

Waikato Innovation Park New Zealand

Beef SolutionNZ

Solutions for the Global Beef Industry



Angus selected for extensive pasture based systems, reaching killing weight before second seasons winter

Creating a highly productive and sustainable large scale beef production and processing operation using world leading skills and technology from New Zealand.



Brangus selected for extensive tropical pasture based systems

Waikato Innovation Park

New Zealand

Beef SolutionNZ

The Need

- Food Security has become a strategic issue for many nations
- Beef is a key protein source for developed countries and a rapidly growing source for developing countries.
- A key strategic issue for beef processors is the market's demand for quality
- Beef Farmers need to produce consistent levels of both quantity & quality,
- Systems need to be environmentally sustainable for inputs and outputs including water.
- Beef production needs to be located in strategic geographic zones to minimize climatic, political and business risk
- Beef must be produced with low cost systems to ensure long term economic sustainability
- Facilities must be scalable to allow for growth
- A reputable provider for the design, installation and operation of a beef production system in the target country.

The Service

New Zealand is a recognized world leader in low cost pastoral farm production systems with integrated quality control resulting in safe beef and beef products. With a team of established agricultural technology providers, Waikato Innovation Park assists large scale farm operations in adopting leading low cost technologies and systems. It provides solutions for large scale land development, technology deployment, implementation and support of ongoing farm operations for large Corporate Farmers or State Strategy implementers, as well as Beef Processors or Supermarket Chains who are vertically integrating to secure supply.

The service is provided from a commercial consortium of NZ firms (Beef SolutionNZ) established to assist these large enterprises in the configuration of 'best of breed' turnkey Beef farms, including development and operate services. Beef production as a by-product of the dairy industry can be a significant value-add to any Dairy project as well as being an attractive option as a stand alone investment.

The consortium has a proven track record in operating in global markets both individually and as a consortium. Reference sites are available in New Zealand, Uruguay, Australia and Argentina.

Approach

- The Beef SolutionNZ team work with the client to develop, design and implement a commercial model suitable for the stakeholders, combining operate services contracts to achieve the business case with technology acquisitions.
- A total approach to implementation including project management tools developed through previous global installations and scientific based proven operational methodologies, adapted to local conditions.
- A performance bonus share of production beyond the baseline business case, ensures both parties work together to strive for optimum results.
- Identifying appropriate geographic locations can be undertaken for the client.
- Close collaboration is maintained with State entities to ensure that the social outcomes from investments of this magnitude are appropriate.

The process is for a **Current State** analysis to view the key assets, systems and products of the proposed farming investment.

Following the initial visit a top level preliminary design / framework will be developed and documented by the team based in New Zealand in conjunction with the clients team using remote consultation. The preliminary design / framework intended to be the **Future State** will then be socialised with the client and adjusted as necessary.

The process of **Due Diligence** includes a team from the client travelling to New Zealand to view the partner companies and systems, validating the competency, capability and capacity of the consortia. They will also present their feedback on the preliminary design / framework 'Future State', allowing dialogue and modification of the design.

The phase of **Concept Design and Mobilisation** is developed after the Future State is approved in principle by the Client. Key resources from the 'Future State' and 'Due Diligence' phase will also need to be consistent into the following Concept Design phase.

The target is for a comprehensive design and plan to produce beef to meet projected demand to be in place within 6 months.

Timing

Current State should be completed within 6 weeks of signing of the Heads of Agreement.

Future State will be developed over the following 4 weeks.

Due Diligence will be completed within 4 weeks, following on from the Future State.

Design and Mobilisation will be completed within 3 months of agreement of the Future State model.

Implementation is generally a multi-year project.

Benefits

Land owners transform land use and returns through leveraging the knowledge, skills and technologies sourced largely from the Beef SolutionNZ Team. Business cases indicate a greater than 20% (minimum) return on assets for Beef development in developing nations.

The Beef SolutionNZ Team have demonstrated continuous improvement to farm performance of approximately 2.5% per year in NZ. Our customers benefit from future performance improvement, derived from the community of Researchers and Developers.

Risk reduction for the Investor from sharing in the Consortium's experience gained from developing projects in Argentina, China, South Africa, Europe and Uruguay.

Beef SolutionNZ Farm Concept

AIM

- To establish a best practice large scale commercial beef farm model
- All beef produced meets international quality standards
- Beef production costs will be lower than any comparable in-country farm
- That the farm is long term environmentally sustainable
- To develop local skills and capability

A New Zealand pasture plus farm will follow New Zealand best practice systems adapted to local conditions. The main diet will be a grass based pasture diet complemented with grass silage, maize silage and other local forages. Best New Zealand models will be available to ensure cost benefit optimisation.

New Zealand's excellent grass growing climate, very strong pasture genetics and electric fencing sector, well-educated owner-operator farmers and open export-oriented economy have provided a unique background for the development of advanced grass-oriented technologies and systems. High land and labour costs and exposure to global markets, often protected by tariff barriers, have driven the development of these technologies and systems to extreme levels of efficiency not seen anywhere else in the world.

Beef SolutionNZ is able to draw from the very best of these new systems and technology and reinforce that with the full backing of New Zealand's Agri science and Agritech sector.

Minimisation of capital outlay will be the objective with low cost cow housing available only for extreme local conditions, with farm support equipment minimised.

Project size can range from 5,000 head operations to 160,000 head operations with the ability for scale up in phases built into the design.

Design options include adaptations to take into account different climatic conditions ranging from 100% direct pasture grazing to 100% forage feedlot systems. The hybrid solution will be driven by the local business case as developed by the Beef SolutionNZ team.

Developing the Value Chain

The Beef SolutionNZ Consortium will provide a complete farm value chain assurance including but not limited to:

- Beef Genetics, sourced from proven performance
- Pasture and forage production capabilities of the land
- Calf management systems accelerating the value from beef or dairy operations
- Seasonal calving to take into account climatic and economic peaks and troughs
- Farming systems to maximize the value of pastures
- TechnoGrazing™ systems where appropriate
- Gallagher on farm hardware and software fencing systems where appropriate
- Nutrition processes to maximize growth rates of lean high quality beef
- On farm traceability of animals
- Processing industry and Traceability of outputs
- Energy efficiency combined with power generation
- Greenlea Abattoir model for efficient and cost effective processing
- Wallace Rendering model for efficient and cost effective recovery
- Distribution Chain Traceability
- Packaging systems
- Marketing edge for low cost, free range, safe and fully traceable meat

Large Scale Model

Output: 30,000 tonnes of processed beef from an annual throughput of 120,000 animals.

Achieving a production rate of up to 500kg beef per hectare per year on rain fed pasture only.

Large Scale Hub Scope

Large Scale shared services Centre, servicing farms which are greater than 30,000ha and carry as many as 160,000 animals.

Consists of:

- Meat Processing Factory at 400 head per day
- Tractor Centre & Implement Sheds

- Veterinary Services & Animal Health Centre
- Laboratory Testing Station
 - Animal Health
 - Soil Testing
 - Pasture Quality
 - Quality Control etc
- Data Collection Centre (RFID, SCC, etc)
- Cropping / Re-grassing centre & management for many farm units
- Fertiliser Depot
- Feed Mixing
- Training Centre
- School
- Medical Centre
- Shops

Processing on site or close by.

Energy generation from wastes is possible.

Medium Scale Hub Scope

Allied to or part of a major dairy project

Potential Output: 5,000 tonnes of processed beef from an annual throughput of 20,000 animals.

Achieving a production rate of up to 500kg beef per hectare on rain fed pasture only

Medium Scale shared services Centre, servicing farms which total 6,000ha.

Consists of:

- Smaller scale Meat Processing Factory at 60 head per day
- Tractor Centre & Implement Sheds
- Veterinary Services & Animal Health Centre
- Laboratory Testing Station
 - Animal Health
 - Soil Testing
 - Pasture Quality
 - Quality Control etc
- Data Collection Centre (RFID, SCC, etc) from spokes
- Cropping / Re-grassing centre & management for a smaller group of farms
- Fertiliser Depot
- Feed Mixing
- Training Centre

Processing on site.

Energy generation from wastes is possible.

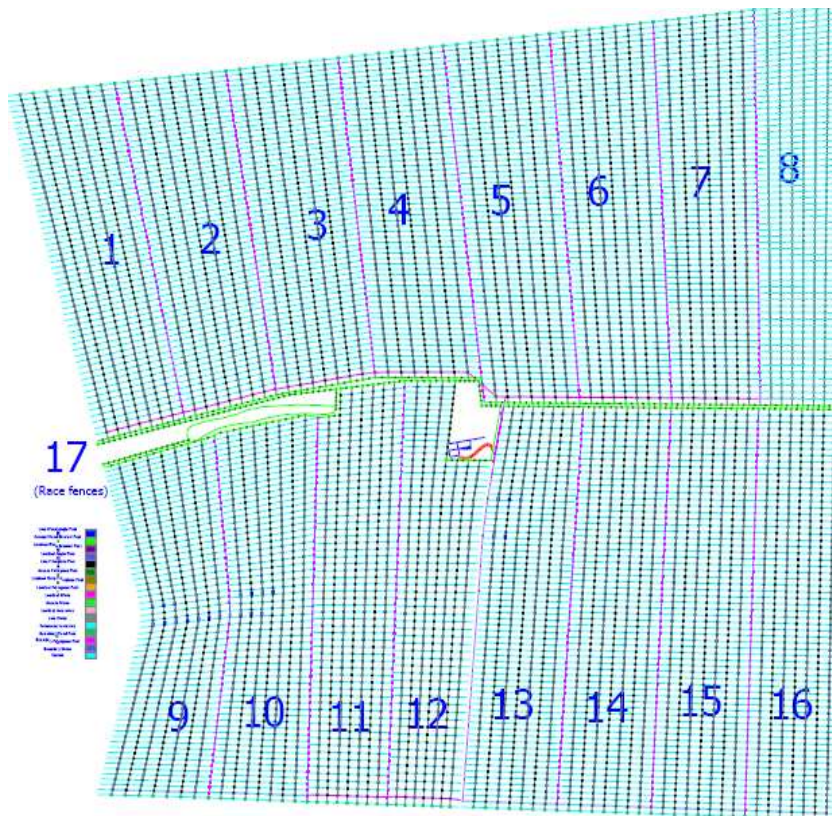
FARM Components



Intensive grazing management systems KIWITECH INTERNATIONAL

Outputs

- 400 animals processed per day
- 300 production days per year
- 120,000 animals processed per year
- Slaughter weights achieved at 20 months
- Average >250kg Carcass Weight per animal
- Annual output >30,000 tonnes meat products
- Hides and other By-products

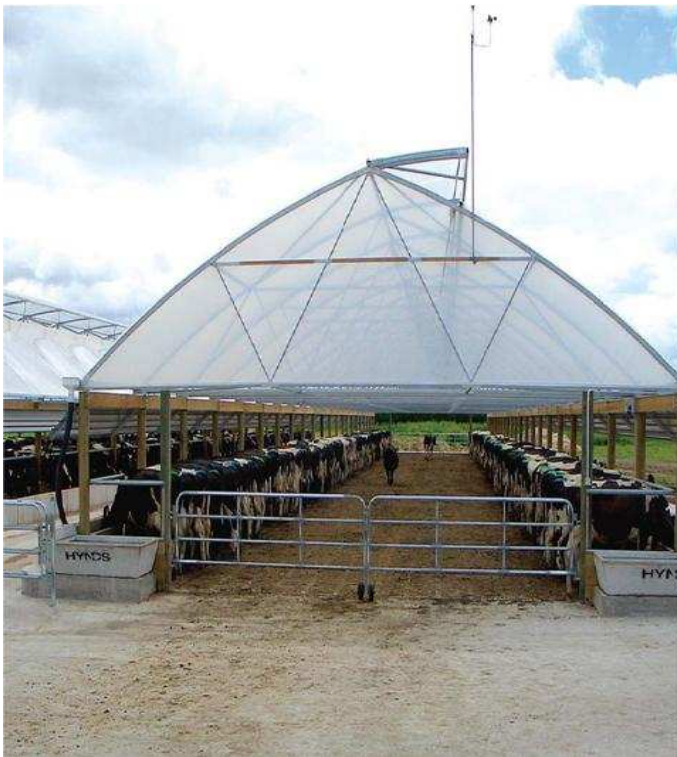


KIWITECH INTERNATIONAL URUGUAY 2500 animal unit

Use of Farm Mapping to design appropriate and functional layouts for each operating farm.



Landcorp Farming, Angus Beef cattle, Rangiputa, New Zealand



HerdHomes example

Herd shelter systems appropriate for the climate



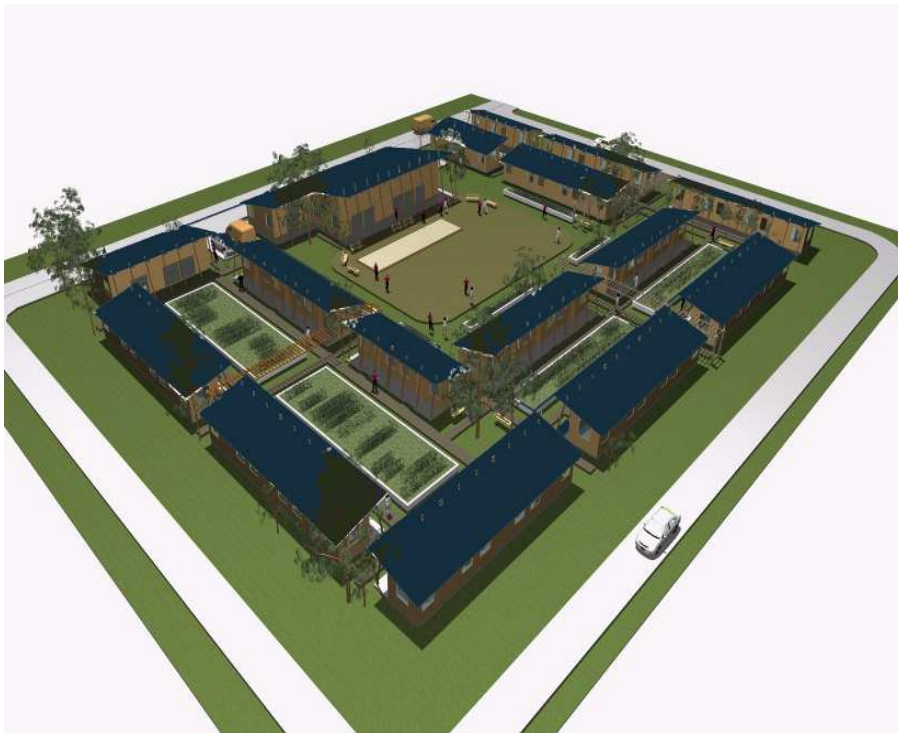
Appropriate genetics for the specific location chosen from Bos indicus/taurus crosses proven in tropical, sub-tropical and temperate regions.



Brangus in Argentina

Sub-centre Components
Specifications

Forage and feed storage, calf rearing, local management and accommodation for local staff.



Village concept for Sub-centre employees and their families.



Use of cropping to maintain a balanced diet and even out seasonal impacts.



Feed Bunkers for storage and handling of conserved feed and feed supplements.



Use of Round Bales for storage and handling of conserved feed.

Main Centre Components



Base infrastructure building servicing spares, laboratory, veterinary, management, training and technology transfer and includes tractor and equipment centre.



Bulk Warehousing and handling for Fertilisers and stockfeeds

Components of Large Scale Hub layouts including:

- processing
- warehousing,
- education,
- medical,
- accommodation,
- central equipment depot and management facilities.



Greenlea Processing Plant, Hamilton, New Zealand

Appropriate beef processing technology for the location which will include remote monitoring equipment for effective management control.

Who are we?

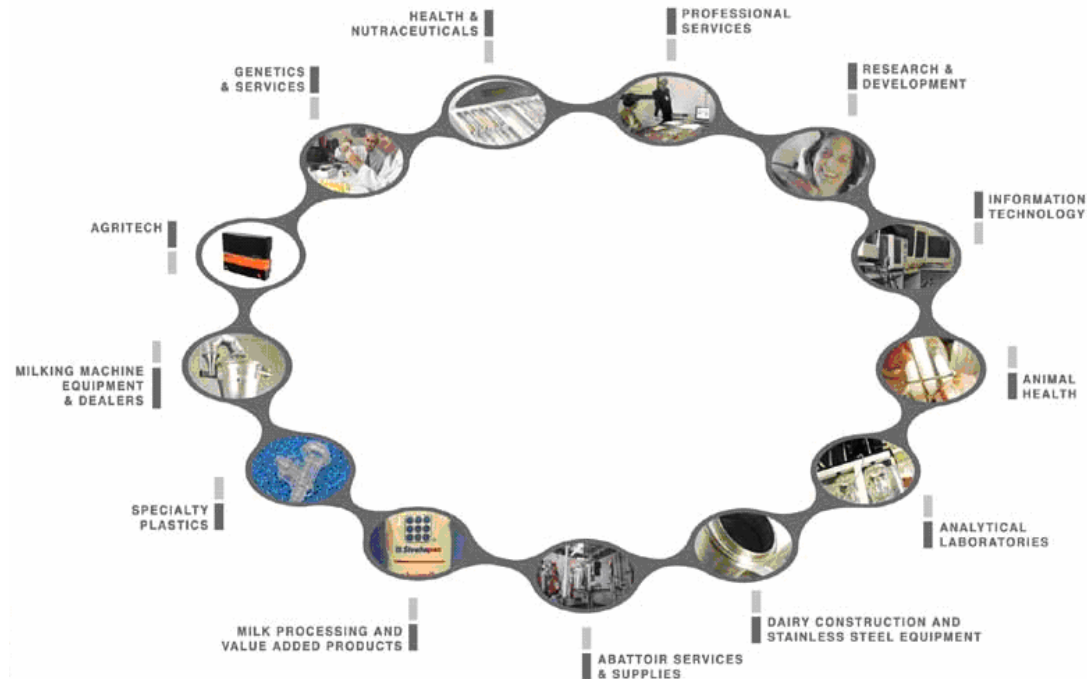
Waikato Innovation Park is a Technology Business Park focused on the Agricultural and Biotechnology (AgBio) area. We are situated in Hamilton, the capital of the Waikato Region and the centre of the Dairy Industry in New Zealand.

There are currently over 50 companies resident in the park and the next stage of growth is occurring now to accommodate the demand for space. The park is situated alongside New Zealand's Government Agriculture research centre (AgResearch), the University of Waikato and the New Zealand dairy industry research centre DairyNZ.

We are the centre of the New Zealand AgBio Cluster which is a group of companies within a particular industry who, though they may sometimes compete with each other, also work together co-operatively to deliver greater business advantages globally.

The role of Waikato Innovation Park in the Cluster is to:

- work with large scale and corporate farmers and Fund Managers to assemble the 'best of breed' technology and service providers, for their unique requirements
- facilitate collaboration between New Zealand's AgBio Companies
- lead internationalisation of New Zealand's agritechology and services.



THE PARTNERS

The Beef SolutionNZ partner firms and their core products and services are:

- [Landcorp](#) – New Zealand's largest farmer at over 360,000ha - for farm development and farm operations services and selected genetics.
- [Neil Aitken](#) – New Zealand's highest producing beef farmer using a modified TechnoGrazing™ system utilising seasonal pasture only.
- [Gallagher](#) – No1 in the world for animal management systems, fencing and related technologies
- [Herd Homes® Ltd](#) – low cost herd shelter systems
- [KiwiTech](#) – for TechnoGrazing™ systems
- [CRVAmbreed](#) – for globally sourced genetics, including in market field services
- [ABS](#) – for access to world class embryology and genetics
- [PGGWrightson](#) – for seeds and live animals, with over 30 years of (Temperate and Tropical) export experience
- [ARGNaturalGenetics](#) – for globally sourced tropical beef genetics and large scale tropical farming with over 80,000ha in pasture production
- [LIC](#) – for New Zealand genetics
- [Sexing Technologies](#) – International reputed provider of sexed semen and embryos
- [Greenlea Meats](#) – for highly efficient Beef processing and packaging systems
- [Wallace Corporation](#) – for lower capital efficient Beef, Sheep, Lamb processing, plus effective rendering systems and processes
- [Carne Technologies](#) – expertise in the meat processing supply chains and equipment
- [TCS](#) – for processing automation and traceability systems
- [Wintec](#) – trains for topics such as Agritechnology, Trades and English training
- [AgITO](#) – for New Zealand training of farm workers and managers
- [Lincoln University](#) – for graduate and post graduate education
- [AgResearch](#) – New Zealand's leading research institution for farm systems validation and science related problem solving

Contacts:

Derek Fairweather: Chief Executive Officer

derek@innovationwaikato.co.nz

(64) 7 8570502 Mobile: (64) 27 4465809

Peter Davey: Business Development Manager

pdavey@innovationwaikato.co.nz

(64) 7 8570543 Mobile (64) 211249425

Stuart Gordon: Business Development Manager

gordons@innovationwaikato.co.nz

(64) 7 8570529 Mobile: (64) 27 4765821





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