

Agricultural biotechnology industry in New Zealand

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Overview

New Zealand's long history of sheep, dairy and beef farming has given rise to world-class science and technologies in genomics, reproduction and cloning, and molecular approaches to enhance both animal productivity and health.

New Zealand company LIC is one of the first companies in the world to offer genomic selection technology for use in identifying elite sires as yearlings. This head start in identifying animals with the desired genetic traits for breeding is predicted to deliver billion-dollar gains over the next several generations.

In addition to driving major innovations in agricultural biotechnology, New Zealand has also been identified by global organisations as an ideal environment for the manufacture of agricultural biotechnology products.

As a country free of animal disease like BSE and scrapie, New Zealand is rated Category One status in Europe. For this reason California-based Invitrogen manufactures animal-derived products in New Zealand. Schering Plough Animal Health's Global Vaccine Unit also manufactures in New Zealand, exporting 80 percent of production.

Fast facts

- Agricultural biotechnology accounts for 41 percent of New Zealand's total biotechnology expenditure. This is consistent with New Zealand's global position in sectors such as dairy and sheep, forestry and horticulture.
- Agricultural biotechnology also accounts for 35 percent of New Zealand's workforce for the biotech sector.
- New Zealand is a leading supplier of animal-sourced biological materials and environmentally driven natural products.



International innovations

LIC

LIC is a dairy farmer owned, farm improvement company providing a diverse range of products and services to the dairy, beef and deer industries both in New Zealand and around the world. Two-thirds of annual gain in milk production in New Zealand is estimated to come from genetic improvement of dairy cows, with one-third due to improvements in farm and stock management. Genetic and reproductive technologies that result in production gains are core offerings for LIC.

Rissington Breedline

Rissington Breedline has developed superior breeds, including the trademark sheep breeds Primera and Highlander, to improve on farm productivity and supply of quality lamb and beef. As part of an ongoing contract with the United Kingdom's Marks & Spencer (M&S), Rissington Breedline works with farmers and processors to provide a year-round supply of branded meat to M&S food retail outlets. Rissington Breedline has also secured investment from BioPacificVentures, a New Zealand venture capital fund backed by the international Inventages fund.

International collaborations

Grasslanz

Grasslanz Technology invests in the development of novel plant technologies that are then licensed to marketing and sales companies, and has alliances with seed companies in Australia, the United States and Europe. A subsidiary of AgResearch, Grasslanz has had a profound impact on agricultural industries through the development of proprietary forage cultivars, grass endophytes and plant biotechnology. It holds the number one market position in proprietary white clover cultivars and grass endophytes. Grasslanz also developed MaxQ endophyte as a solution for the US\$1.0 billion loss of United States beef production owing to fescue toxicosis.

Sustainability achievements

Natural Systems

Natural Systems, rated New Zealand's most exciting environmental technology company by the National Business Review, has developed the BioGenCool process, which extracts biogas (methane gas and carbon dioxide) from cow effluent using novel biodigester technology. After production it is then cleaned and used as a fuel in a co-generation plant to generate electricity. The process converts the volatile organics into biogas, leaving the resulting supernatant liquid low in bacteria, nitrogen rich,

cleaner and more readily assimilated than raw manure.



BioDiscovery

BioDiscovery New Zealand specialises in the discovery of novel biologically active microbes and natural product compounds from unique New Zealand sources (land, sea etc). They have technology and expertise in identifying and developing active bio-ingredients for agricultural, health and industrial goods. By harnessing the power of nature, BioDiscovery assists its clients in developing environmentally sustainable products that have scientifically verified biological activities.

Industry contacts

NZBio

NZBio is an incorporated society representing the New Zealand biotechnology sector.

AgResearch

AgResearch is a world-leading research institute capable of providing innovative solutions to the agricultural biotechnology industry.

NZ Agritech

NZ Agritech Inc is a New Zealand group of diverse agricultural technology companies - from suppliers of dairy and milking equipment and livestock feed to animal health remedies and performance data - who distribute their products and services around the world.

Foundation for Research, Science and Technology

The Foundation for Research, Science and Technology (FRST) is a Crown entity that invests in science and technology research on behalf of the Government, seeking benefits to New Zealand's economy, environment and society.

Ministry of Research, Science and Technology

The Ministry of Research, Science and Technology (MORST) manages the government's research, science and technology investment, provides policy advice and encourages innovation and commercialisation of scientific and technological knowledge and ideas.

Natural Products New Zealand

Natural Products New Zealand's mission is to raise New Zealand's profile as a source of quality natural products and complementary health products, and foster the development of a sustainable natural products industry.

New Zealand Trade and Enterprise

New Zealand Trade and Enterprise (NZTE) is the government's national economic development agency.



NEW ZEALAND

[Australia-New Zealand Biotech Alliance](#)

The Australian-New Zealand Biotech Alliance (ANZBA) is a partnership to promote leading research and development and business opportunities in the region.