



IRISH CATTLE BREEDING FEDERATION

The impact of new technologies on
performance recording and genetic
evaluation of dairy cattle in Ireland.

MARTIN BURKE, ANDREW CROMIE – ICBF

ICAR 2008 Niagara Falls, 19th June 2008

MEMBERS AND BOARD OF ICBF

Board of 16

Shares

AI

Munster AI

- 1 - Dairygold
- 2 - Kerry
- 3 - SWS
- 4 Progressive Genetics
- 5 Dovea AI

Milk Recording

- 1 Dairygold
- 2 Kerry
- 3 SWS
- 4 Progressive Genetics
- 6 Arrabawn
- 7 Tipperary
- 8 Connacht Gold

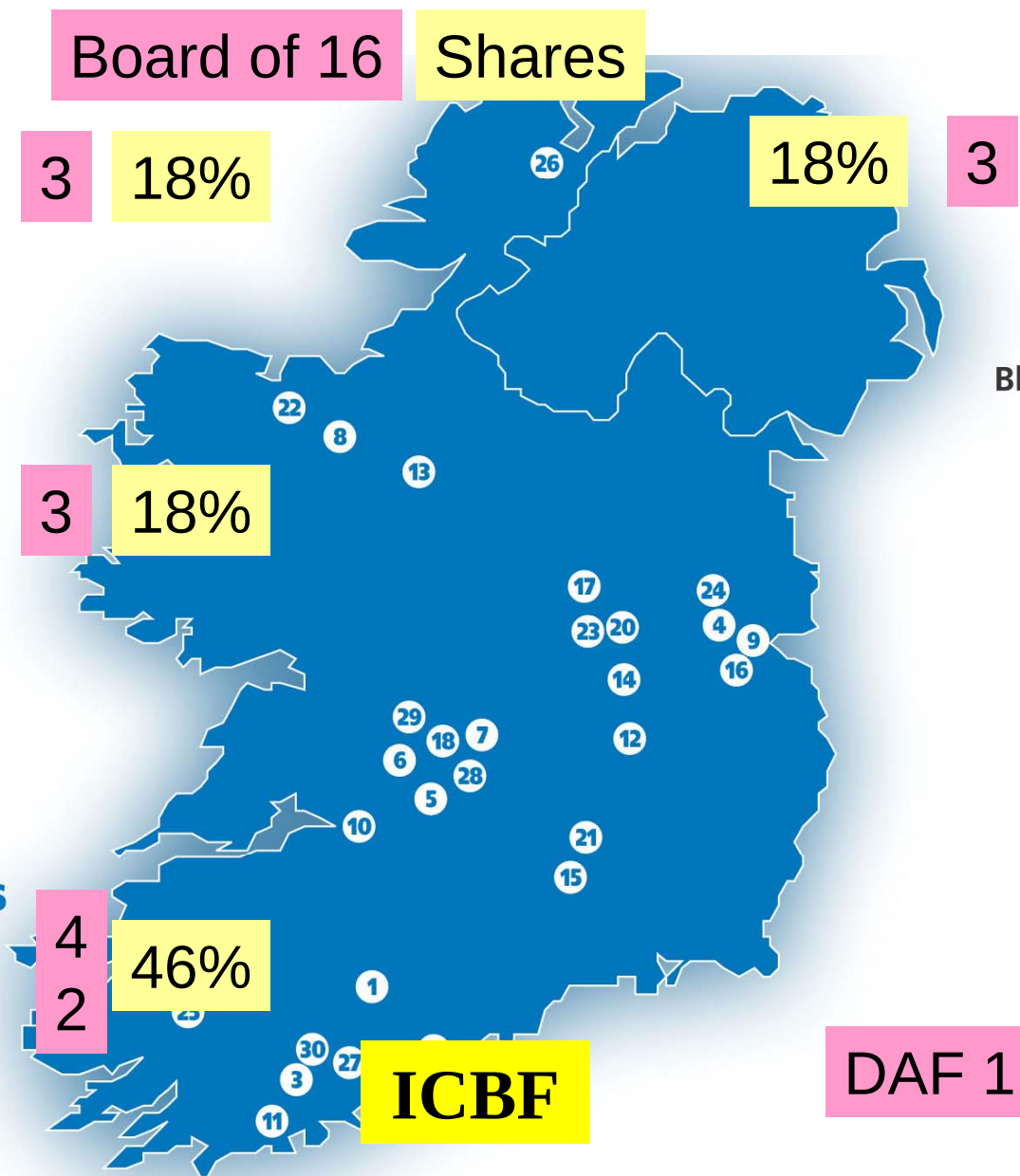
Farm Organisations

- 9 IFA
- 10 ICMSA

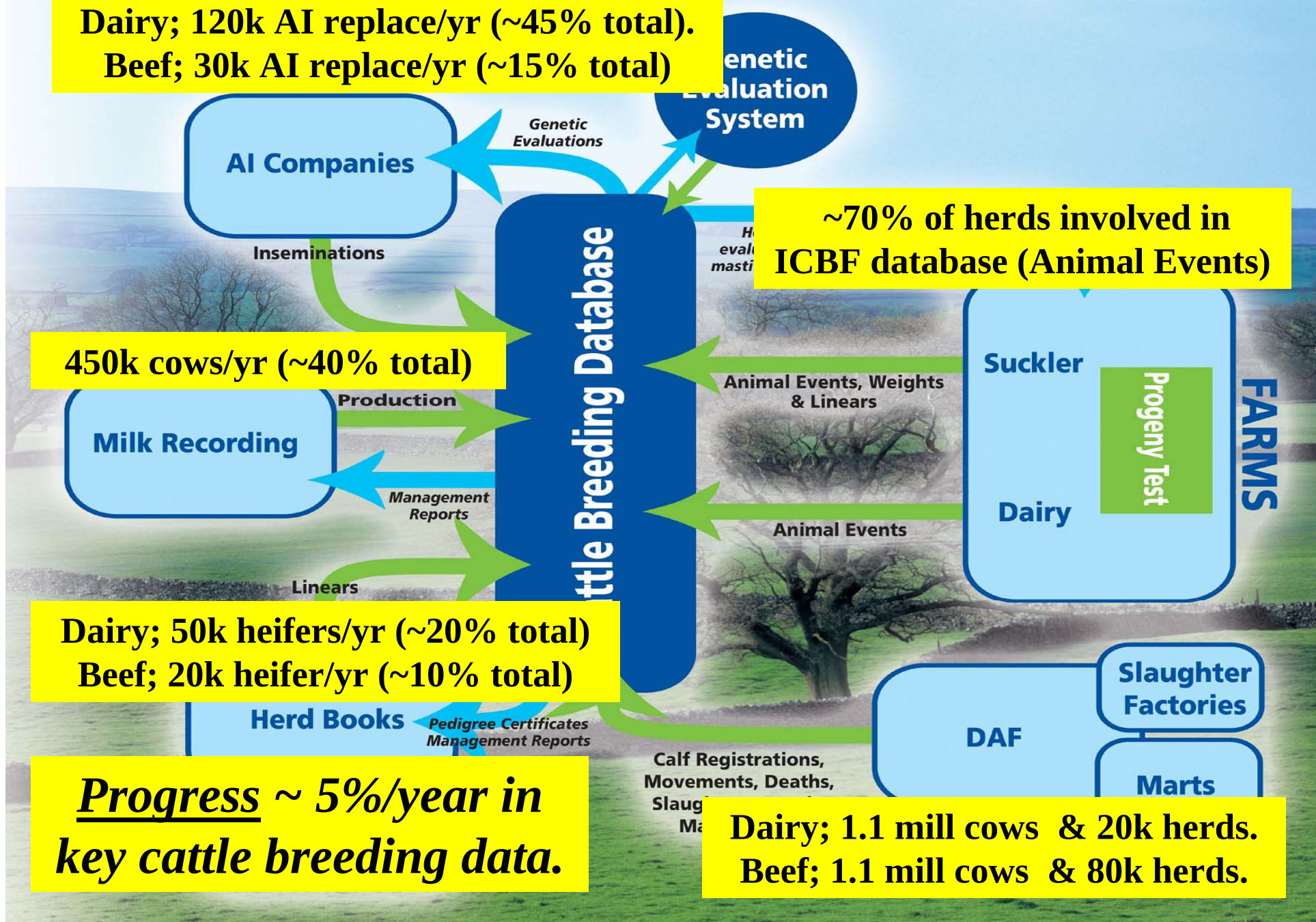
Herdbooks

- Holstein Friesian 11
- Belgian Blue 12
- Angus 13
- Aubrac 14
- Blonde d'Aquataine 15
- Charolais 16
- Hereford 17
- Limousin 18
- Normande 19
- Parthenais 20
- Piedmontese 21
- Shorthorn 22
- Simmental 23
- Jersey 24
- Kerry 25
- MRI 26
- Montbeliarde 27
- Rotbunt 28
- Saler 29

ICBF 30



**Dairy; 120k AI replace/yr (~45% total).
Beef; 30k AI replace/yr (~15% total)**



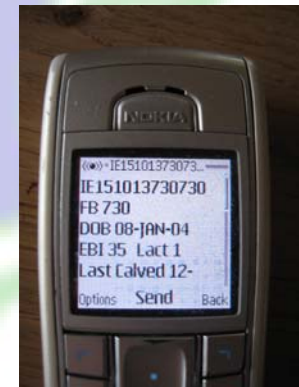


Technologies for data collection

- Hand held technologies...

- Milk recording (electronic meters)

All made
much easier
by having an
integrated
database



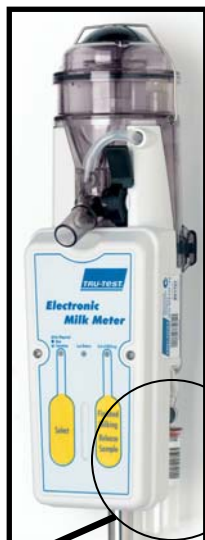


Electronic Milk Recording System

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



Electronic DIY – “Cell” Model

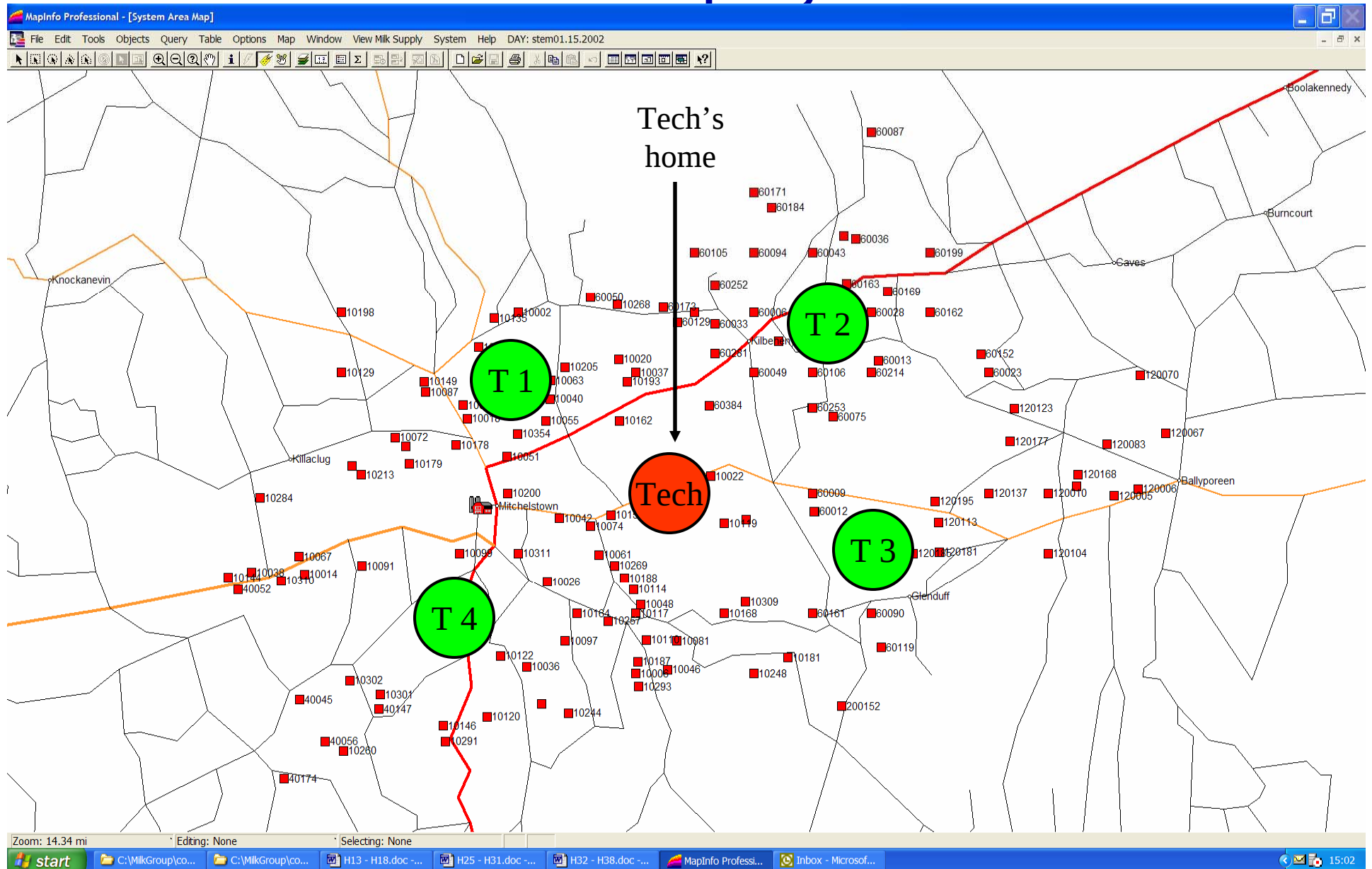
Equipment required:

80 x Tru Test Electronic Milk Meters
7 x Data Handlers, (DHs)
1 x Portable Printer,
5,000 barcoded vials, and tray accessories etc
Laptop for data Xfer
Ancillary charging, data Xfer equipment, etc.
Ford Transit Van , 2.4d, LWB 1 tonne, custom
Each cell serving approx 150 farmers
ICBF calibrate each meter annually.



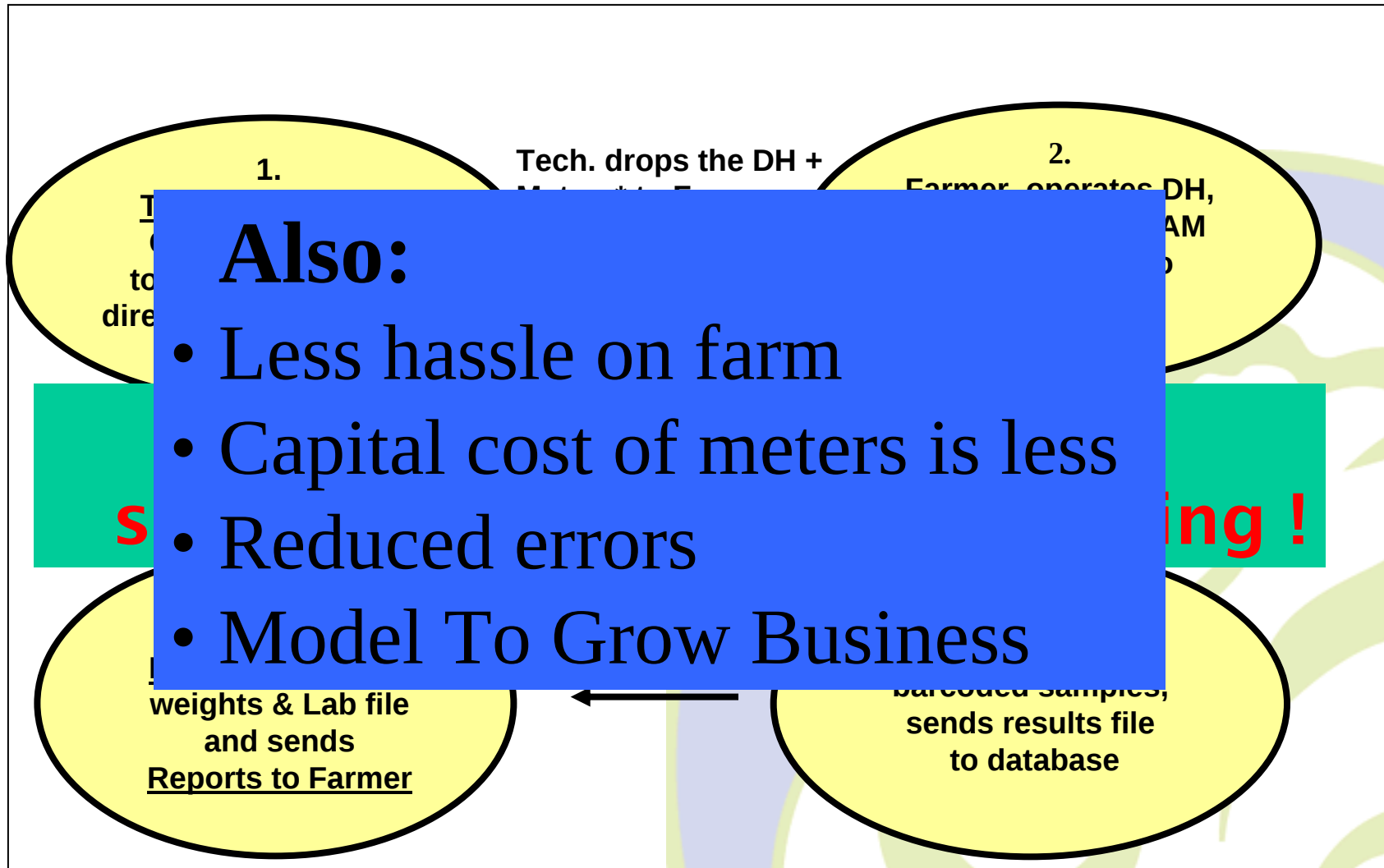
Van customised so we meters
ara charged on the move

Electronic DIY – Example Cell TRAINER Deployment





Electronic DIY System





Impact of Electronic DIY on recording uptake ?



Table 1. Trends in EDIY Milk Recording (2004 -2007).

	2004	2005	2006	2007
Total Dairy Cows	1,121,000	1,101,000	1,087,100	1,079,800
Cows in Milk Recording	381,425	380,196	408,375	428,179
% Total Dairy Cows	34.0%	34.5%	37.6%	39.7%
Cows in EDIY Milk Recording	7231	30198	99562	119890
% Milk Recorded Cows in EDIY	1.9%	7.9%	24.4%	28.0%



A.I. Handheld Recording

(Artificial Insemination)

Problems with existing system

- Docket written by AI technician may not contain correct animal details, difficult to match tag information.
- May be a delay in keying dockets.
- No in-breeding checks.
- Data received by ICBF was poor.
- Difficult to generate valuable reports for farmers.

Solution

- Introduce AI handhelds to provide a better service.

A.I. Handheld

- AI handheld technology
 - Linked directly to database (GPRS).
 - All cows on hand-held.
 - Docket printed on-farm.
 - 240 now in operation (90%)
- Major benefits.
 - Inbreeding & lethal gene check.
 - Farmer support;
 - Sire Advice.
 - Fertility management
 - AI Company support;
 - Fertility management.
 - Semen invoicing & stock control



Cordless Printer

Handheld Computer



Features: Current V's Proposed Systems

Feature	Current	Proposed
• Docket Processing	Yes	Yes
• Inbreeding		
• Lethal G		
• Info to T		
• Real time		
• Tighter S		
• Sire advi		
• More acc		
• Single d		
• More acc		
• Effective		
• Supports farm management reports	No	Yes

- New System provides a significantly better service for farmers while eliminating manual processing and reducing error levels.



Impact of A.I. Handheld on number serves hitting database?



Table 2. Trends in recording of insemination data.

	2005	2006	2007
Technician AI	213,719	291,081	498,073
DIY AI	91,396	137,046	156,651
Total AI	305,115	428,127	654,724



“HerdPlus” is ICBF’s Web Service. www.icbf.com

HerdPlus
Profit through Science

With username & password, Breeder can access & update his animals data, reports, etc



**SIRE ADVICE &
INBREEDING**



EBI REPORT



**HERD FERTILITY
MANAGEMENT**



**ON-LINE HERD
MANAGEMENT**



**BREEDING
CHART**



**DIRECT HELPLINE TO
ICBF STAFF**

Herd Management Tools For Increasing Profit



HerdPlus Web Site Developments



Irish Cattle Breeding Federation (ICBF) - Microsoft Internet Explorer

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Irish Cattle Breeding Federation

Striving to achieve the greatest possible genetic improvement in the national cattle herd for the benefit of Irish farmers, the dairy and beef industries and members. [Learn more about ICBF.](#)

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- [Tully Beef Centre](#)
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ICBF Sign Up Form

[ICBF Active Bull List:](#)

- [Dairy Active Bull List Spring 2008](#)
- [Beef Active Bull List Summer 2008](#)

HerdPlus

Profit through Science

Online Services

User name

Password

[Where do I get my username and password?](#)

[Experiencing problems - Click Here](#)

Bull Search

Search by:

- ☒ Code, Tag, Herd Book No. etc.

Done

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HerdPlus Web Site offers Integrated Technologies



ICBF - Herd Fertility Profile - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Reload Print Mail New Tab

Address http://www.icbf.com/taurus/fert_anl_inventory_taur.php Go Links

Google G Go 2 blocked Check AutoLink AutoFill Send to Settings

ICBF Web Application Martin Burke
Logged in at : 17-Jun-2008 23:01

HERDPLUS TAURUS SERVICES GENE IRELAND LOG OFF

FERTILITY

Record AI/Natural Serve Pregnancy Check Fertility Report Fertility Profile Due 1st Serve Due Repeat

Download File Total Number of animals:127

FB Jumbo	Animal Number	Calving Date	Lact Num	Last Served	Last Bull	Num Serves	Last Preg Diag	Days in Calf	Days in Milk	Dry Date	Exp Calving Date ▲
958	IE151013780958		0	24-APR-08	RUU	1		54			31-JAN-09
950	IE151013790950		0	24-APR-08	TCZ	1		54			31-JAN-09
945	IE151013730945	12-MAR-08	1	24-APR-08	IVI	1		54	97		31-JAN-09
519	IE151013760519	25-FEB-08	6	24-APR-08	RUU	1		54	113		31-JAN-09
1006	IE151013771006		0	23-APR-08	TCZ	1		55			30-JAN-09
818	IE151013780818		0	24-APR-08	TCZ	1		54			30-JAN-09
958	IE151013780958		0	24-APR-08	TCZ	1		54			29-JAN-09
950	IE151013790950		0	24-APR-08	TCZ	1		54			28-JAN-09
982	IE151013780982		0	24-APR-08	TCZ	1		54			28-JAN-09
978	IE151013730978		0	21-APR-08	TCZ	1		57			28-JAN-09
759	IE151013770759	22-FEB-08	3	21-APR-08	RZE	1		57	116		28-JAN-09
431	IE151013710431	23-SEP-07	6	21-APR-08	SZU	3		57	268		28-JAN-09
558	IE151013740558	15-OCT-07	3	22-MAY-08	MZY	4		26	246		28-FEB-09

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Done Internet

Serves get automatically loaded to database from AI Handheld when technician powers off.



Sire Advice

New Release Feb '08

HerdPlus
Profit through Science

- Sire Advice program run by breeder – if he “saves” his run, then his selected bulls get loaded to AI Handheld automatically.



Sire Advice can be run:

- For all AI Bulls
- For all Dairy Breeds
- Directly by the farmer

ICBF's Suggested Bulls

- Maximise average EBI.
- Min. Avg Inbreeding.
- Min. cost of Semen.
- Min. difference between Prod. & Fert. sub index.

ICBF Web Application - Microsoft Internet Explorer

Address: http://www.icbf.com/taurus/sa_2008/sa_selected_bulls.php

Sign in to access your Google Bookmarks

ICBF Sire Advice

HOME - HerdPlus CONTACT SUPPORT LOG OUT

KEVIN DOWNING
Logged in at: 17-Jun-2008 23:01

Suggested Bulls List

Bull	Name	HO %	EBI	Milk Fertility	Calv Beef	Health	M Kg	F %	P %	CI (days)	Surv %	Supplier	Str Price (ex tech)	Suits Heifers
GIO	GIBOR	97	€191	€71 €68	€25 €6	€14	479	-0.19 7.5	-0.01 15.2	-2.85 4.80		Dovea	€27	
WUZ	WINDSOR-MANOR DURHAM ZEUS	100	€167	€48 €107	€14 €8	€6	338	-0.19 2.2	+0.00 11	-4.70 4.51		Munster / Progressive	€20	
RDU	RUUD 96	100	€163	€74 €53	€35 €1	€0	397	+0.06 18.5	-0.01 12.5	-3.16 1.35		Munster / Progressive	€19	
CBH	CORBOYS HACKETT	69	€147	€55 €83	€31 €14	€8	102	+0.11 9.5	+0.08 7.5	-3.94 3.22			€	Yes
BWZ	ZANDER KEET	100	€141	€66 €50	€39 €7	€8	95	+0.22 15.5	+0.09 8	-2.56 1.75			€	Yes
TIH	TITTENSER HYLKE	FR	€136	€17 €106	€24 €7	€4	-340	+0.17 -5.5	+0.23 -1	-6.40 2.59		Dovea	€20	Yes

* Will affect Pedigree Status

Allocate Bulls to Cows

Edit Suggested Bulls

Select Breed
Holstein/Friesian ☐
Pure Friesian ☐

Select AI Organisation
ABS ☐
Alta Ireland ☐

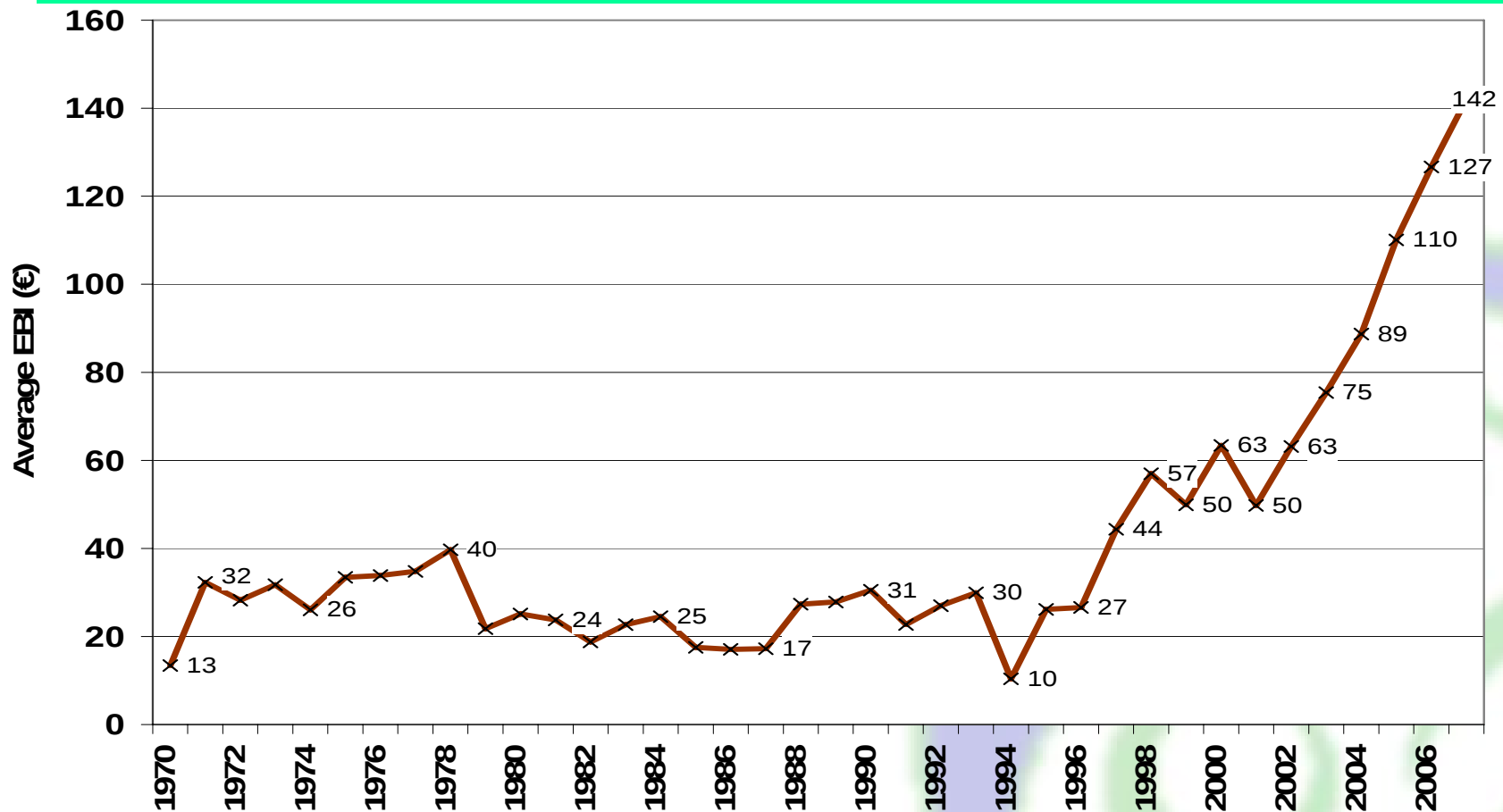
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Impact of New Technologies on genetic merit of Irish Dairy Herd?

Figure 1. Trend in average Economic Breeding Index (EBI €) of Holstein Friesian bulls registered for use in A.I. by year of birth.





Thank You !

