



CUSTOMER SPOTLIGHT

From Excel Spreadsheets to AI: Modernizing Dairy Science with Posit & Snowflake at DairyNZ



SUMMARY :

DairyNZ transformed its data infrastructure by moving from manual Excel spreadsheets to a cloud-based ecosystem using Posit Team and Snowflake. This digital evolution allowed the organization to process high-frequency IoT data from thousands of farms and cows 4x faster than before. By equipping scientists with R and automated workflows, DairyNZ now provides farmers with real-time economic trackers and sustainability tools, ensuring New Zealand's dairy sector remains a global leader in innovation and profitability.

ABOUT :

DairyNZ is the industry-good organization representing all New Zealand dairy farmers, supporting them through world-class research, science, and advocacy.

INDUSTRY :

Public Sector

SIZE :

400 employees

TECHNOLOGY USED :

Posit Connect, Posit Workbench, Posit Package Manager, Positron, RStudio IDE

DATA CLOUD

PARTNER INTEGRATION :

Snowflake



The Challenge:

Overwhelmed Local Infrastructure

Manual Excel-based workflows on local hardware caused a two-year delay in economic reporting and could not scale to handle high-frequency IoT data from modern sensors.

- **INFRASTRUCTURE BOTTLENECKS:** Local hardware was overwhelmed by high-frequency data streams (60 observations per second), leading to “smoke pouring out of laptops” during complex simulations.
- **OUTDATED REPORTING:** Farmers received critical economic insights up to two years late, making the data backward-looking rather than a proactive decision-making tool.



The Solution:

Open-Source Flexibility and Reproducibility

DairyNZ integrated Posit Workbench and Posit Connect with a Snowflake data warehouse to centralize information from 11,000 farms, moving compute to the cloud and enabling scientists to build interactive Shiny applications for quarterly agricultural updates.

- **REAL-TIME FARMER TOOLS:** The “Econ Tracker” and “Pasture Potential” dashboards provide farmers with immediate insights into budgeting, peer comparison, and productivity.
- **AUTOMATED WORKFLOWS:** Researchers now use Quarto and Shiny to track emissions reduction experiments and milk production in near real-time, accelerating the pace of scientific innovation.

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