Deer Progeny
Test for the Industry

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Criffel Station
Wanaka
Genetics & the Deer Industry

If I use these genetics what will it add to my operation?
### What do we need?

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Provider</th>
<th>Complete</th>
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<tbody>
<tr>
<td>Gene knowledge</td>
<td>Genomics</td>
<td>underway</td>
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<tr>
<td>Data measurement</td>
<td>DEERSelect</td>
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<tr>
<td>People on board</td>
<td>Us</td>
<td>✓</td>
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</table>
One final step for linkage...

Deer Progeny Test
Goals

• Develop system to compare
  – $ at slaughter
  – maternal traits
• Develop platform for new technologies
• Renew & strengthen linkage
How does a progeny test work?
DPT Design

Maternal sires

Terminal sires

Common Traits
- e.g., growth, eye muscle area, Johnes, parasites, temperament

Hind breeding herd
- 25 females
- 25 males

⇒ Hind Traits
- e.g., mature weight, survival, fertility, conception date, maternal performance

Slaughter
- 25 males & females

⇒ Carcase Traits
- e.g., yield (in plant), venison attributes
Terminal traits
Maternal traits
<table>
<thead>
<tr>
<th>Birth Herd</th>
<th>Current Tag</th>
<th>No Progeny</th>
<th>W12eBV ac%</th>
<th>WTeBV ac%</th>
<th>CDeBV ac%</th>
<th>Replacement Index Early Kill</th>
<th>Replacement Index Late Kill</th>
<th>Terminal Index</th>
<th>Current Herd</th>
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<td>+13.0 84%</td>
<td>+0.5 71%</td>
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BVs
- Understand
- Consistency
- Confidence
- $ return
Maintain linkage
Genomics

- Shorten timeframes
- SNP chips
- Genotype – DNA
- Phenotype – data on traits
Genomics

- Applied genomics
- Major driver
People

Funding

Structure

Applied Science

Outcomes

Improved productivity – on-farm, in-plant, in-market
Partner Herds
What’s in it for us?

Key Assumptions:
• Improve genetic gain by $0.30/hind/year
• Increased recording costs in breeding herds of $250,000 p/a (total across industry)

Net Present Value = $8.9 million
Internal Rate of Return = 28%

Investment including funds from industry, companies and government
Critical Success Factors

Breeders
- Define and communicate your breeding goal
- Be on DEERSelect
- Make sure you are linked to the sires that are used in the DTP
Critical Success Factors

Commercial
- Use breeding values in stag selection
- Select your stags from breeders:
  - that have the same breeding strategy
  - that have a genetic programme that is making progress
- that is on DEERSelect
The Challenge

To routinely include all genetic tools relevant to our own farming business

Can we afford not to do this?
DPT
• Collects traits from all animals
• Provides comparisons

DEER Select
• Converts data into something we can use

BV
• Use to select stags

$$ - increased profitability
Uptake – What?

Commercial
– use BV’s
Breeders
– on DEERSelect and
link to DPT
Uptake – When?

“Act now”

Full industry participation next mating season