



Building resilience in the NSW dairy industry

Dairy UP generated practical, farm-relevant evidence giving NSW dairy farmers greater confidence in decisions about their feedbase, cows, farm systems and future markets.

ACHIEVEMENTS REPORT

- ✓ **Largest dairy research project**
 - 10 world first projects
 - 23 R&D sub-projects
 - 12 PhD graduates
 - 30+ farms monitored
 - 70+ people involved
 - 11 partner organisations
- ✓ **Innovation in pasture yields**

Up to ~4t/ha/year potential additional kikuyu utilisation
- ✓ **Cutting carbon emissions**

Comparable emissions intensity between pasture and intensive systems
- ✓ **Longer lasting, more productive cows**

~80% lower culling risk - associated with omega-3 blood profiles in older cows
- ✓ **Advances in breeding**

New early indicators for heat tolerance and milk composition
- ✓ **New insights from farm data**

Earlier identification of underperforming calves using automated feeding systems
- ✓ **New market opportunities**

New pathways for surplus calves and milk lactose

Dairy UP demonstrated the value of coordinated, industry-led research and development delivered by:

Building resilience through evidence-based farm decisions

Dairy UP generated practical, farm-relevant evidence to help NSW dairy farmers improve pasture utilisation, cow performance and long-term productivity.



FEEDBASE

- Tested satellite-based advanced monitoring methods for kikuyu
- Evaluated new kikuyu varieties
- Refined management strategies to improve kikuyu pasture performance
- Generated independent NSW data on BMR maize yield and feed quality
- Discovered new insights about the links between plant stress, microbes and kikuyu toxicity.

Benefits to farmers

Greater confidence in:

- **Grazing and pasture management**
- **Choice of crop and pasture varieties**
- **Feed planning decisions**





COW PERFORMANCE

- Identified new markers for heat tolerance and milk composition
- Demonstrated that well-grown heifers can perform well when joined from 12 months
- Identified the main drivers of cows leaving the herd
- Discovered that blood omega-3 lipid profiles are associated with lower culling risk in older cows
- Identified early-life calf feeding and growth patterns linked to higher milk production and longer survival in the herd
- Developed new data-based reports for farmers.

Benefits to farmers

Greater confidence in:

- **Breeding decisions**
- **Age of joining**
- **Disease prevention and management**
- **Feeding strategies**
- **Animal welfare**



DAIRY SYSTEMS

- Found similar emissions intensity across pasture-based and confinement systems, but different priorities for reducing emissions
- Identified different economic strengths and trade-offs across pasture-based and intensive systems
- Confirmed digital soil mapping could support farm-scale decision-making
- Investigated practical pathways for adapting dairy systems to future climates
- Demonstrated the value of structured whole-farm planning for business decision-making
- Identified viable market pathways for surplus calves and beef-on-dairy systems.

Benefits to farmers

Greater confidence in:

- **System choices**
- **Climate adaptation**
- **Farm planning**
- **Resource management**
- **Surplus calf pathways**



DairyUP

Unlocking potential



Project 1:

Unlocking the potential of Kikuyu based pastures.



Project 2:

Unlocking the potential of cows.



Project 3:

The economics of intensive systems.



Project 4:

Feedbase of intensive systems (maize).



Project 5:

Our Farm, Our Plan



Project 6:

Future systems DaT.A..



Project 7:

Dairy future climates



Project 8:

Farmer capability.



Project 9:

Designer milk.



Project 10:

Sustainable pathways for surplus calves.

WHAT MADE DAIRY UP DIFFERENT?

- Whole-of-system research
- Commercial farm validation
- Industry-led collaboration
- Practical on-farm focus
- Integrated data and technology
- Multiple investors, delivery partners and collaborating organisations
- Capability building for future dairy R&D

Delivery organisations



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Dairy
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Department of Primary Industries
and Regional Development

Funding organisations



Australian Government



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Growing
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Additional program supporters, collaborations or partnerships

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Dairy UP is located at the Centre for Carbon, Water and Food (CCWF) on Camden Campus, School of Life and Environmental Sciences, Faculty of Veterinary Science, The University of Sydney.

www.dairyup.com.au