Implementation of Electronic DIY (EDIY) Milk Recording

Brian Coughlan, Martin Burke - ICBF
2004 Milk Recording Statistics – Ireland

No. Dairy Herds/Cows in Ireland*

- 26,000 Dairy Herds in Ireland
- 1.15m Dairy cows in Ireland

* FAPRI-Ireland, DAF/Teagasc 200

No. Milk Recording Herds/Cows in Ireland**

- 6,301 (24%) of these herds Milk Recording
- 382,734 (33%) of these Cows in Milk Recording

**Irish Cattle Breeding Federation database 2004
## 2004 Milk Recording Statistics – Comparison

<table>
<thead>
<tr>
<th>Country 2004</th>
<th>Number Dairy Cows</th>
<th>Number of Cows Recording</th>
<th>Percent Cows recording</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireland</td>
<td>1,150,000</td>
<td>382,734</td>
<td>33%</td>
</tr>
<tr>
<td>Denmark</td>
<td>569,000</td>
<td>521,781</td>
<td>92%</td>
</tr>
<tr>
<td>Holland</td>
<td>1,470,589</td>
<td>1,255,528</td>
<td>85%</td>
</tr>
<tr>
<td>NZ</td>
<td>3,851,302</td>
<td>2,841,720</td>
<td>74%</td>
</tr>
</tbody>
</table>
2004 Milk Recording - Ireland

- A4 Recorder based system, i.e. third party milk recording for herdowner once a month
- Majority were pedigree herds
- Recorder age profile was increasing
- Lack of availability of labour
- Paper based system
- Farmer capital investment in meters
- ICBF Board asked to review new options
EDIFY Milk Recording System

- Cows’ IDs loaded direct from database
- Meter Records Milk Volume Electronically
- Meter automatically agitates/samples
- Barcoded vial, no writing, more accurate
- Milk Yields electronically loaded to database
- Lab results electronically loaded to database
- Meters delivered - No Capital Purchase
- 150 Farmers per cell (per technician)

Data Handler

Auto Sampling Electronic Meter

RF Comm Link

Meter automatically deposits sample into Barcoded bottles
EDIFY Milk Recording System (cont)

EDIFY Technician responsibilities

- Ensure meters clean and in working order
- Deliver and collect meters and milk samples
- Training and supporting the herdowners
- Electronically upload milk recording results to the central database
- Schedule future recordings
EDIY Timeline 2004

- ICBF visited Denmark to view the operation of the Electronic Milk Meter (EMM) and the logistics of Electronic DIY Milk Recording
- ICBF purchased 60 Electronic Milk Meters and 6 Data Handlers units for Ireland from Tru-Test New Zealand
- Irish trial of 30 herds in Autumn in Munster area
EDIY Timeline 2005

- Increased number to 4 EDIY cells (~ 300 herds) in Spring 2005
- Each EDIY cell is operated by a Technician and they have 72 Electronic Milk Meters and 7 Data Handlers
EDIY Timeline 2006

- Increased number to 9 EDIYcells (~ 600 herds)
- Larger volume enabled us to examine logistics and improve meter software
- We trained “trainers” to assist the EDIY Technicians with training the increased numbers
EDIY Timeline 2007

- EDIY rolled out on a national scale with the increase to 19 EDIY cells (1,732 herds/130k cows)
- 1,368 Electronic Milk Meters now in use nationally
- One in three animals milk recorded is using the EDIY system
EDIY Timeline 2011

- EDIY now used by 2,024 herds/186k cows
- Meter utilisation is fully maximised
- Number of cows in milk recording is increasing every year
EDIY Calibration Laboratory

- In 2006 ICBF purchased and commissioned two test rigs from Tru-Test New Zealand – Calibration Rig and Mega Test Rig (total value €75k)
- Irish Technician 2 weeks training in Tru-Test NZ
- Calibration Lab set up and operated by ICBF
- Every meter gets annual service/maintenance and calibration check
- The lab also tests/services any faulty meters returned during the milk recording season
EDIY Calibration Lab - Moorepark

Calibration Rig
Calibrates the meter base assembly, each milk meter is programmed with a calibration curve, 18 minute test

Mega Test Rig
Used to check the meter’s functionality and then calibrate the complete milk meter, 15 minute test
EDIY Calibration Lab - Moorepark

Fast Flow water Test Rig (FFTR)

Brian Coughlan – EDIY Tech support
Does the Electronic Milk Meter last?

- Bulk of EMMs in use now since 2005/2006
- Annual servicing and Calibration is vital
- 2011 Annual Water Test failure rate (at “inverted funnel” tolerance of +/- 3% tolerance) is 9%
- 2011 Annual Calibration Test failure rate is at 1.3%
Electronic Milk Meter - Repairs

- Meter is robust but repairs are inevitable
- Physical breakage of meter flask
- Electronic components have a natural lifespan (e.g. battery, circuit board, meter probes)
- Meter sampling nozzle wears and is replaced during water testing
Benefits of EDIY Milk Recording

Benefit for Herdowners

- No capital investment in milk meters
- Cheaper milk recording

Benefits for Service Providers

- Electronic data transfer
- Less staff required as no keying of weights
- Less milk recording technicians to manage
- Improved turnaround times for reports, ~ 7 days in 2004 to ~ 3-4 days in 2011
Benefits of EDIY Milk Recording

Benefits for ICBF/Industry

- Increase in commercial herds/animals now milk recording
- More accurate data in ICBF’s central database
- More data available for Genetic Evaluations
- Use of milking speed data from the meter can be used in Genetic Evaluations
- Increased sample size from the meter can be used for disease testing (BVD, IBR, Johnes)
# Impact of Electronic DIY on milk recording uptake?

## Table 1. Trends in EDIY Milk Recording (2004 -2011).

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Dairy Cows</td>
<td>1,150,000</td>
<td>1,101,000</td>
<td>1,087,100</td>
<td>1,100,000</td>
</tr>
<tr>
<td>Cows in Milk Recording</td>
<td>381,425</td>
<td>380,196</td>
<td>408,375</td>
<td>541,022</td>
</tr>
<tr>
<td>% Total Dairy Cows</td>
<td>34.0%</td>
<td>34.5%</td>
<td>37.6%</td>
<td>49.2%</td>
</tr>
<tr>
<td>Cows in EDIY Milk Recording</td>
<td>7231</td>
<td>30198</td>
<td>99562</td>
<td>186,454</td>
</tr>
<tr>
<td>% Milk Recorded Cows in EDIY</td>
<td>1.9%</td>
<td>7.9%</td>
<td>24.4%</td>
<td>34%</td>
</tr>
</tbody>
</table>
EDITY Milk Recording – Where next?

- Spring 2012 – One new EDITY cell launched
- Many farms have installed new milking plants - EDITY system is ideal because no capital investment
- Continued promotion of milk recording as a farm management tool
- Potential for growth with the abolition of milk quota in 2015
Thank You