



Terragen

**Bell Potter Home Grown
Investor presentation
Wednesday, 14 June 2023**

TERRAGEN HOLDINGS LIMITED (ASX:TGH)
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Introduction to Terragen (ASX:TGH)

Terragen develops microbial biological solutions to address animal and soil health, productivity and methane reduction

Overview

- Biological products for agriculture, both in the soil health and animal health and nutrition sectors
- Team has over 100 years of R&D experience, with a portfolio of patents granted in multiple jurisdictions¹
- Products are **MYLO®** (feed supplement) for calves and cattle and **Great Land Plus®** (soil conditioner)
 - **MYLO®** is the only product in the market that is **proven to improve animal productivity² and reduce methane³**
- Operates in Australia and New Zealand
- Products sold and distributed by a retail agency network comprising over 200 stores

Key Products



MYLO® - Cows



MYLO® - Calves



Great Land Plus®

MYLO® is a live microbial feed supplement with applications to boost health and productivity for dairy and beef cattle and sheep, in addition to reducing methane emissions

Great Land Plus® is a patented chemical-free soil conditioner, containing a proprietary consortia of live microbes

Note

1. Terragen IP protects our core 2 products in jurisdictions including Australia, New Zealand, North America and Europe

2. 10.1% increase in average milk yield, Harrisville, QLD, announced 24 May 2023

3. 7.5% reduction in methane emissions, Ellinbank SmartFarm, VIC, announced 21 April 2022

Product overview – Mylo[®] for calves and cattle



A next generation natural feed supplement that is proven to help improve calf and cattle health and productivity, elevating financial returns for farmers

Overview

- Mylo[®] is targeted primarily at primary production animals such as dairy cattle, beef cattle and sheep
- Available in 3 sizes - 20L drum, 200L drum and a 1,000L IBC
- Mylo[®] is currently administered as a liquid feed supplement and is certified for organic farming in Australia and New Zealand
- Comprises individual strains of Lactobacillus casei, Lactobacillus buchneri and Lactobacillus paracasei

Key metrics



Mylo[®] for calves holds 10% market share of Australian calves



Mylo[®] for cows holds 4.4% market share of Australian cows

Mylo[®] Highlights



Reduces methane emissions in cows by up to 7.5%¹, resulting in **100 tonne CO₂ reduction per year per farm**²



Calves reach target weights **up to 10 days earlier**³



8% heavier calves (~ up to 6kg) with accelerated rumen development³



Cows produce 10.1% more milk⁴



Has **no withholding period** and is **free of antibiotics and chemicals**



Made of naturally occurring, living micro-organisms



Higher quality milk – somatic cell count reduced by up to 38%



Cost effective, up to \$410 annual benefit per cow net of Mylo[®] costs = **11x ROI**⁵

Note

1. Ellinbank SmartFarm study 2022
2. Based on 350 cows per farm
3. University of QLD calf study 2019
4. Harrisville, QLD study, announced 24 May 2023
5. Based on 10% milk production increase at farmgate price of \$8.50 per kg milk solids



Product overview – Great Land Plus®

A patented liquid biological soil conditioner containing live, naturally occurring bacteria that boost soil health and yields

Overview

- Developed as an effective alternative to chemical-based soil conditioners
- Available in 3 sizes - 20L drum, 200L drum and a 1,000L IBC
- Available in liquid form - freeze-dried product currently in development
- Applied by spraying onto pasture, beneath trees, vines and through irrigation systems

Key metrics



3%

Great Land Plus® dairy
pasture Australia
market share



1%

Great Land Plus® dairy
pasture New Zealand
market share

Great Land Plus® Highlights



Observed significant **increase in lucerne growth**¹ - through improved **water retention, nutrient profile and biology**



Free of damaging chemicals



Contains **five naturally occurring bacterial species** from the Lactobacillus and Acetobacter genera and one yeast



Increased milk per cow (+7.3%)² - contributing additional **\$200 per pasture-fed cow per season to farmers**



Reduces the need to use fertilisers

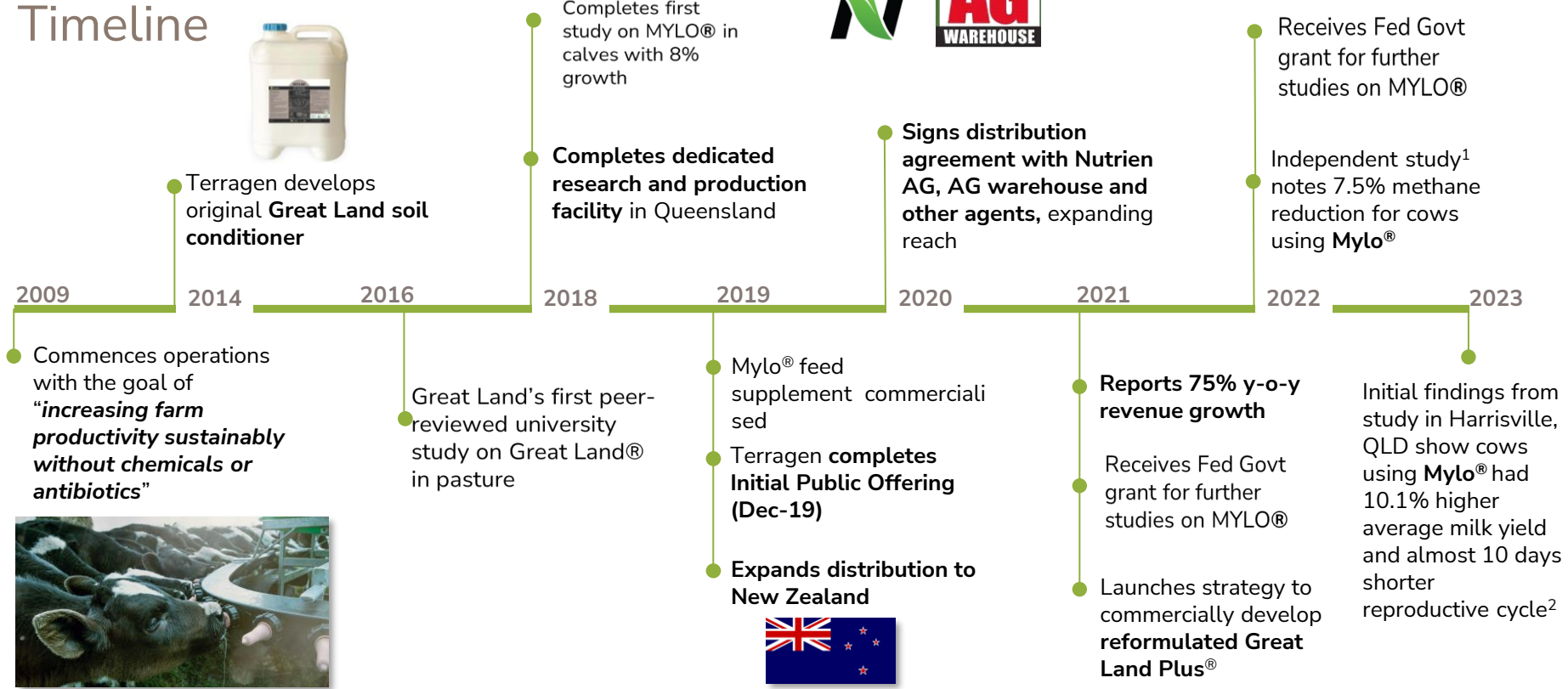


Certified for organic farming in Australia and New Zealand and compliant with USDA and NOP³

Note

1. Independent farmer trials in 2015 Mount Gambier (SA), Shepparton (VIC) and Forbes (NSW); AgLogic Agricultural Intelligence (2016)
2. Olchoway et al. (2019) J. Dairy Sci.
3. United States Department of Agriculture, National Organics Program

Timeline



Note

1. 7.5% reduction in methane emissions, Ellinbank SmartFarm, VIC, announced to the market on 21 April 2022

2. Harrisville, QLD study, announced to the market on 24 May 2023

Scientific research

Research, development and collaboration with leading industry partners remains a key priority for Terragen to expand its portfolio of microbes

Overview

- Specialises in biological product research with a focus on Lactobacillus bacteria
- Products leverage the benefits of microorganisms sourced from natural sources including certain soils, plants and animals
- Approach is a combination of collecting, characterising, screening and combining microorganisms to achieve maximum efficacy against specific targets
- Research is conducted using a combination of independent universities and scientific organisations to test products, including **RMIT University, University of Queensland** and **Ellinbank Research Farm (Victorian Government)**
- Short-medium term R&D strategy encompasses extended research on methane reduction, development of new dry formulations and commercial development of Lactolin

Highlights



Team of **10 scientists** dedicated to researching the benefits of Mylo® and Great Land Plus®



Published 8 studies (internal and external) to date, plus 10 manuscripts in preparation



Currently undertaking 5 studies (internal and external)



State-of-the-art research and manufacturing facilities



Sequenced genomes of Terragen's 11 proprietary microbes








Research **published in 6 international scientific journals**

Collaboration Partners



Clinical study overview

Terragen has a strong record of published studies in peer reviewed journals

| Product | Description | Collaborator | Key Takeaways |
|------------------|--|--|---|
| Mylo® | Partnership with Ellinbank SmartFarm to explore effect of liquid Mylo® supplement on methane reduction and milk production |  | <ul style="list-style-type: none"> • Methane intensity 7.5% lower than control group • Estimated 100 tonnes of CO₂ reduction per year per farm¹ • 21% higher weight gain compared to control cows • 1.3% higher milk production |
| Great Land Plus® | Study undertaken by the University of Queensland ² with the objective of quantifying any effect Great Land Plus® may have on the milk quality of cows grazing pasture top-dressed with this product ⁴ |  | <ul style="list-style-type: none"> • Milk volume increased by 7.3% in cows on treated pasture • Milk protein was 7.5% higher in cows grazing treated pasture |
| LACTOLIN | Study undertaken with the objective of evaluating the short-term effect of LACTOLIN on udder health of dairy cattle |  | <ul style="list-style-type: none"> • Cows receiving LACTOLIN were less likely to experience worsening udder health • LACTOLIN performed at least as well as the iodophor treatment in use at the farm |
| Mylo® | A study ³ of weight gain in the pre-weaned and associated changes in the gastrointestinal tract with the objective of showing the improvements when Mylo® is added as a dietary supplement |  | <ul style="list-style-type: none"> • Calves supplemented with Mylo® gained 8.4% more weight over 56 days until weaning • Organs in the gastrointestinal tract developed more quickly in calves supplemented with Mylo® • Treated calves had greater species diversity in their gut microbiome |
| Mylo® | Partnership with Ellinbank Smartfarm and Fonterra to evaluate automated feeding of a methane-mitigating probiotic to grazing lambs and dairy cows (including receipt of A\$615k funding from the Australian Government) |  | <ul style="list-style-type: none"> • In progress. Announced October 2022, due to commence June 2023 with results likely in H2 FY24. |

Note

1. 34 g/d lower methane production (Ellinbank SmartFarm, 2022) applied to a farm with 350 cows for 305 day lactation (note: it is CO₂e)
2. Olchoway et al. (2019) J. Dairy Sci.
3. University of QLD calf study 2019
4. Efficacy of a Lactobacillus-Based Teat Spray on Udder Health in Lactating Dairy Cows, Front. Vet. Sci. (2020)

Global market opportunities

Terragen is well positioned to enter international markets and benefit from a marked shift towards sustainable agriculture and responsible consumption

Key drivers for alternative farm inputs



Emergence of **sustainable agriculture**



Increases in input costs for dairy, beef and crop production has led to a sharper focus on productivity



Shift in farmer sentiment from seeking chemical solutions to biological solutions



Shift in consumer sentiment to an increasing preference for organic and sustainably produced food



Increasing pressure to **reduce pesticide production**

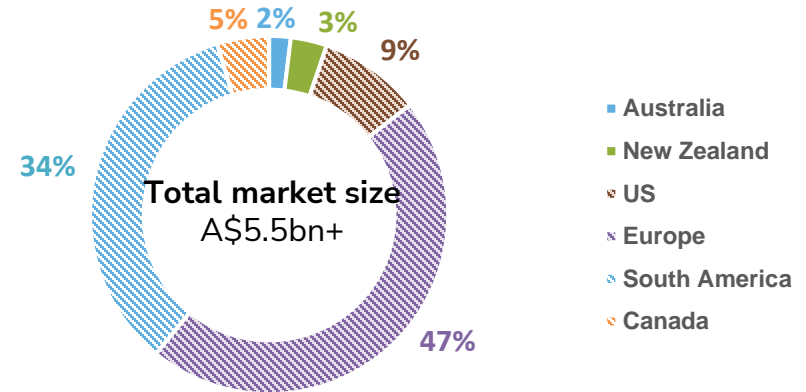


European Union push to **reduce the use of antibiotics in livestock**



New Zealand government **targets on farmers for methane emissions** and **nitrogen-based fertiliser reduction**

Total Addressable Market¹







Opportunity to capture market share in the large **global dairy** and **feedlots** market. Further upside from global expansion of **Great Land Plus®**

Note 1. Internal TGH market size estimate based on published dairy and feedlots markets globally.

New product developments

Terragen is continuing to use its considerable scientific expertise to improve and expand its product offering, with the following initiatives underway

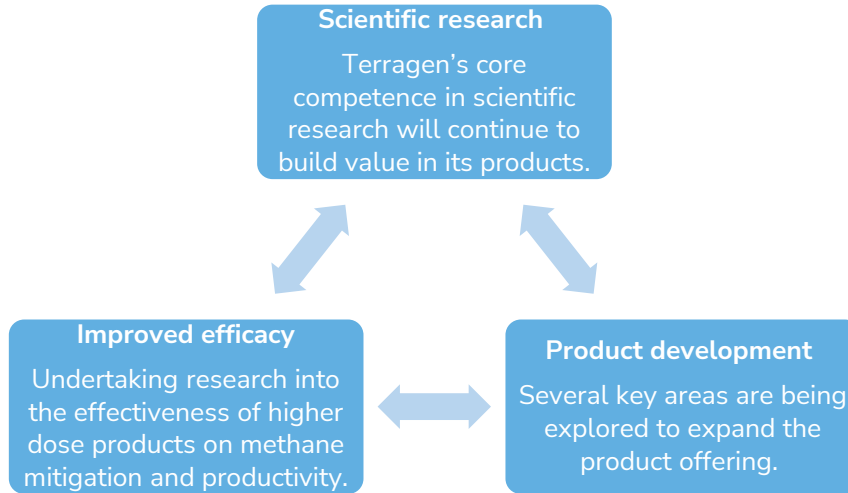
| Initiative | Key Description | Status | Size of opportunity |
|---|---|--|---|
|  Dry Mylo® | <ul style="list-style-type: none"> Benefits over existing Mylo® product include <ul style="list-style-type: none"> — improved shelf life to > 1 year — reduced transport costs — expansion to overseas markets, and — elimination of the need for Mylo® pump | <ul style="list-style-type: none"> Currently in development and testing | <ul style="list-style-type: none"> Entry into beef feedlot segment 3.4m head per annum in Australia and NZ \$150m estimated addressable market (Aus and NZ) No capex requirements (3rd party contract manufacturing) |
|  Great Land Plus® – Nitrogen Reduction Potential | <ul style="list-style-type: none"> Exploring the potential for product to reduce fertiliser requirement thereby lowering costs for farmers and minimising adverse impact from fertiliser run off | <ul style="list-style-type: none"> Currently in trial phase | <ul style="list-style-type: none"> 1.6m hectares of dairy pasture \$93m total addressable market |
|  Lactolin Teat Wash | <ul style="list-style-type: none"> Alternative offering to teat washes that are based on harsh chemicals (iodine or chlorhexidine) used in the dairy industry | <ul style="list-style-type: none"> Early stage | <ul style="list-style-type: none"> 6.3m dairy cows in Australia and NZ c.\$80m total addressable market (Aus and NZ) |
|  Sylo | <ul style="list-style-type: none"> Silage inoculant(s) - for use in silage production | <ul style="list-style-type: none"> In small-scale testing | <ul style="list-style-type: none"> Expanded use of proprietary microbes Global market for grass silage inoculants is c.\$100m |

The path to commercial success

Leveraging scientific trials in real-world environments to build a commercial portfolio of biological products

As Terragen increases its body of scientific findings, Management believes it will present a **compelling commercialisation proposition for partners** who have established sales and marketing networks and seeking a path to sustainability.

Management's current focus in developing a valuable offering for partners is focused on three key areas:



Terragen investment highlights

Management is committed to leading high growth opportunities and generating shareholder value

- 1 **Compelling value proposition to all stakeholders**
- 2 **Potential to capture large global market opportunity supported by favourable industry tailwinds**
- 3 **Track record in product development**
- 4 **Research and Development (R&D) prioritisation**
- 5 **Cost rationalisation**

Terragen is led by an experienced management team



Miles Brennan

Managing
Director and CEO

- Miles was appointed Chief Executive Officer in March 2023, having previously been Chief Financial Officer since joining Terragen in August 2021
- Prior to joining Terragen, Miles worked across a variety of highly commercial businesses in the FMCG industry, including Simplot Australia, Treasury Wine Estates and Red Bull UK
- Miles is a member of CIMA (Chartered Institute of Management Accountants) and CPA Australia



Dr Joss West

Chief Operating
Officer

- Joss was appointed Chief Operating Officer in March 2023, having previously been Terragen's Head of Veterinary Science
- Joss is a qualified vet, having worked in clinics with a focus on mixed and production animal practice, becoming clinic lead for National Vet Care in 2018
- Joss holds an MBA from Griffith University

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