Directions in Milk Recording – the Challenge of Low Milk Prices

Wayne McNee
Chief Executive
Our Strategy - Toward 2025

Our Vision
To improve the prosperity and productivity of our farmers

Strategic Themes
- Genetics and information to create superior livestock
- Information to improve decision making to enable superior livestock performance
- Hardware and systems to improve productivity and decision making
- LIC International - adding value for our shareholders, focussing on key markets

Integrity  Innovation  Spirit of co-operation  In tune  Passion
LIC at a Glance

Farm Information
- Dairy animal recording (MINDA)
- Herd testing (milk) – dairy & goats
  - Milk analysis centres (2)
- Ear tags
- Dairy cows, goats and sheep recording and traceability
- Industry statistics

Farm Systems
- Automation products - Protrack
- Heat detection devices – EZ Heat
- On-farm consultancy – FarmWise
LIC at a Glance

Dairy genetics
- 2000 bulls screened (including genomics)
- 180 bulls progeny tested
- Liquid and frozen semen technology
- Extensive nation-wide field service

International business
- Chile, Argentina, Uruguay, Brasil, UK, Ireland, China, Australia, South Africa and others

Deer genetics (venison)

Diagnostics
- DNA analysis
- Animal health testing and management
Operational Overview

- Inseminations - NZ: 4,300,000
- Inseminations – International: 800,000
- Data transactions: 100,000,000
- Active Animal records: 6,000,000
- Electronic software customers: 10,500
- Milk sample analysed: 8.2 million
- DNA tests: 260,000
- Automation systems: 2000
- AI technicians: 950
- Field sales team: 100
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910</td>
<td>Small regional milk testing Co-ops</td>
</tr>
<tr>
<td>1930s</td>
<td>Milk testing throughout New Zealand</td>
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<tr>
<td>1940s</td>
<td>Artificial insemination of dairy cows begins</td>
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<tr>
<td>1960s</td>
<td>Sire proving scheme introduced, Milk meters introduced</td>
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<tr>
<td>1980s</td>
<td>Herd records computerised</td>
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<tr>
<td>2000</td>
<td>KiwiCross™ semen available</td>
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<tr>
<td>2003</td>
<td>Protrack solutions launched</td>
</tr>
<tr>
<td>2004</td>
<td>LIC issues investment shares and lists NZAX</td>
</tr>
<tr>
<td>2008</td>
<td>Genomics used to assist sire selection</td>
</tr>
<tr>
<td>2014</td>
<td>Protrack EZ Heat launched and breakthrough in SGL achieved</td>
</tr>
<tr>
<td>2015</td>
<td>LIC Automation formed (incorporating Protrack, DAL, and Lely Sensortec)</td>
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Delivering on our Strategy

Where will growth come from?

• New product launches
• Domestic acquisitions
• International growth (genetics, automation, software)
• International acquisitions
LIC Contribution to Value on Farm

STRATEGIC THEMES

- Genetics and information to create superior livestock
- Information to improve decision making to enable superior livestock performance
- Hardware and systems to improve productivity and decision making
- LIC International - adding value for our shareholders, focusing on key markets

Value On Farm

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<thead>
<tr>
<th></th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17+</th>
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<tbody>
<tr>
<td>Genetic Merit</td>
<td>$312m</td>
<td>$317m</td>
<td>$322m</td>
</tr>
<tr>
<td>Health</td>
<td>$1.7m</td>
<td>$2.2m</td>
<td></td>
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<tr>
<td>Reproduction</td>
<td>$35m</td>
<td>$39.5m</td>
<td>$45.5m</td>
</tr>
<tr>
<td>Production</td>
<td>$40m</td>
<td>$43m</td>
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Fonterra milk price payout (NZ$/kgms)

<table>
<thead>
<tr>
<th>Year</th>
<th>Farmgate Milk Price</th>
<th>Dividend</th>
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</thead>
<tbody>
<tr>
<td>2010</td>
<td>6.10</td>
<td>0.27</td>
</tr>
<tr>
<td>2011</td>
<td>7.60</td>
<td>0.30</td>
</tr>
<tr>
<td>2012</td>
<td>6.08</td>
<td>0.32</td>
</tr>
<tr>
<td>2013</td>
<td>5.84</td>
<td>0.32</td>
</tr>
<tr>
<td>2014</td>
<td>8.40</td>
<td>0.10</td>
</tr>
<tr>
<td>2015</td>
<td>4.40</td>
<td>0.25</td>
</tr>
<tr>
<td>2016</td>
<td>3.90</td>
<td>0.40</td>
</tr>
<tr>
<td>2017 forecast</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indicative payout level for budgeting</td>
<td>0.40</td>
</tr>
</tbody>
</table>

1. For farm budgeting purposes a 40 cent dividend is assumed (based on FY17 EPS forecast 50-60 cents) – this is consistent with Fonterra policy of paying out 65-75 per cent of adjusted net profit after tax over time.

Note: Farmgate Milk Price: $ per kgMS; Dividend: $ per share
Herd Test Samples

Year

2011 2012 2013 2014 2015

HT Samples
Milioni

0 2 4 6 8 10 12 14
Herd Test Revenue

The graph shows the Herd Test Revenue from 2011 to 2015. The revenue starts at around 27 million in 2011, increases to reach a peak of approximately 30 million in 2013, and then decreases to around 20 million in 2015.
What has this meant for LIC?

• Falling volumes with high fixed costs = loss making service

• Overall business made a loss for the first time in 2015/16

• After taking substantial cost out (including significant redundancies) business will be profitable in 16/17, and orders are now increasing
What has this meant for LIC?

• Improving efficiency of collection processes (GIS route mapping)
• Working with farmers to flatten out peaks
• Looking to automate weigh stations
• Sweating assets
• Accelerating development of alternatives
What are the alternatives?
CellSense

- CellSense® is a sensor for the detection and measurement of subclinical mastitis.

- CellSense is an automated California Mastitis Test using non-toxic CellGel® reagent.

- CellSense is installed inline with the milking point and reports the individual cow SCC result in less than 2 minutes from the start of milking.
CellSense can be used for:

- Frequent monitoring of individual cow SCC to pick up early lactation infections and act on them before they get out of hand and result in BMSCC penalties.

- For identifying those sub-clinical cows not obvious to the farmer, and because SCC can fluctuate considerably from milking to milking, may not be identified by a herd test or by blanket CMT testing.

- To monitor the herd for high SCC cows and take them out of the vat hence avoiding BMSCC penalties in late lactation.

- In preparation for drying off, recording of results can be combined with information on those cows with a history of clinical infections to make decisions on which cows will receive DryCow Therapy (DCT) at drying off and which cows are to be culled.

- When farmers feel they need to, e.g. when BMSCC increases or there are signs of clinical mastitis in the herd.
YieldSense

• YieldSense® utilises full flow measuring technology meaning that milk flow is not disrupted due to complex moving parts or flow restrictions.

• YieldSense® provides the following outputs:
  - Yield
  - Fat, Protein & Lactose percentages
  - Bloody and watery milk, blocked air admission detection
  - Milking statistics
  - Wash performance data
Improvement. It’s in our nature. It’s in our name.