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Food processing and packaging industry in New Zealand

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Overview

New Zealand has developed world-leading expertise in food processing and packaging technology over many years of adding maximum value to primary sector produce.

Innovative and state-of-the-art solutions have been found by producers supplying high value, niche markets around the world which demand premium quality, presentation and packaging.

While technology originated in response to the needs of New Zealand's primary sector, producers have been quick to act on the export potential. Systems and machinery developed in New Zealand are exported to many developed markets looking for increasingly sophisticated food processing and packaging systems and food integrity.

New Zealand is known around the world for the quality and safety of its food products. It has developed a wide range of systems for cost effective processing of food while preserving its sensory and nutritional properties which are underpinned by many decades of scientific research. Considerable resources are also invested in technology for post-harvest handling of foods, preservation and storage.

Fast facts

- Food and beverage manufacturing is a major industry in New Zealand accounting for around one-third of exports and contributing just under 5 percent of GDP.
- Food processing is New Zealand's largest manufacturing industry employer with nearly 75,000 people working in the industry in 2008.
- Most food processing is based on meat and dairy products, employing nearly 30,000 and 10,000 people respectively.

- Internationally recognised research organisations carry out cutting-edge research into applying science and technology to food processing and packaging.

International innovations

Convex Plastics
Convex Plastics is a recognised leader in developing unique, highly breathable films that extend the life of fruit, flowers, herbs and vegetables and keep them looking as fresh as the day they were picked. Its products are customised to suit handling conditions and scientifically designed, in its modern research and development laboratory, to match the respiration rate of the packaged produce.

Wyma Engineering (NZ) Limited
Wyma Engineering is an internationally recognised designer and manufacturer of bulk vegetable washing, handling, grading, sizing and packing equipment. Its exporting success has been built on its flagship product, the 'Vege-Polisher™', which is the number one product of its type in the world. Invented by Wyma in the late 1990s, the Vege-Polisher has set high washing and polishing standards for root crops by using innovative rotary barrel brush washing technology.

Industrial Research Limited
Industrial Research Limited (IRL) has developed world leading robotic technologies for food processing industries. That includes its Y-cutter which automates the first cut to separate the pelt from the lamb carcass. This is a job that, done by hand, carried a high risk of workplace injury. The intelligent robot developed by IRL can do the Y-cut nine times a minute which is comparable to the work of a three-man crew. IRL Engineering has also produced a mobile supercritical extraction unit, SuperEx, which is available for processors to use on their own site for small-scale production of ingredients for market testing.

Jenkins Group
Jenkins Group's globally acclaimed ripeSense intelligent label for fruit packaging uses the natural aroma volatiles to indicate ripeness. It changes colour as the fruit ripens, removing confusion and delivering the consistency customers are demanding for their fruit. As an added bonus, it reduces the risk of damage by customers squeezing and poking fruit.

Fresh Appeal
Fresh Appeal has developed unique, preservative-free disinfection technologies extending the shelf life and quality of fresh cut produce while ensuring they keep their freshness, texture, aroma and flavour. The simple and cost effective process involves washing sliced produce and using ultraviolet light to control or eliminate potential contaminants.

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New Zealand Screwcap Wine Seal Initiative

New Zealand winemakers were at the forefront of the move to screwcap closures, addressing the problem of cork taint which can ruin up to 10 percent of wine sealed with natural cork. More than 90 percent of New Zealand wine is now sealed with screw tops and New Zealand winemakers have joined forces with influential counterparts in many other countries to promote screwcap closures as a means of guaranteeing wine quality.

Sanford

New Zealand scientists have developed a world-first technology to automate the onerous job of opening Greenshell mussels. The design includes clean-in-place technology and the capability to record data of all product being processed through the machine. The system, being introduced by Seafood company Sanford Limited, reduces the amount of heat treatment required before opening, enabling the product to retain more of its natural flavour.

BLM Engineering

Innovative de-boning technology from BLM Engineering is increasing yields for meat processors and providing an easy-to-use and safe alternative to manual boning. Its machines cut lamb racks, loins and saddles from the bone and deliver cuts with improved product appearance and increased yields of between 8 percent to 10 percent.

International collaborations

NDA Engineering

From its origins as a manufacturer of high precision stainless steel vessels and vats for the New Zealand dairy industry, NDA Engineering has globalised, establishing plants in Australasia, Asia and the United States and undertaking projects around the world. It now provides specialist products and services to industries ranging from food, dairy, wine and brewing to mining, chemical, pulp and paper and pharmaceuticals.

GEA Avapac

Leading edge hygienic packing components and systems developed by innovative engineers at GEA Avapac for New Zealand's dairy industry are now available to the global marketplace. GEA Avapac joined the GEA Group in 1994, and is now providing unique packing solutions and after sales service through the worldwide GEA network.

BioVittoria

New Zealand company BioVittoria, in collaboration with its Chinese partners, is developing large-scale growing of the protected luo han fruit which it processes into a zero-calorie, natural sweetener. The company has developed a method for processing the fruit which produces a powder that has no calories and is 300 times as sweet as cane sugar. The powder is used in the food and beverage industry as a replacement for sugar and artificial sweeteners.

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Compac Sorting Equipment
Through joint ventures in Italy and Korea, Compac Sorting Equipment's (CSE) smart, high performance sorting systems for fruit and vegetables are being manufactured in Asia and Europe as well as in New Zealand and Latin America. Leading edge software electronics and precise measurement systems mean produce can be sorted by weight, size, colour, shape, density, blemish or defects, taste and internal characteristics. CSE has over 1,000 sorting lines installed in over 20 countries.

Sealed Air
The rigorous quality and consistency standards set by New Zealand's world leading dairy industry are the driver behind premium packaging produced by Sealed Air New Zealand and sold by its parent company around the world. Under the Cryovac brand, the company supplies automated pouch loading systems and pouches for bulk cheese, and multiwall packaging for dairy powder, which are sought after by Sealed Air's global customers.

Sustainability achievements

Mercer Technologies
An innovative production system from Mercer Technologies eliminates the need for cardboard packaging in cheese production, significantly reducing manufacturers' carbon footprint. Mercer's precision made stainless moulds save large scale cheese factories hundreds of thousands of dollars annually on cardboard, marketing, transport, manpower, energy, trimming and cardboard disposal.

The rml Group
rml offers a complete overhaul service for older machinery, revamping it with the latest components and automation technology and then delivering customers a good-as-new product for around half the cost. With growing global concern about the impact of discarding equipment and the need for sustainability, rml expects this part of its business to grow rapidly.

Inter-industry developments

BBC Technologies
BBC Technologies works closely with the horticulture industry, developing technology solutions for small fruits and vegetables and nuts. BBC Technologies' machines sort produce based on colour and softness as well as packing retail punnets by weight. The company also provides detailed traceability data to help growers identify premium sites and ensure effective management practises. Its technology is being applied to other industries, including aquaculture.

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Camsensor
Camsensor works with a range of industries including meat, dairy, food processing, wine and canning, to custom adapt its smart camera inspection systems. The state-of-the-art technology provides complete quality control for high speed processing and production lines and is designed to cope with rugged environments and the most stringent hygiene requirements.

Industry contacts

Crop & Food Research
Crop & Food Research researches new knowledge in sustainable land and water use, high performance plants, personalised foods, high value marine products and biomolecules and biomaterials.

AgResearch
AgResearch has specialist expertise in biosciences and genomics, carrying out a wide range of research related to New Zealand's pastoral sector and the introduction of new biotechnologies.

HortResearch
HortResearch is a world-class fruit science company, using its unique resources in fruit, plants and environmentally sustainable production system to produce innovative fruit and food products.

Institute of Food, Nutrition and Human Health
The Institute of Food, Nutrition and Human Health (IFNHH) is a leading provider of knowledge for food and health innovation, offering integrated research and education across the entire food and health value chain from plough to plate to lifestyle.

Cawthron
Cawthron provides high quality research, advice and analytical services to support the New Zealand seafood industry and sustainable management of the coastal and freshwater environment.

Industrial Research Limited
Industrial Research Limited (IRL) is a technology company based on world class science and engineering capability.

Plastics New Zealand
Plastics New Zealand represents New Zealand manufacturers, raw material suppliers and recyclers of plastic products.

Packaging Council of New Zealand
The Packaging Council of New Zealand is the industry's voice on packaging and packaging waste, representing the whole packaging life cycle and with a strong focus on sustainability.

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New Zealand Trade and Enterprise

New Zealand Trade and Enterprise (NZTE) is the New Zealand government's economic development agency and works with the food processing and packaging industry to build its capability and increase its international connections.

Investment New Zealand

A specialist unit within NZTE, Investment New Zealand is New Zealand's investment promotion agency and assists corporate investors to relocate their businesses to New Zealand, establish Greenfield operations, and invest in and work with New Zealand companies.