

Global genetics collaboration driving resilient dairy

A collaboration with Acceligen and the
Bill & Melinda Gates Foundation

LIC is embarking on an exploratory initiative aimed at breeding heat tolerant and disease resistant dairy cows for Sub-Saharan Africa, in collaboration with the global leader in precision breeding, Acceligen, and the Bill & Melinda Gates Foundation.

What you need to know

Corporate Social Responsibility

LIC's involvement in this initiative will help grow sustainable dairy markets, improving human and animal welfare.

Market Development

This project help showcase LIC's advanced breeding capability to global markets.

Gene editing

LIC will have the opportunity to build capability in gene editing on behalf of farmer shareholders ahead of regulatory changes in New Zealand.

Collaboration

The Acceligen collaboration enables LIC to learn from the best globally and identify future opportunities.



Working together to improve global food security

A worldwide collaboration focused on breeding heat tolerant and disease resistant dairy cows using cutting-edge gene editing technologies

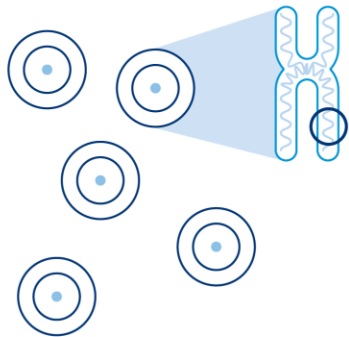
Improved heat tolerance

Improved disease resistance
(up to three diseases)

Enhanced milk productivity & fertility

1 New Zealand

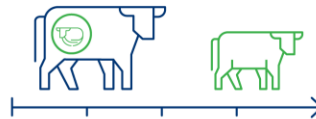
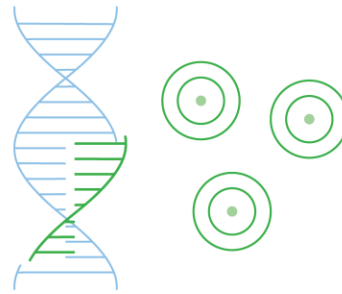
Embryos bred from LIC's world-class pasture-based genetics are sent to the United States.



Last quarter of 2024

2 United States

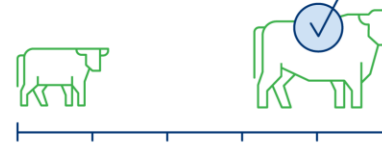
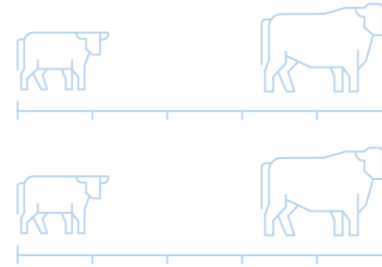
Gene editing experts, Acceligen, edit the stem cells of embryos, which are transferred into dams to birth gene-edited calves.



2024 - January 2026

3 Brazil

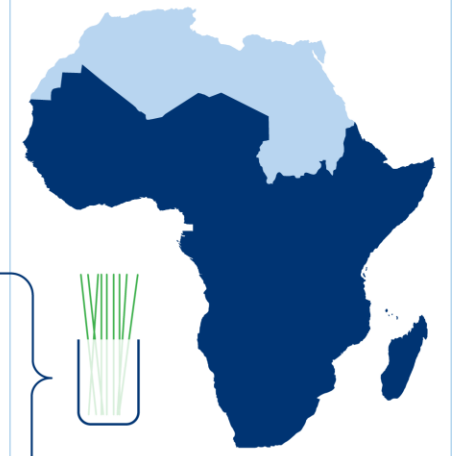
Bull calves are transported to Brazil. These animals are reared to be elite sires and their semen is collected.



January 2026 - June 2027

4 Africa

Semen straws are sold and distributed into Sub-Saharan African markets through a developed distributor network.



August 2027 - June 2028

In collaboration with:

Acceligen™

BILL & MELINDA
GATES foundation

LIC®

The details

Bill & Melinda Gates Foundation funding to add up to four gene edits into NZ bovine genetics

Sires will have:

- positive characteristics of NZ genetics
- heat tolerance
- tolerance to 3 diseases

5-year project with **\$5M** USD budget (\$8.3M NZD)

Creation of **20** gene-edited sires

NZ **High BW**
low methane
embryos

1M straws to be collected for distribution in Sub-Saharan Africa.

Partnering with **Acceligen**

What this means for New Zealand farmers

Future-ready innovation

The initiative involves gene editing. The New Zealand Government has committed to legislative change to end the effective ban on gene editing by the end of 2025, and LIC is organising itself now in preparation for that. This initiative provides LIC with the opportunity to increase its understanding of gene editing and the role it can play in our breeding programmes in the future.



Expanding farmers tools

LIC supports dairy farmers by providing tools to breed the most sustainable and profitable herds, now and into the future. This project keeps LIC at the forefront of the latest technology, to ultimately expand the tools available to New Zealand farmers.



Commercial benefits

As well as growing sustainable dairy markets, this initiative has long-term commercial benefits for LIC and the wider New Zealand dairy sector. It would help New Zealand's agricultural sector maintain high-value dairy outputs with fewer resources and lower emissions, boosting sustainability, profitability and export competitiveness.

Gene Editing - what it involves

Gene Editing

Technique: Gene is cut using CRISPR technology and the DNA is edited by deleting, replacing or inserting specific sequences.



Result: DNA is changed, but tests cannot usually distinguish whether the organism was created via gene editing or conventional breeding.

For more information

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