



final report

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New Zealand Technology Tour 15 to 20 September 2009 - Tour Report

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1 Aim of the Technology Tour

Visit equivalent sized processing companies in New Zealand to share ideas and learn from each other with a particular focus on R&D that might need to be undertaken in Australia to adapt identified New Zealand solutions to Australian conditions.

2 Required Outcome

Three potential R&D Projects for QCMPA.

3 Executive Summary

The Queensland Country Meat Processors Association (QCMPA) was formed in 1982 and its aims were, and still are, to protect and promote the interests of the members. The Australian Meat Industry Council (AMIC) provides a secretarial service and is the Peak Council to address industry issues.

Meat and Livestock Australia (MLA) has assisted QCMPA with presentations on matters of interest at the twice annual Workshops and in January 2009 provided a dedicated resource to conduct OH&S risk assessments and data gathering on effluent treatment.

The New Zealand R&D Tour in September 2009 was designed to visit equivalent sized processing companies in New Zealand to share ideas and learn from each other with a particular focus on R&D that might need to be undertaken in Australia to adapt identified New Zealand solutions to Australian conditions.

The tour agenda covered a range of meat processing and non meat processing operations and allowed the QCMPA members to discuss with the operators a range of issues including slaughter and boning, further processing, OH&S and management control.

The members met in Auckland immediately following the tour and held a further meeting on 23 October at which time they confirmed that the following projects were identified for further analysis from the New Zealand R&D Tour:

Project 1:

Members noted a system of "tiles" strategically placed in the chiller adjacent to the door. It was explained that this was an innovation, based on small bags of rock type substance, which will reduce the incidence of condensation when warm products enter a cold chiller environment. Management was unable to provide further information but did comment that the process appeared to reduce condensation.

Project 2

It was resolved that QCMPA, based on the technology observed at Entec, should seek assistance with a project which captures methane, or other gases, from landfill or effluent treatment, for the purpose of generating hot water or electricity.

Project 3

The sheep race has a movable gate which slowly edges the animals into the race. The basic design was noted by members but improvements to access, particularly for fallen animals would be required.

Project 4

To provide the QCMPA members with a facility to evaluate the knives being used in their business and training on knife maintenance with the objective of improving OH&S performance.

4 Technology Tour

4.1 Tour Schedule

The tour took place between Tuesday, 15 September and Saturday, 19 September with the following Agenda:

Day Item		Time
Tuesday, 15 September	Fly Brisbane to Auckland Overnight Kingsgate Hotel, Auckland	
Wednesday, 16 September	Depart Auckland Plant Visits to: <ul style="list-style-type: none"> • Meat Cuisine • Old Fashioned Smallgoods • Auckland Abattoir <ol style="list-style-type: none"> 1. Plant Tour 2. Carne Technologies 3. Argus • JackLinks • Agri-link • Entec Systems Overnight Kingsgate Hotel, Hamilton	7.45am 8.15am 9.30am 10.00am 1.15pm 2.30pm 3.30pm
Thursday, 17 September	Depart Hamilton Plant Visits to: <ul style="list-style-type: none"> • FPE • Ruakura Abattoir <ol style="list-style-type: none"> 1. Rendertech • Dexcels • Cambridge Stud • National Foods Overnight Okawa Bay Resort, Rotorua	8.30am 8.30am 10.00am 12.15pm 1-15pm 3-30pm
Friday, 18 September	Depart Rotorua Plant Visits to: <ul style="list-style-type: none"> • Eastpack Kiwi Fruit • Asado Food Solutions • Lowes Te Aroha Travel to Auckland Overnight Kingsgate Hotel, Auckland	8.30am 9.00am 11.00am 1.45pm Arrive 5.30pm

4.2 Meat Cuisine

Panmure, Auckland

Wholesale boning and distribution. Employs 40 people.

Products:

- Restaurant quality meat with full list of products on drop down menu on web site.

Innovation:

- Chiller cabinet trial in C store cost \$550 per week. Meat Cuisine set the retail price and provide shop with 25% margin.
- Offer on-line order service with free delivery over \$100.

QCMPA:

Boning room operations.

- Food safety issues discussed – chicken in red meat processing area.

Comments:

- Food safety issues with personnel, chicken and red meat on same table, general cleanliness.

Retail Comments:

- Offers online order service with free delivery over \$100.
- Offers recipes.
- List of customers currently supplied with logos on the web site.
- Web sales online allow access to higher income consumers outside the Panmure vicinity.
- Daily home delivery service through the net provides extra margin.

4.3 Old Fashioned Smallgoods

East Tamaki, Manukau City

Specialises in the manufacture of quality fresh and precooked sausages, haggis and other related products.

Products:

- Range includes sausages, haggis and related products. Spicy Lamb, Chunky Cheese, Beef Pork and low fat/sodium sausages.
- Brands are Alford's and Old Fashioned.

Innovation:

- Low sodium sausages.
- Low nitrite sausages.
- Important issue given proposal from FSANZ to reduce nitrites in sausages.

QCMPA:

Comments:

Visit cancelled

4.4 Auckland Meat Processors

Westfield, Auckland.

Plant tour of abattoir.

The leading processor and supplier of chilled meat commodities in NZ.

Employs approximately 400 staff.

Woolworths retail packing on site has 350 people. Large packing area with gas-flushed facility. Fully automated product storage (accumulator-chiller) and selection process for delivery direct to store.

Beef about 700 per day.

Lamb about 3,600 per day.

Products:

- Service kill operator.
- Export licenced EU and USDA.
- Beef and sheep with some venison, goats and pork.
- Meat by-products operation.

Innovation:

- A Wellness Program for staff including annual medical assessment and monitoring.
- Pro-active R&D application from strong management.
- Note electric stunning of cattle for religious slaughter.
- Electric cold shortening prevention.

QCMPA:

- Too large to be related to QCMPA member operations but note OH&S.
- Stunning and prevention of cold shortening technology of interest.
- General interest in the Woolworths packing and storage area.

Comments:

- Old plant well maintained, large, staff all had hearing protection.
- Claim to make all their profits from the processing of by-products.
- Looking at 6,000 lambs per day.

Owned by the City Council, Auckland Abattoir is driven by a strong management team with adequate financial resources to keep the plant at a high level of maintenance and latest technology. There are 700 employees on site with half of these employees in the Woolworths state of the art packing and distribution area.

4.5 Nutrifare

Auckland

Products:

- A further processor of meat and vegetable cooked products for retail and food service markets.
- Very strong food safety controls.

Innovation:

- Ultra modern, very clean operation with food safety highly valued.
- Latest air tight packaging for retail.
- HACCP CCP's noted on walls adjacent to operating stations.
- Tiles/rocks reduce condensation in chillers.

QCMPA:

- Food safety and OH&S.

Project 1:

Members noted a system of “tiles” strategically placed in the chiller adjacent to the door. It was explained that this was an innovation, based on small bags of rock type substance, which will reduce the incidence of condensation when warm products enter a cold chiller environment. Management was unable to provide further information but did comment that the process appeared to reduce condensation.

Comments:

- Replacement site visit.
- Modern food processing operation with food safety highly valued.

4.6 Jack Link’s Beef Snacks

Auckland

Manufacture of seasoned and slow smoked beef products.

Plant built as BSE protection, 5% of international production, 1m kg pm from Brazil, majority of product from NZ plant in bulk to USA.

A beef jerky manufacturer owned by Jack Links in the USA with extremely high level of control over food safety issues. Built as a back-up factory in case BSE should take out the major overseas facilities, this modern food producing factory has all of the controls and equipment.

Innovation:

- Latest retail packaging with modern packers.

QCMPA:

- Food safety and OH&S.
- General interest in modern processing facility.
- Too large to be relevant.

Comments:

- High value, high quality product mainly for the USA market.
- Product shipped to USA in bulk where it is packed and distributed.
- Packing in New Zealand for local market, Australia and South East Asia.

4.7 AgriLINK New Zealand

Kumeu

Products:

- Genetically modified cattle.

Innovation:

- A product development site.

QCMPA:

- General interest.

Comments:

- Interesting presentation on the security provided on site and the process undertaken.

4.8 Entec Services Limited

Manukau City

Products:

- Originally the Waukesha Engine distributor in New Zealand.
- The Waukesha engine is the market leader in industrial gas engines for gas compression, power generation and cogeneration.
- Plant at Hamilton on landfill site takes methane gas and converts to fuel to drive generator.
- Trial site cost \$1 NZ uses 500 cm of gas per hour to generate electricity and puts 900 kW back into the system.
- Industrial energy specialists.
- Supplier of gas engine drivers and associated driven equipment.

Innovation:

- Trial site on landfill.
- Could be used on effluent pond (trial in Pacific island piggery).

QCMPA:

- It was explained that there are smaller projects in the Cook Islands which are generating electricity or hot water on a small scale.

Project 2

It was resolved that QCMPA, based on the technology observed at Entec, should seek assistance with a project which captures methane, or other gases, from landfill or effluent treatment, for the purpose of generating hot water or electricity

Comments:

- A relevant visit.

4.9 Food Processing Equipment (FPE)

Hamilton (Colin Morrison)

Supplier of cooking and processing equipment to the food industry

Products:

- Food packaging equipment including Chub Packaging, Vertical Form Fill and Seal Machines, Cup Filling Sealing and Lidding equipment.
- Suppliers to dairy, explosives, caulks and specialty adhesives.
- Supply meat wrap netting, cooking systems, abattoir and dairy equipment and water treatment systems.
- Full product range on web site "FPE's Product Range".

Innovation:

- Nil.

QCMPA:

- No specific contribution.

Comments:

- Good discussion on the New Zealand meat Processing and Retailing industry.

4.10 Ango Knife Sharpness Analyser

Members were provided with a demonstration of knife sharpness assessment using the Ango analyser. The demonstration provided members with independent information about knife quality, sharpness and preparation.

Innovation:

- Provides assessment with graphical display of the sharpness on the full edge of the knife.
- Provides OH&S benefits from consistently sharper knives.

QCMPIA:

- Potential PIP Project to share an assessor.

Project 4

To provide the QCMPIA members with a facility to evaluate the knives being used in their business and training on knife maintenance with the objective of improving OH&S performance

4.11 Ruakura Abattoir

Waikato

Designed as a development facility, this small abattoir was more relevant to QCMPIA member. OH&S issues were observed with many operators generally working above shoulder height due to the design of the rails (gravity fed system) and the plant layout. It was noted that the inspection system (through Assure Pty Ltd the company established for this purpose in New Zealand) allows for inspectors to take on additional functions paid by the abattoir.

Products:

- Cattle, sheep and pig slaughter.

Operations

- Gravity fed rail.
- 27 ph cattle.
- 90 ph small stock.
- Employs 9 on beef slaughter and 10 on small stock.
- Originally an R&D site it now operates as a commercial abattoir.
- Plant is 25 years old but well maintained.

Innovation:

- Nil.

QCMPIA:

- Plant size relevant to members.
- Small stock moving gate on the crush.

Project 3

The sheep race has a movable gate which slowly edges the animals into the race. The basic design was noted by members but improvements to access, particularly for fallen animals would be required.

Comments:

- OH&S issues with operators working above their shoulder height.

4.12 Rendertech Limited

Manufacturer of a range of advanced and innovative products for processing by-products (blood processing) from the meat, poultry and fishing industry to produce high quality fats, oils and protein meals.

Blood processing

www.rendertech.co.nz

No visit.

4.13 Dexcel Limited

Newstead

An organisation owned by New Zealand dairy farmers leading improvements in the competitive position and profitability of the dairy industry.

www.biotech.org.nz/d/DexcellLtd

Products:

- Biotech research and surveys.

Comments:

- Visit cancelled.

4.14 Cambridge Stud New Zealand

Cambridge

One of New Zealand's leading horse studs.

Products:

- Horse stud

QCMPA

- OH&S protective clothing and extreme awareness of the dangers of the job.

4.15 National Foods Limited

Taupo

Manufacturer of a range of dairy products including Yoplait yogurt.

New Zealand exports a range of yogurt, dairy foods and cheese to Asia, particularly Hong Kong and Singapore.

Products:

- Yogurt
- Cheese

Comments:

- Visit cancelled

4.16 EastPack Ltd

Edgecombe, Bay of Plenty

A grower owned Kiwifruit post harvest company.

Three sites at Te Puke, Edgecombe and Opotiki.

Large packing and warehouse operation for Kiwi fruit.

A large fruit packing operation for Kiwi Fruit, this plant is highly mechanised. New robot packing equipment was being commissioned during the visit and the plant was mainly idle as the season has finished. Members were taken through the Production Management meeting procedure and the information provided to supervisors during the daily meetings. A demonstration of the random pallet location system in the warehouse was provided.

Innovation:

- Random (RFID) fruit container warehouse location is recorded on computer system from fork lift with information for picking also fed back to fork lift operator. Claimed to be the only system of its type but it is based on the wharf container system used in Sydney for 20 years.
- During the season between 20 and 25 trucks are loaded out daily.
- Robotic pallet stacking based on those used in Australia for 20 years.
- Daily "Production Meeting" (called Low Cost Meeting) similar to those used in Australia but apparently new to this company.

QCMPA:

- Operation was too large to be relevant to the members.

Comments:

- Plant was not operational but is a 16 hour operation at its 5 month peak (March to July).
- Advised that it has cost control problems compared to the other two plants. Productivity issues?
- Two 10.5 hour shifts per day with 400 staff. Relies on guest workers (240) who work the night shift.
- The warehouse system is a variation of that used in container control on Australian wharves for many years.
- The Low Cost Meeting is a normal "production meeting" in Australian production facilities.

4.17 Asada Food Solution Ltd

Mt Maunganui

Manufacturer of meat based products including stocks, sauces, ready roasts, pizza toppings and value added meat products. Supplier of pizza toppings and other meat based foods and sauces. Very high level of food safety control with a major customer in Japan.

Frozen and chilled products.

Owned by the Japanese.

Major customer is the Japanese sauce market.

Products:

- Initially airline meals.
- Stocks, sauces, ready roasts, pizza topping, value added meals.
- Similar diced, frozen product for Dominos as in Australia.
- Subway lamb product – not sliced and packed as in Australia.

Innovation:

- Nil.

QCMPA:

- Extreme food safety applied to post cook products.
- Product and process not relevant to members.

Comments:

- High quality, high food safety operator.

4.18 Low es Te Aroha

A deer skin processing plant. While an old plant in poor condition, members were advised that high quality skins were produced for local and overseas manufacturing. Management demonstrated how skins were graded and the faults which cause skins to be of lesser value.

Old dairy processing plant in poor condition but operational.

Products:

- Deer skin processor.
- Major customer was Italy but this market has collapsed.

Innovation:

- Nil.

QCMPA:

- Operator explained how the value of skins is affected by damage while on the animal and particularly the removal operation.
- Reinforced the information from the visit to New Wave Leather.

5 The New Zealand Red Meat Industry

The following information is from the Meat Industry Association of New Zealand website.

There are approximately 80 meat processing plants throughout the country. The plants slaughter and process approximately 25 million lambs, 3.8 million sheep and 4.5 million cattle and calves each year. 90% of this production is processed into value-added products.

Approximately 800,000 tonnes or 85% of the production is exported to over 100 overseas destinations. The domestic market represents 141,000 tonnes per annum.

Beef Export sales provide \$NZ1.6bn in income. The United States of America and Asia represent 80% of exports of beef:

USA	41%
Asia	39%
Europe	10%
Canada	6%

Lamb export sales:

EU	69%
USA	14%
Asia	9%
M East	6%

New Zealand produces about 1% of the world's cattle and 4% of the world's sheep; but supplies respectively 8% of the beef and 52% of the sheep meat that is traded globally.

The primary processing component (slaughter facilities alone) of the red-meat industry directly employs just over 24,000 people or almost 2% of the national workforce.

5.1 Comparison with Australia

	Production	Export Volume %
Beef		
New Zealand	534,000t	83%
Australia	2,000,000t	64%
Sheep Meat		
New Zealand	525,000	90%
Australia	626,000t	53%

5.2 Meat Retailing

The following information is from independent research conducted in New Zealand in conjunction with the QCMPA R&D Tour.

There are approximately 600 meat retailers including supermarkets in New Zealand. All supermarkets have a meat cabinet the same as in Australia. Many supermarkets also have a meat retail section in the deli section which retail higher quality product frequently cut to order.

A search of the "finda" web site reveals that there are 337 independent butcher shops in New Zealand.

Of the 232 independent butchers on the North Island 93 are in greater Auckland.

The South Island reportedly has 105 independent butchers of which 46 are in the Canterbury region. Few of the smaller towns have an independent butcher.

New World is the largest chain of supermarkets and has 130 outlets.

Progressive Enterprises controls Countdown, Woolworths and Foodtown with a total of 150 stores.

Web based meat sales are a feature of New Zealand although the product offer is limited.

Similarly the product variety offered on red meat sales in supermarkets is extremely limited. Value added red meat products are virtually non existent in supermarkets however there is a range of value added chicken products. The small good products are also limited in range and generally of a quality which is well below the Australian standards.

Meat prices are relatively high in New Zealand when compared to Australia and this is partly attributable to the lack of competition in meat retailing.