dairynz.co.nz

DAIRYNZ Position Description

Statistician

Position

Position Title: Statistician
Direct Report: Nil
Budget: Nil
Management Position: No

Reports to: Senior Science Manager
Career Level: Specialist
Revenue: Nil
Delegated Authority: Nil

Purpose of DairyNZ

Our Purpose: ***Deliver a positive future for New Zealand dairy farming.***

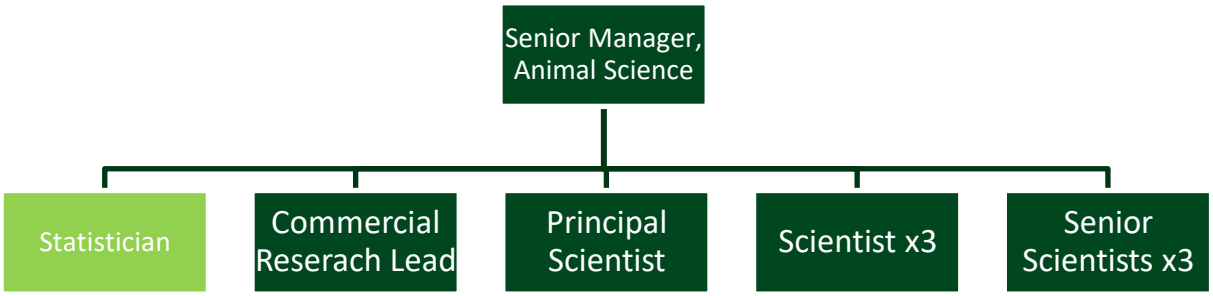
Our Vision: ***To make the levy the best investment of every New Zealand dairy farmer.***

That's why we exist for farmers, working alongside them and others to leverage our collective strength and create purposeful change.

Purpose of the position

To strengthen the quality of DairyNZ's research through expert statistical advice, analysis and experimental design. The role partners with science and technical teams to ensure robust statistical practice and build statistical capability across Research & Science.

Team organisation chart



Key position deliverables

Key deliverables of the role to be reflected in the Performance Agreement and Individual Performance Targets.

Key Performance Requirement:	Key Indicators:
Experimental Design and Planning	• Design experiments for animal, farm systems and pasture, environmental research, and surveys that are statistically sound, practical to deliver and relevant to New Zealand pasture-based dairy systems. • Advise on appropriate designs, including parallel, cross-over, repeated measures, split-plot and Latin-square designs. • Undertake power and sample size calculations and prepare randomisation plans for trials. • Provide statistical input to animal ethics applications and trial protocols. • Work with scientists and research farm teams so that trial designs can be practically implemented on farm.
Statistical Analysis and Data	• Analyse data using appropriate statistical techniques, including repeated measures, multivariate methods (PCA, Clustering, PLS, PLS-DA), survival analysis and method comparison. • Analyse incidental, observational and farm systems data, recognising the increasing use of non-traditional trial designs. • Work with large and complex datasets, including wearable sensor and behavioural, environmental, and survey data, covering data cleaning, processing, analysis and interpretation. • Maintain reproducible, well-documented analysis code and workflows. • Report and present statistical results clearly and accurately, including drafting stats methodology and review results sections for manuscripts.

Statistical Consulting, Review and Quality Control	• Provide statistical consulting to scientists and project teams, from initial discussion through to analysis and interpretation. • Review analyses, reports, manuscripts and proposals for statistical validity, and give clear, direct and constructive feedback. • Act as the point of statistical quality control for Research & Science, escalating and resolving issues where methods are not appropriate. • Identify when work is outside own expertise and seek or recommend appropriate support.
Capability Building and Training	• Empower scientists, especially early-career researchers, to carry out their own statistical analyses with appropriate guidance and review. • Develop and deliver practical training in experimental design, sample size calculation, randomisation and data analysis, using case studies relevant to DairyNZ. • Run regular consulting sessions and share knowledge and tools (e.g. templates, R code) across the science team. • Mentor colleagues who are developing statistical skills.
Research Contribution and Collaboration	• Contribute to research funding proposals, including trial design, analysis plans and budgeting for statistical input. • Contribute as an author or reviewer to scientific papers, reports and management papers. • Collaborate with the Data Science & Modelling team, and other DairyNZ teams, to share approaches and make best use of data. • Build relationships with external statisticians, research providers and collaborators. • Support the communication of research findings to farmers, industry and stakeholders where appropriate.

How We Work	• Support and role model DairyNZ values and principles: Connected, Curiosity, Courage and Credibility. • Understand and adhere to company policies and guidelines. • Actively support and contribute to DairyNZ organisational culture of one team. • Actively support and encourage continuous improvement to drive our organisation forward. • Strive to provide a safe and healthy workplace • Role model industry safe working practices • Take appropriate action to ensure correction of any condition or practice, which may cause harm to yourself, others or the environment. • Actively promote DairyNZ Health, Safety & Wellbeing Policies and procedures. • Support and encourage employee participation and consultation in all aspects of Health, Safety and Wellbeing management. • Comply with legislative requirements and relevant standard

Key relationships

Internal	**External**
Research & Science Business Unit	Research providers (CRIs, universities, private research agencies)
Research farm and technical teams	University academics and external staticians
Project leads and Programme leaders	Dairy farmers and rural professionals
Other DairyNZ teams	Funders and collaborators

Qualifications and experience

Essential	**Preferred**
MSc in statistics, biometry or a closely related quantitative field	PhD in statistics, biometry or a related field
Proven experience in the design and analysis of experiments, including power and sample size calculation and randomisation	Experience working with large and complex datasets, including sensor or wearable-technology (highly valued), or survey data
Experience with repeated measures and multivariate analysis	Experience in animal, agricultural or biological research including for commercial clients
Proficiency with statistical software and programming using R	Experience with animal and or human ethics applications

Ability to review the work of others and give clear, direct and constructive feedback	Experience with Snowflake, Github, and Workbench
Excellent written, oral and interpersonal communication skills, including explaining statistics to non-statisticians	Experience training or mentoring others in statistics
Positive attitude to continuous learning	Experience contributing to peer-reviewed publications and funding proposals
High levels of technical accuracy and precision	Understanding of New Zealand pasture-based dairy systems and the dairy sector

Job specific & technical competencies

Category	Descriptor/Evidence
Statistical Expertise	Applies sound statistical theory and methods to practical problems; selects appropriate methods, checks assumptions and interprets results accurately; recognises the limits of own expertise.
Experimental Design	Designs efficient, practical experiments that answer the research question; understands the constraints of animal, farm systems, environmental and pasture trials; calculates sample size and power and plans randomisation.
Data Analysis and Management	Works confidently with large, complex and imperfect datasets, including sensor data; cleans, processes and analyses data using reproducible methods; leverages technology to improve quality and efficiency.
Quality Focus and Review	Reviews others' work with rigour and fairness; is willing to challenge and provide direct, constructive feedback when methods or conclusions are not sound; holds a high standard of technical accuracy.
Teaching and Capability Building	Explains statistical concepts clearly and practically to non-statisticians; empowers others to carry out their own analyses; shares knowledge freely; builds capability across the team.
Continuous Learning	Actively seeks to learn new methods, tools and technologies; adapts quickly to new types of data and research questions; keeps up to date with developments in statistics and the dairy sector.
Collaboration	Actively seeks to collaborate. Can demonstrate successful collaborations. Collaborates when appropriate to do so. Builds constructive working relationships across disciplines and teams.
I.T. Literacy	Capable of using statistical and programming software (in particular R) and the MS Office suite to develop and deliver analysis, documentation and reporting to the required standard.

Career level competencies – Specialist

Competency	Descriptor/Evidence
PROBLEM SOLVING	Uses rigorous logic and methods to solve difficult problems with effective solutions; probes all fruitful sources for answers; can see hidden problems; is excellent at honest analysis; looks beyond the obvious and doesn't stop at the first answers.

INTELLECTUAL HORSEPOWER	Is bright and intelligent; deals with concepts and complexity comfortably; described as intellectually sharp, capable and agile.
INTERPERSONAL SAVVY	Relates well to all kinds of people – up, down and sideways, inside and outside the organisation; builds appropriate rapport; builds constructive and effective relationships; uses diplomacy and tact; can diffuse even high-tension situations comfortably.
TIMELY DECISION MAKING	Makes decisions in a timely manner, sometimes with incomplete information under tight deadlines and pressure; able to make a quick decision.