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TECHNICAL WORKSHOP
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KRAKÓW, POLAND
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Rezare Systems
Agricultural Software Development Specialists

Innovations in Sheep Performance Recording in New Zealand
NZ sheep industry

1773 Sheep released by first European explorers (died)
1814 First sheep farmed (Missionaries)
1961 Selection Index
1965 National Flock Recording Scheme
1982 Peak sheep numbers, focus on wool – 70 million
1984 Subsidies removed
1987 39 Million sheep
1998 Sheep Improvement Limited formed
2014 Beef + Lamb New Zealand Genetics formed

Piquet Hill Romneys – photo credit Clive Dalton
Trends in Sheep Numbers and Productivity

New Zealand Sheep Industry - Sheep Numbers and Production

Source: Beef + Lamb New Zealand
Genetic improvement

- Owned by Beef + Lamb New Zealand (farmer levy organisation)
- Combines performance recording, genomic research/services, and central progeny test
- $15M NZD (7.5M €) investment over 5 years
Historic System and Approach

• Traditional Performance Recording System
• Based on paper in, paper out from 1970s/1980s
• Regional bureaus enter data, run reports

• JADE object-oriented database
• Genotypes handled separately
• Separate Genetic Engine runs produce blended BVs

• Mostly in-flock breeding values
ACE Across Flock Analysis bi-monthly
Current (Historic) System

Collect data manually → Transcribe to forms → Data Entry → Validation and Storage → Core Database

Email out PDFs → Printed reports to breeders
Updated System

• Next-generation platform built on Web Services and APIs (C# and R, SQL Server, cloud-hosted)
• Mobile devices and in-field data collection, mobile and web reporting
• Increased data validation and expert advisor roles
• Genotypes in database
• Single-step analysis, weekly
• Integration of new goal traits – e.g. Stayability
Updated System

- Web site
  - Validation
  - Review
  - Reporting

Core Database
Genotype Database

Integration API

Breeders
Experts/Advisors

In-field data collection
Automatic drafting
Integration with other farm systems

Data Entry

Integration with other farm systems
Industry Tools

• Assist farmers with ram buying and understanding genetic gains
• Tools for advisors
• Integration with industry benchmarking tools

Figure 1: 2011 SIL-ACE analysis

Flock index merit (DPP cents)
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Questions?

Thank you