Developing metrics to rank individual herds according to data quality

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DairyNZ

Overview

- Why we need data quality metrics
- Key metrics, and how we developed them
- What we have learned
- Future applications

Why we need data quality metrics

- Monitoring data quality over time
- Assessing the impact of poor quality data
- Targeting specific herds for research (i.e. novel trait collection)
- Feedback to farmers

Key metrics, and how we developed them

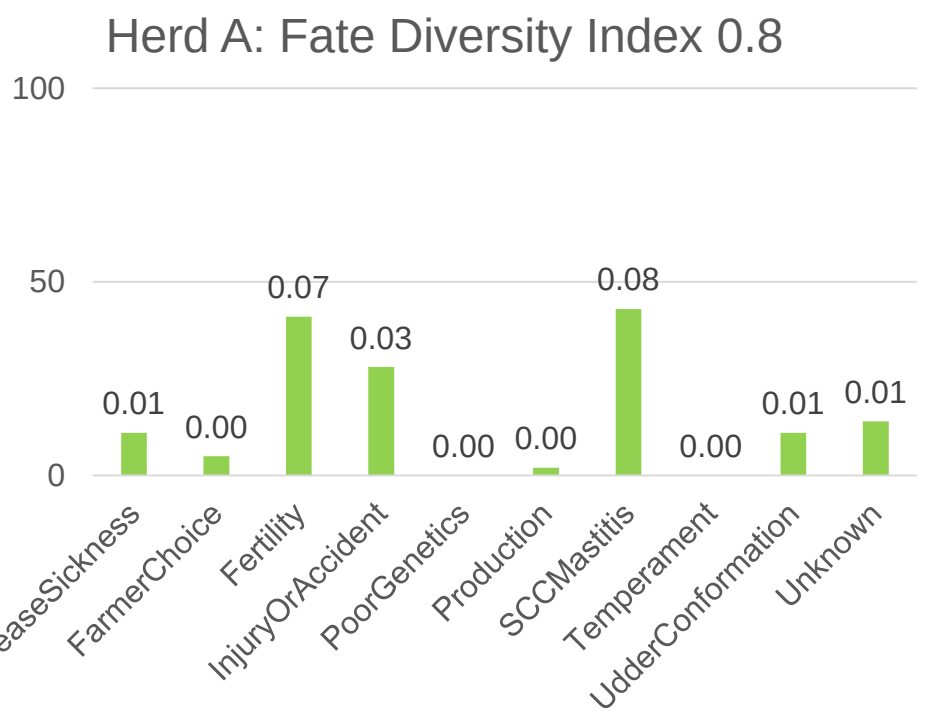
- Sire assignment
- Calving and mating dates
- Herd testing
- Conformation scoring
- Calving assistance recording
- Herd exit recording

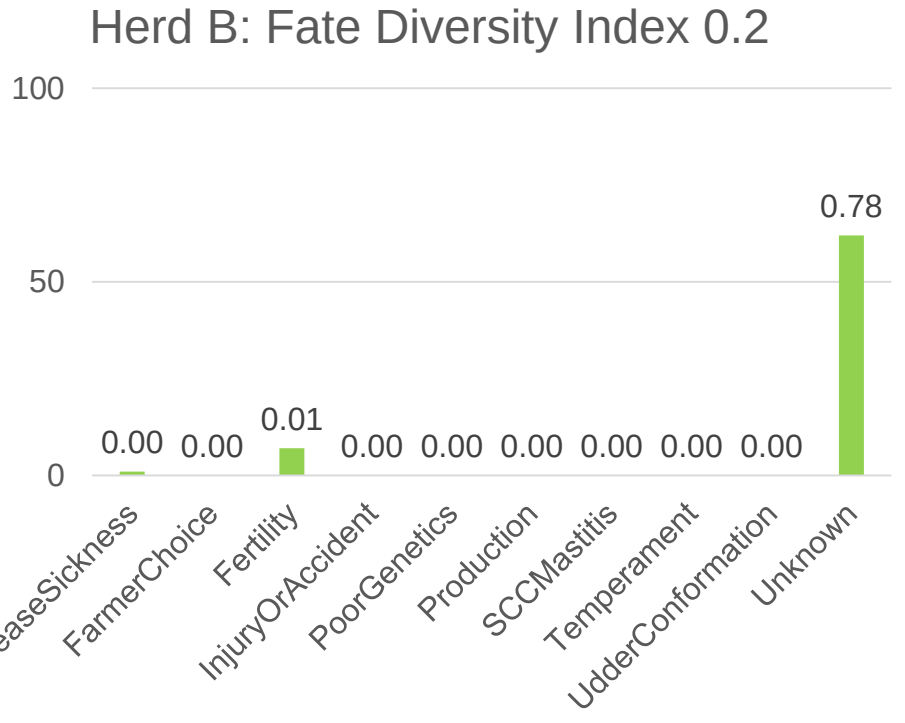
Fate Diversity Index: Formula

$$1 - \sum_{i}^{n} PropReason_i^2$$

$PropReason_i$ = proportion of animals culled or sold for reason *i*

Fate Diversity Index: Example

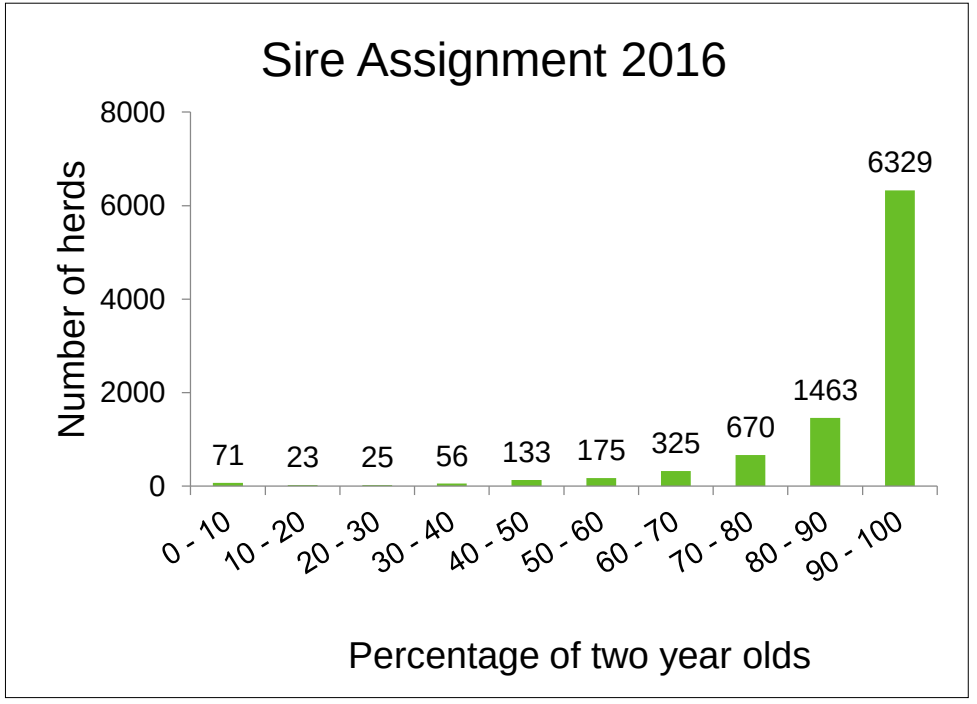


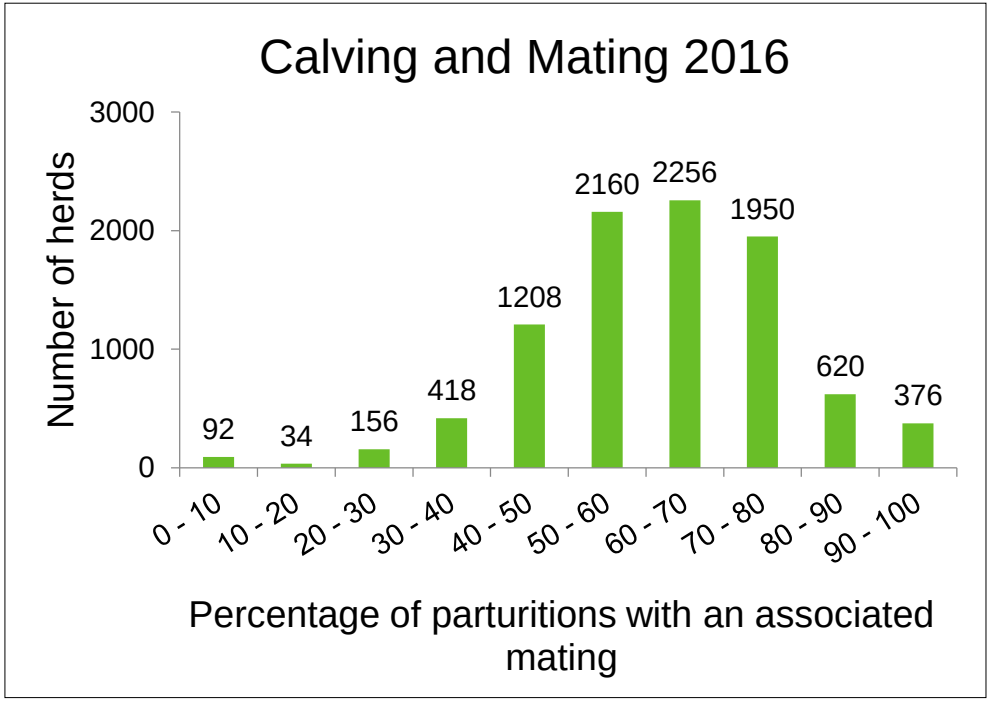


What we have learned

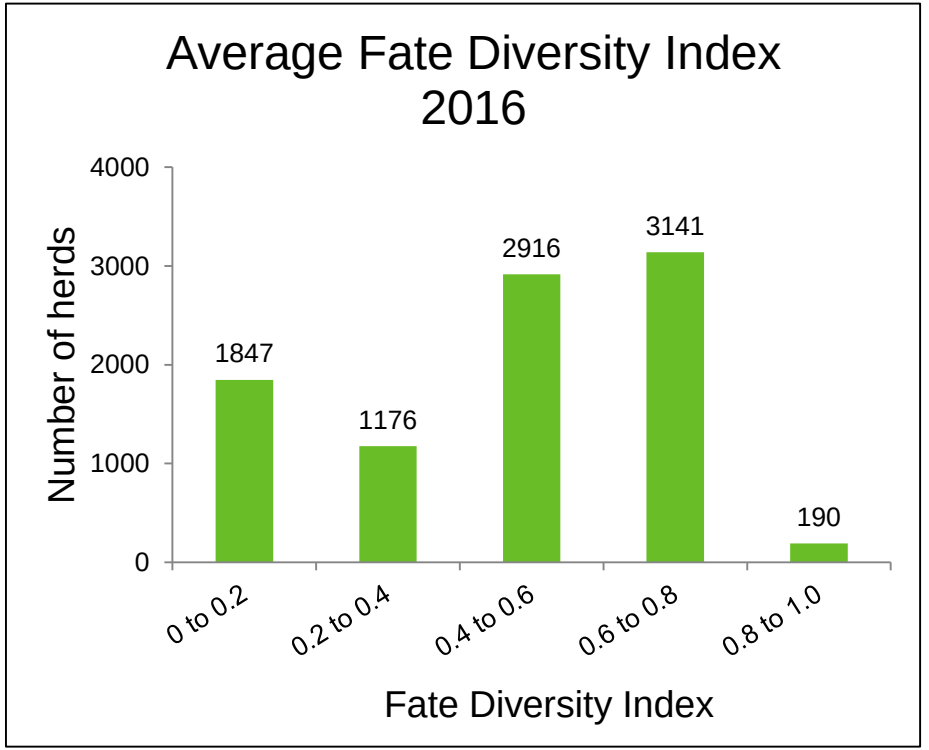
- Data quality is extremely varied across herds
- Herd performance across multiple metrics is often inconsistent
- Most metrics are trending downwards

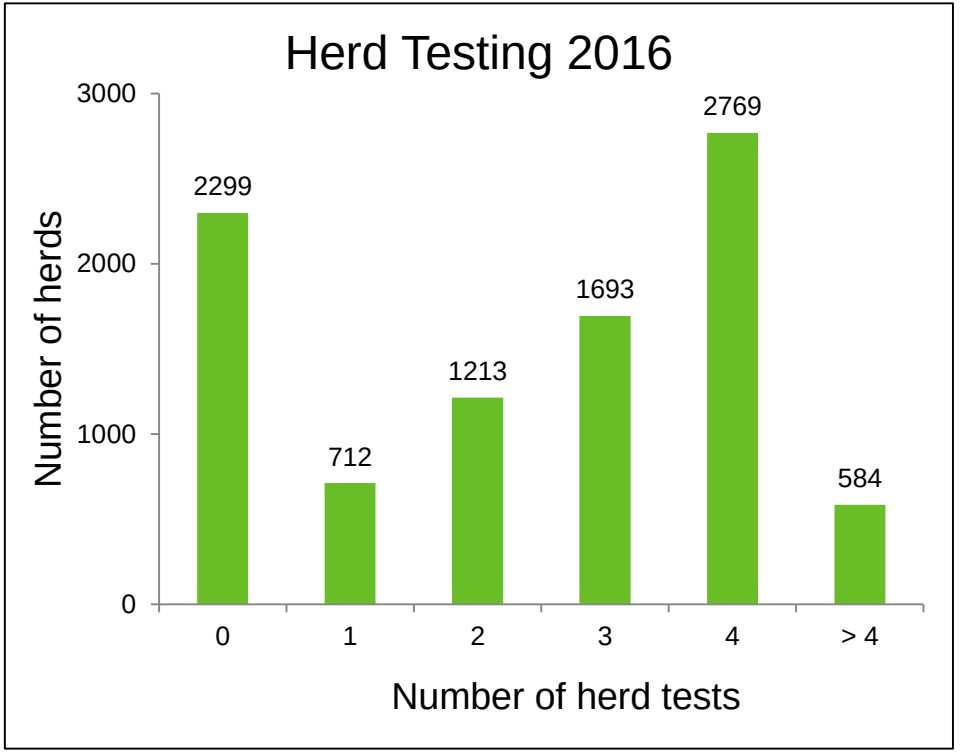
Data quality is extremely varied across herds



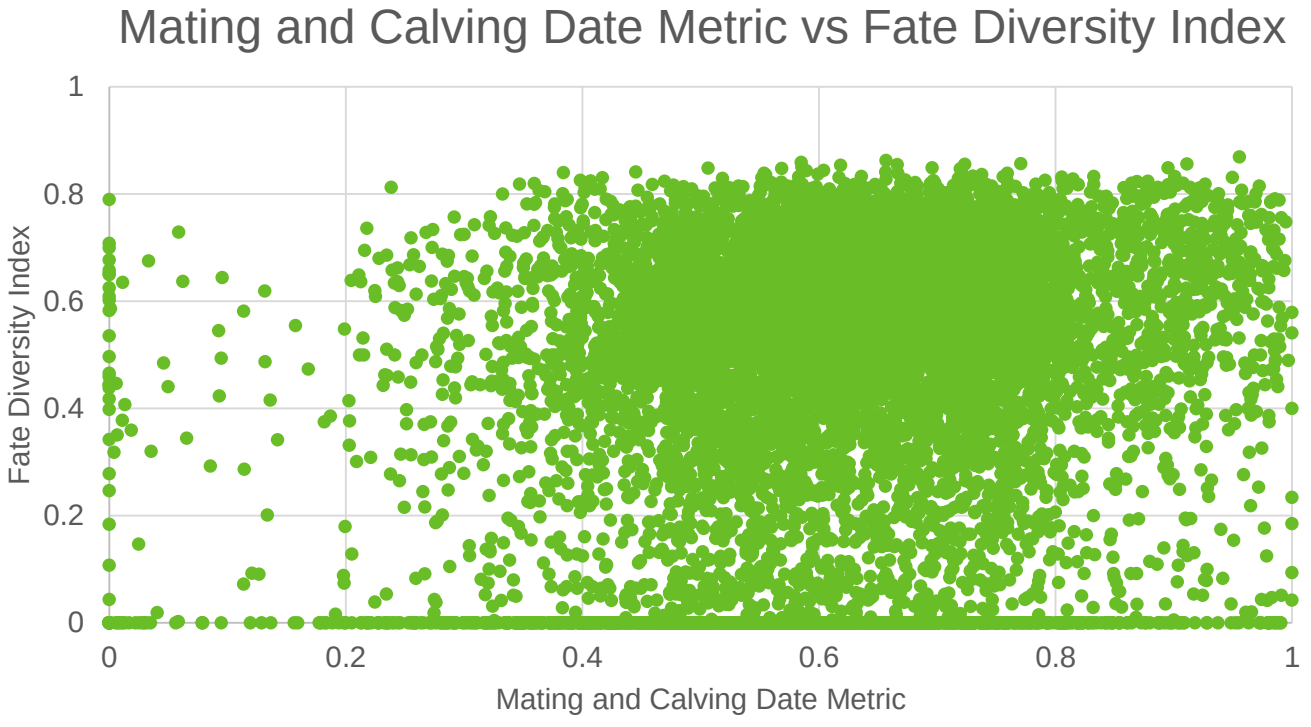


Data quality is extremely variable across herds



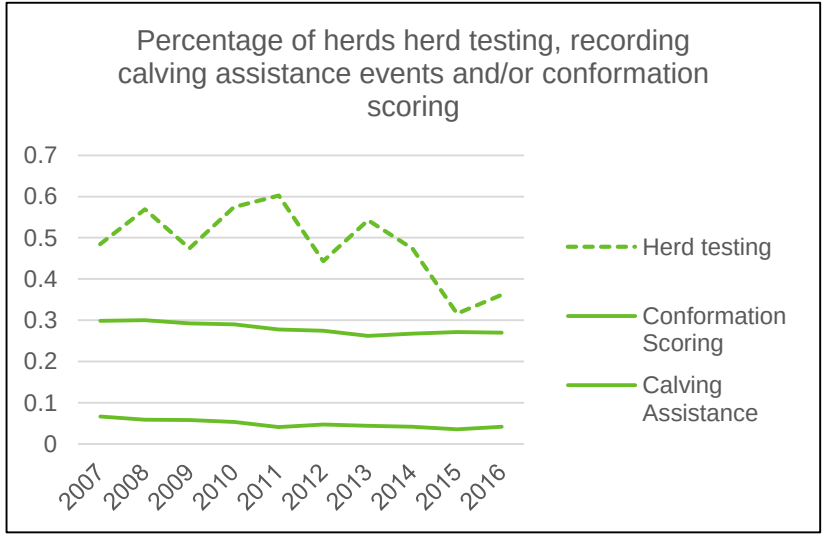


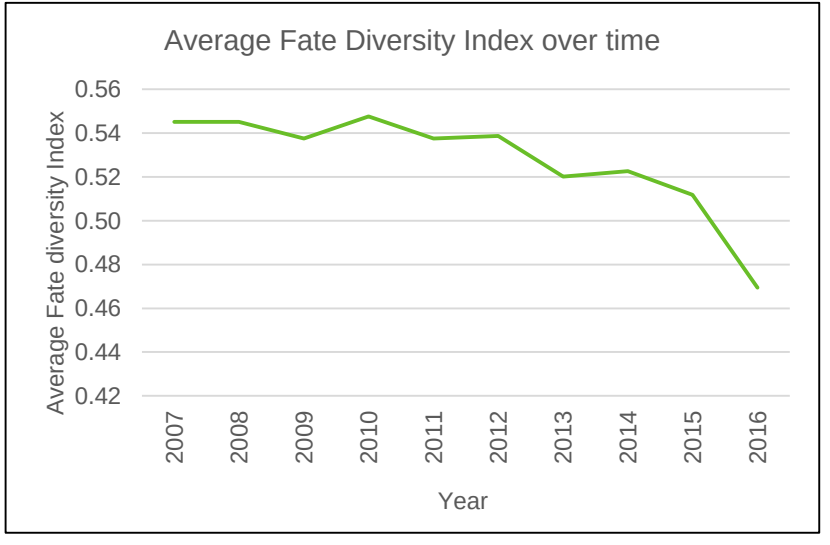
Herd performance across multiple metrics is often inconsistent



Most metrics are trending downwards

- Sire assignment and ‘Mating and Calving’ metric’s appear constant



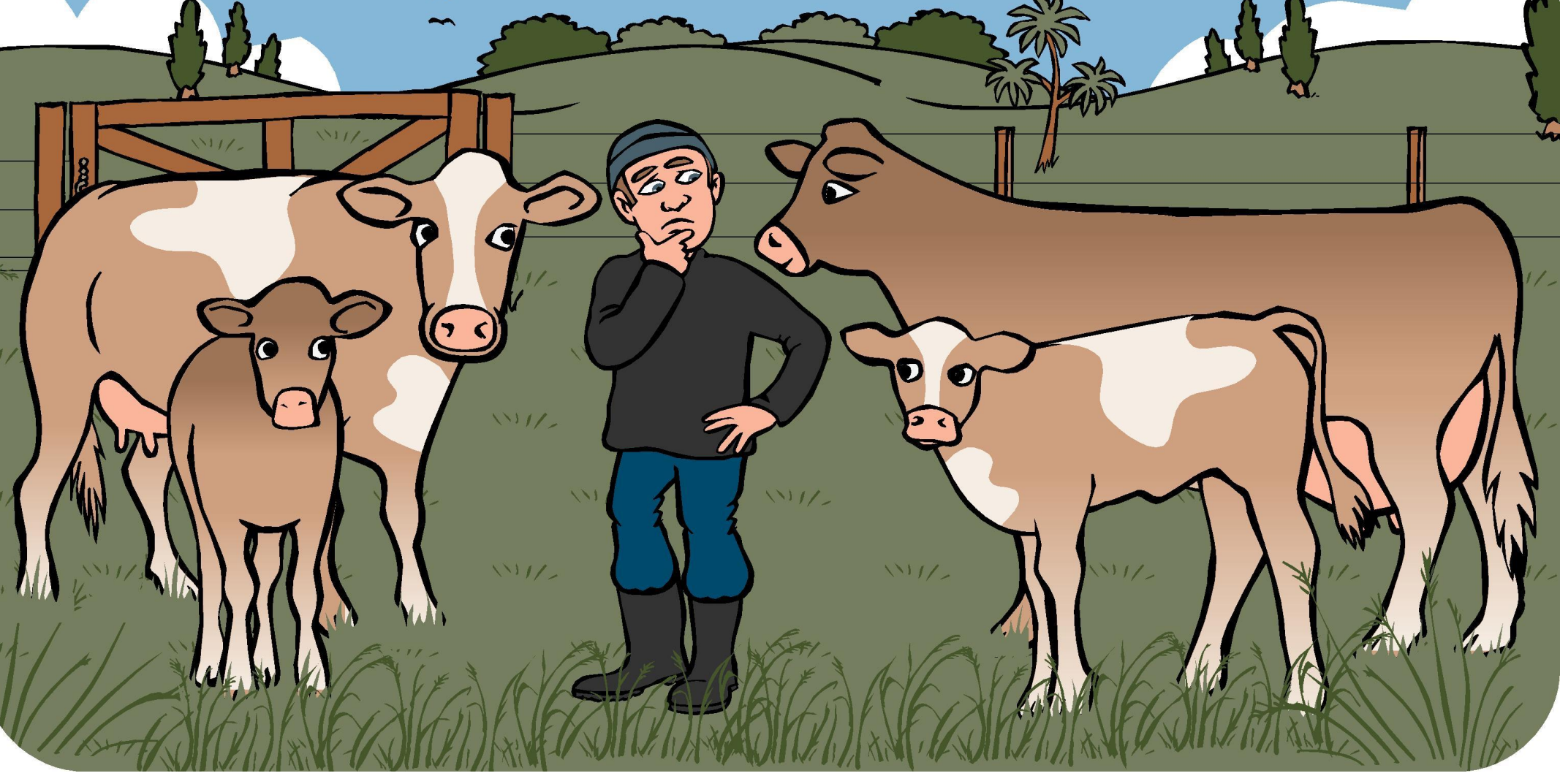


Future applications

- Monitor data quality over time
- Assess the impact of poor quality data
- Targeting specific herds for research (i.e. novel trait collection)
- Feedback to farmers (via Herd recorders)

Acknowledgements

Funded by New Zealand Dairy farmers through DairyNZ



Questions?

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