PREFERENCE-BASED APPROACHES TO DERIVING BREEDING GOALS IN THE NZ DAIRY INDUSTRY

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Dairy industry change

- Cow biology
- Technology use
- Structure of the industry

Review of breeding goals for the NZ dairy industry is underway
Key question

- Scientists design breeding goals and objectives
- Not always the same as farmers breeding goals
- How can we better develop breeding goals that align the opinions of scientists and farmers?
Survey methodology

- Software called *1000Minds*
- Allows surgeons to rank patient for heart surgery in a fair way
- Objective and transparent
- Very successful in the health system
- Used widely in all sorts of fields
For the New Zealand dairy industry we want to:

- Rank the importance of traits
- Assess whether breeding objectives align with industry expectations
- Provide a farmer-driven mandate for a review and re-analysis of the breeding objective

- Understand the opinions of farmers
- Design better breeding goals
Workshops

- 19 meetings across New Zealand
- General information survey
  - Type of farming system
  - Use of merit index
  - Average herd merit
  - Breed of the herd
  - And some others
- *1000Minds* survey
Which of these 2 (hypothetical) herds do you prefer?
(given they're identical in all other respects)

(Left) 3 less empty cows per 100 cows
(Right) 5% better feed conversion efficiency per cow

Trade off
Results - General

- 253 farmers/stakeholders attended workshops
- Largest respondent groups were
  - Farm owners
  - Equity partners
  - Over 40 years-of-age
Results - General

- Breed percentages from survey:
  - 40% Friesian
  - 40% Crossbred
  - 12% Jersey
  - 8% Other

- Balanced industry representation
### Results – Trait ranks

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<thead>
<tr>
<th>Trait</th>
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<td>Feed Conversion Efficiency</td>
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<td>Mastitis</td>
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• Greater preference for fertility over milk solids production
• Farmers want more traits included (e.g. lameness)
• Customised indexes & bull rankings for specific farming circumstances
Results

- Type of farming system
  - Fertility most important low-input system
  - Lameness most important high-input systems
Results

- Breed of the herd
  - FCE and Once-a-Day Milking most important Friesian herds
  - Udder Conformation important Friesian herds least important crossbred herds
  - Calving Difficulty most important Friesian herds least important Jersey herds
Programme design

1. Choose breeding goal
2. Define breeding objective
3. Choose appropriate selection criteria
4. Design breeding scheme including genetic evaluation system

- Obtain mandate for change
  - Alignment of breeding objective with industry expectations
  - Relevance of selection criteria

1000Minds
Key points

- **1000Minds** method:
  - Objective and fair
  - Farmer input
  - Informative
Where to next?

- Industry buy-in
- Mandate for change
- Better targeted research