy farmers
Growth in value in shares which is tied to milk As quota is tied to land then the ability to increase shareholding is limited.

Total ownership of an internationally integrated processing and marketing company.

Extra returns from organic strategy

Competitive price for milk

Concern among some farmers that the investment into the UK was unwise, as it had not been showing the return expected. Most were taking a wait and see approach as they had confidence in the management of the company.

Positive attitude to company generated in part by good communication structures.

Summary of Differences between Kerry and MD Foods
Both extremely well run companies.

Kerry had developed a focus as an investment organization

MD's focus was more on an integrated farm to supermarket production and marketing
Any strategic investments had to add value to that philosophy.

Kerry had achieved a much higher growth rate.

MD had made a conscious decision to allow farmers to retain total ownership

MD was focussing on the EU while Kerry was opting to become more global.

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