IRISH CATTLE BREEDING FEDERATION

Implementation of Electronic DIY (EDIY) Milk Recording

Brian Coughlan, Martin Burke - ICBF

National Development Plan
Transforming Ireland

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 – Comparasion

Country 2004	Number Dairy Cows	Number of Cows Recording	Percent Cows recording
Ireland	1,150,000	382,734	33%
Denmark	569,000	521,781	92%
Holland	1,470,589	1,255,528	85%
NZ	3,851,302	2,841,720	74%

ICBF.com

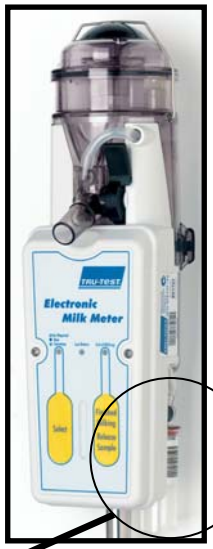
2004 Milk Recording - Ireland

- 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

EDIY Milk Recording System

Data Handler

Auto Sampling Electronic Meter



RF Comm Link

Meter automatically deposits sample into Barcoded bottles

- ✓ **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 dbase**
- ✓ **Lab results electronically loaded to dbase**
- ✓ **Meters delivered - No Capital Purchase**
- ✓ **150 Farmers per cell (per technician)**

EDIY Milk Recording System (cont)

EDIY Technician responsibilities

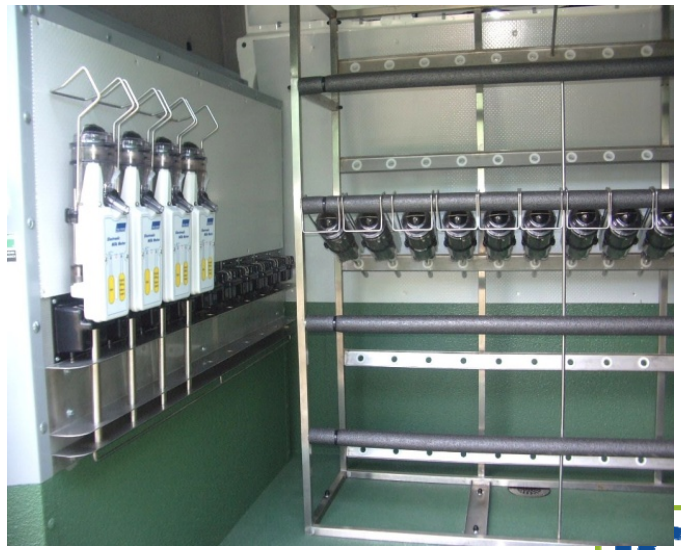
- Ensure meters clean and in working order
- Deliver and collect meters and milk samples
- Training and supporting the herdowners
- Electronically upload milk recording results to the central database
- Schedule future recordings

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

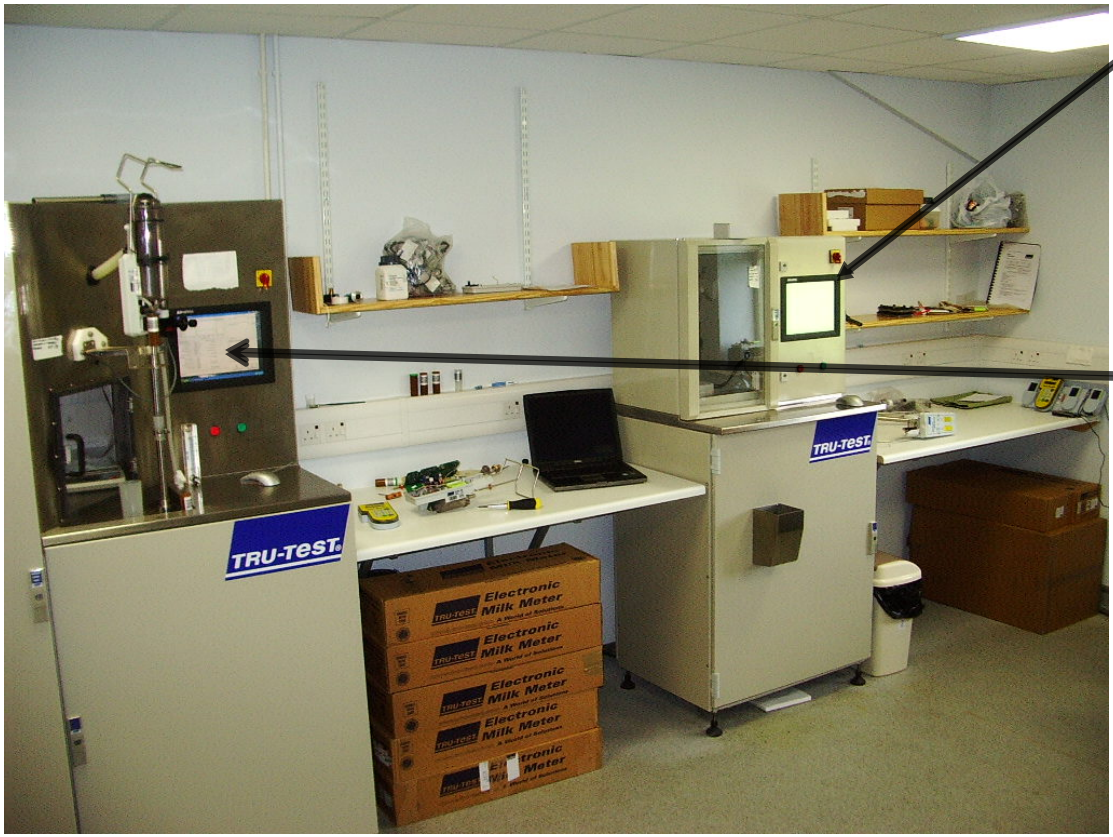
EDIY Timeline **2011**

- 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



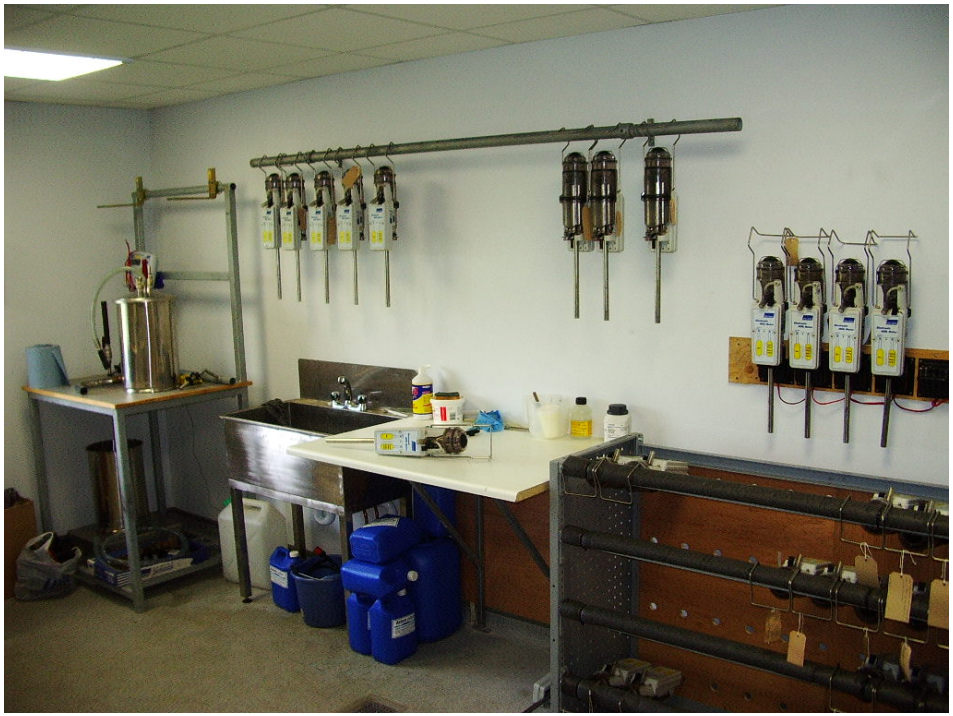
Calibration Rig

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



Brian Coughlan – EDIY Tech support

Fast Flow water Test Rig (FFTR)

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).

	2004	2005	2006	2011
Total Dairy Cows	1,150,000	1,101,000	1,087,100	1,100,000
Cows in Milk Recording	381,425	380,196	408,375	541,022
% Total Dairy Cows	34.0%	34.5%	37.6%	49.2%
Cows in EDIY Milk Recording	7231	30198	99562	186,454
% Milk Recorded Cows in EDIY	1.9%	7.9%	24.4%	34%

EDIY Milk Recording – Where next?

- Spring 2012 – One new EDIY cell launched
- Many farms have installed new milking plants - EDIY 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