DairyBio

DairyBio21-26

Headline targets

DairyBio is an initiative of the Victorian Government, Dairy Australia and the Gardiner Foundation, with a dedicated purpose of delivering to Australian farmers through the use of bioscience.

3x rate of genetic gain

DairyBio will continue to drive genetic improvement through a range of technological innovations including developing and implementing genomic selection and targeted gene editing in perennial grasses and other temperate species.

Forages adapted to changing climates

DairyBio will deliver a targeted breeding program for forage species that have been modelled to be important for the Australian dairy industry in the future. Developing and applying new precision breeding technology and gene editing technology to identified forages will allow the industry to secure the competitive advantage of home-grown forage for the next three decades. Part of these projects will include modelling and trials which will enable a greater understanding and prediction of the roles that targeted forage species will have in the future.

15% unit increase in herbage quality

DairyBio will be creating higher quality future forages with high value traits to perform in a challenging future environment in a range of farm systems. Initially, DairyBio is targeting increased digestibility to improve the nutritive quality by making more energy accessible from the feed.

Deliver 20% increase in biomass in short term and perennial ryegrass enhanced by demonstration sites

The delivery to industry of the F1 Hybrids and the application of the technology to ryegrass will boost the biomass of perennial and annual ryegrasses by 20%. DairyBio will also expand this technology into relevant and important species for the dairy industry. Rapid breeding processes including genomic selection, F1 hybrids, and integration and exploitation of genome edits in ryegrass species will be further developed and delivered.

Increase in farm profit through farmer uptake of technology enhanced by demonstration sites

Seeing the application of technology in person is an important way for farmers to assess the options and determine confidently the appropriateness of the technology and products for their production system.

1.5x rate of genetic gain compounding – long lasting resilient cows for lifetime profit without loss of diversity

This new phase of DairyBio will accelerate the annual rate of genetic gain in dairy cattle by 1.5 times. This is on top of what the DairyBio16-21 has already been delivered in conjunction with commercial partner DataGene.

10% lower emissions and cows adapt to warming faster than climate change

Breeding more efficient, profitable cows that produce less greenhouse gas emissions is crucial, not only for the industry's sustainability, but also to meet future consumer expectations. A valid mechanism for achieving efficiency gains and methane reductions is through animal genetics.

Agility in a changing regulatory, natural and social environment

DairyBio technology and data will offer solutions to future issues, while working on known pressures and opportunities including climate change, 'right to farm' and regulation. Currently DairyBio is looking at known biomarkers of cow health, but with the improved molecular phenomics technology we have developed, we can also pivot to new opportunities.

Greater lifespan by 2040

DairyBio is aiming to improve longevity and inherent resilience to withstand current and future Australian production environments through innovation in traits under genetic selection and improved selection methods for replacement heifers all while balancing herd rejuvenation with longevity and resilience.

Reduced health and management costs

DairyBio's individual animal prediction including using genomic information combined with milk data, clinical data, and sensor data sources to predict real-time animal performance will lower health and management costs. DairyBio plan to use a from birth approach to health, fertility and resilience to offer high performance tools and models for improved selection decisions for metabolic disease resilience, profitable cow ranking and improved fertility outcome prediction.

For more information visit dairybio.com.au

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Dairy Australia

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