Ireland’s Integrated Database
– National ID is the “cornerstone”

MARTIN BURKE
ICBF Breeding Information Services Manager 2001-2012
Ireland’s Cattle Industry

- 1.2 million **Dairy** cows
  - 95% Ho/Fr with small levels of crossbreeding
  - Seasonal calving (90% calve in spring - turnout to grass)
  - A+B-C system of milk payments
  - Fertility is essential
  - Quotas lifted Apr 2015
  - DAF ‘Harvest 2020’ +50% output
Ireland’s Cattle Industry

• 0.9 million Suckler cows
  - Many small herds (<10 cows) and few large herds
  - Calves:
    • 22% replacements
    • 16% live exports to mostly EU countries
    • 62% slaughtered in Ireland mostly for export as cuts
  - Margins less
Background to ICBF

• Cattle breeding - previous responsibility of DAF

• 1997 Ernst & Young report (commissioned by DAF) identified the need to establish an authority that would “co-ordinate cattle breeding” in Ireland

• The establishment of Irish Cattle Breeding Federation (ICBF) 1998.
ICBF Structure

• ICBF is owned by four organisations
  ➢ AI
  ➢ Milk recording
  ➢ Herdbooks
  ➢ Farmer organisations

  + DAF rep on Board

  • Board made up of representatives from these organisations- Board dictate ICBF policy

*ICBF is owned and controlled by farmers*
MEMBERS AND BOARD OF ICBF

- Board of 16
- Shares

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

Milk Recording
1 Munster cattle breeding group
2 Progressive Genetics
3 Arrabawn
4 Tipperary
5 Connacht Gold

Farm Organisations
9 IFA
10 ICMSA

Stakeholders in cattle breeding control decision making.

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
Montbéliarde 27
Rotbunt 28
Saler 29

ICBF 30
Data & Information Sharing Agreement

- Contributors retain ownership
- Farm data through “Animal Events”
- Electronic sharing of data collected
- Data for research
- Integrated genetic evaluations
- **Herd owner** controls access NB!
- Information for service providers
- HerdPlus® - information of herd owner on web
- User-pays & full cost recovery
Irish Cattle Breeding Federation Society Limited (ICBF)

- **Commenced operations in 1998**
- **Joined ICAR 1998**
- **Current structure in 2000**
- **Mission:** achieving the greatest possible genetic improvement in the national cattle herd - Dairy and Beef
Needed a Roadmap?…..ICAR has template

Before you head out on the journey…
….ICAR has the map & built the road…. 
International Committee for Animal Recording (ICAR)

ICAR Building Blocks…….
What is traceability?

ISO 8402:1994

- Traceability is the ability to trace the history, application or location of an entity by means of recorded information
What is traceability?

Regulation (EC) No 178/2002

Traceability means the ability to trace and follow:
- a food,
- a feed,
- a food-producing animal or
- a substance intended to be, or expected to be incorporated into a food or feed,
through all stages of:
- production,
- processing or
- distribution.
Live animals:

Bovine have to carry ear tags:
Live animals:

Bovine have a passport:

- Date of issue
- Ear tag number
- Origin
- Name and address of owner
Animal identification and Traceability

- The final test of the effectiveness of a traceability system depends very much on the performance of the database.
- A database should ensure a real-time bovine-tracking system.
- This effectiveness will depend on how often and how quick the database is “fed”.
The Cattle Breeding Database

Milk & Beef Recording Organisations
- Milk Volumes & Weights

Other data
- I&R
- CMMS
- Bull Performance Test
- Abattoirs
- International data

Herd-books
- Linear scores
- Weight records

All Linked to the One ID!

AI Organisations
- Technician Service Data

On-farm animal events
- Calving
- Service
- Within-herd ID
- Health/culling
- Weight
- PD
- Dry-off
Cattle Breeding – Farm Events Required?

Phase 1. ID & ancestry data
- Calf ID, Dam ID, DOB
- Sire ID

Phase 2. Performance records
- Calving performance
- Milk weights/volumes, constituents
- Beef weights/carcass values
- Linear scores
- Fertility data
Animal Events - One ID - One Stop Shop

Objective - one step
1. Remove duplication
   i. Calf Reg card
   ii. Pedigree birth card
   iii. AI calving survey
   iv. MR enrolment

2. Better information for farmers
   • Milk recording/breeding records service
   • Genetic evaluation (international)
     Interbull/ICAR
Data Recording

• Data is the lifeblood of ICBF.

• Think of the ICBF database as a huge jigsaw puzzle.

• The more pieces of the “puzzle” we have (data), the more complete the “picture” (genetic indexes) will be.

• Recording sires, calving ease, liveweights, inseminations etc. all feed into genetic evaluations.

• How we collect data must be streamlined and “farmer efficient”…. 
Technologies for data collection

- Hand held technologies…
  - Milk recording (electronic meters)
  - AI technicians (GPRS …)
  - Linear scoring (across breeds)
  - Farmers in the Field (PDA’s)
  - Smart phones/Apps

All made much easier by having an integrated database
Milk Recording Electronic DIY sustained recording uptake 2014?

From 381,425 cows in ‘04 to 596,012 cows recorded in ‘14
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
Impact of A.I. Handheld sustained into 2014 for number serves database?

No. of AI serves hitting database Doubled from 305k in ‘05 to 686K in ‘14
Ireland's Beef Breeding Information Service for Farmers – Beef HerdPlus®
Beef Data Bank

- Vast majority of beef data in the ICBF database originates from commercial herds.
- All Pedigree Beef Breed Societies use the ICBF Herdbook Program – Taurus (28k registrations/14 breeds).
HerdPlus® Beef Overview

- HerdPlus is a Beef Breeding Information Service.
- Located at the centre of the ICBF Database.
- Farmers record information on their animals once
  But............
- Lots of other pieces of information are recorded on the same animals over their lifetime.
- HerdPlus Service pulls ALL of this information together.
www.icbf.com

Any comments on the new icbf website can be submitted [here](http://www.icbf.com/)

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**Services**
- HardPlus
- GENE IRELAND
- Genetic Evaluations
  - Farm Software Bull Files
  - Active Bull Lists
- Genomic Selection
  - Beef
  - Dairy
- Tully Beef Centre
- GROW
- Milk Recording
- Hardbook Services
- Suckler Scheme

**Publications**
- This Week's Report (pdf)
- Past Weekly Reports
- Cattle Statistics
- Annual Reports
- Academic Papers
- Glossary

Learn more about ICBF
- Contact Information
- Costs and Benefits
- The Database
- Members
- Structure
- International Representation
- Legal and Privacy

---

**Online Services**

Username
Password
Log In

Where do I get my username and password?
Experiencing problems - Click Here
Register your Organization

**Bull Search**

Search by:
- AI Code, Tag, Herd Book
- Name or part of name
- [Search](http://www.icbf.com/)

**Active Bull Lists**

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[ICBF Sign Up Form](http://www.icbf.com/)
Suckler Cow €URO-STAR REPORT

• Suckler Herd: Mixture of homebred & bought in Females…

Use AI or a Pedigree Bull…

But

• What are the genetic strengths/weaknesses of your Herd / Stockbull?

• What is the Milk & Fertility potential of your bought replacements?
1. How she looks?
   - Farmer’s own opinion

Also need objective info. i.e.

2. What her Genetic Potential is.
   - ICBF has a system in place to:
     - Identify Good & Bad Cows in your herd.
     - Based on how much profit she has made for you
       €€€€€€€
### Animal Details

- **Jumbo:** 560
- **Official Tag:** IE211063470565
- **Animal Name:**
- **Date of Birth:** 20/02/2001
- **Breed:** LM (71.88%), UN (29.13%)

### Sire's Details
- **Sire's Sire:** 8700000082 FIDELE
- **Sire's Dam:** 5687000406 COLOMBE

### Dam's Details
- **Dam:** WPA203728

### BLUP Index

<table>
<thead>
<tr>
<th>MUSCLE</th>
<th>SKELETAL</th>
<th>DOCILITY</th>
</tr>
</thead>
</table>

### Ancestry Details

- **Sire:** HTA HORTENSIA
- **Dam:**

### Euro-Star Index

- **Beef Value**
  - **Suckler Beef Value:** €166 43%
  - **Calving Traits:** €-1 35%
- **Replacement Value**
  - **Milk & Fertility:** €120 24%
  - **Calf Quality:** €281 52%

### Calving & Fertility Performance

<table>
<thead>
<tr>
<th>Calving Date</th>
<th>Tag Number</th>
<th>Calving Survey</th>
<th>Calving Interval</th>
<th>Sex</th>
<th>Current Status</th>
<th>Sire</th>
<th>Sire Breed</th>
<th>Age days</th>
<th>Weight Kgs</th>
<th>Growth Kg/Day</th>
<th>Loin (1-15)</th>
<th>Hind Quarter (1-15)</th>
<th>Calf Quality</th>
<th>Docility</th>
<th>Age at Slaughter (months)</th>
<th>Carcass Conf. &amp; Fat</th>
<th>Carcass Weight</th>
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<td>IE211063410808</td>
<td>Normal</td>
<td>M</td>
<td>Dead</td>
<td>DDI SI</td>
<td>248</td>
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<td>25</td>
<td>R3</td>
<td>336</td>
<td>24</td>
<td>U4L</td>
<td>438</td>
<td>409</td>
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<td>0011Y LM</td>
<td>306</td>
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<td>U4L</td>
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<td>U3</td>
<td>409</td>
<td>454</td>
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</tbody>
</table>

### Weanling & Carcass Performance

- **Report allows you make use of all available information**
- **Make better Breeding Decisions**
2. Beef €uro-Star Herd Summary - Female Young-stock
Average beef €uro-Star values for Commercial young-stock on your farm.

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Count</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Value 3</th>
<th>Value 4</th>
<th>Value 5</th>
<th>Value 6</th>
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</thead>
<tbody>
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<td>26</td>
<td>-€2</td>
<td>€71</td>
<td>€94</td>
<td>€136</td>
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<td>€268</td>
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<tr>
<td>0-12 months</td>
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<td>-€8.9</td>
<td>€94</td>
<td>€123</td>
<td>€148</td>
<td>€54</td>
<td>€335</td>
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</tbody>
</table>

3. Beef €uro-Star Herd Summary - Genetic trends
Genetic trends for Commercial females on your farm.

> Compares your Herd’s Performance to National Average Figures
Gives Overview of Strengths & Weaknesses of an animal and on a farm level of the Suckler Herd
INBREEDING CHECKER

• **Stockbull/AI Sire:** About to purchase new Bull…..

• Is he already too closely related to cows I have at home?
• Are there daughters of this AI Sire already in my herd?

Photo Courtesy of Irish Farmers Journal
<table>
<thead>
<tr>
<th>JumboAnimal Number</th>
<th>Date of Birth</th>
<th>Breed</th>
<th>HTA</th>
</tr>
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<td>HO (13%), FR (25%), LM (50%), UN (13%)</td>
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<td>01/0296</td>
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</table>
Projected Impact of ICBF on Genetic Gain of Dairy & Beef Calves Born in Ireland.

- **Dairy base EBI (1)**
- **Dairy + ICBF (2)**
- **Dairy + ICBF + Genomics (3)**
- **Beef base (SBV)**
- **Beef + ICBF**

Projected Impact:
- Dairy: €236m
- Beef: €60m
Summary

• Animal breeding is a unique and powerful tool for improving the profitability of cattle farming.

• Irish animal breeding has been transformed through a unique partnership between farmers, the breeding industry and DAF.

• The national identification and traceability system adopted by Ireland has greatly facilitated Irish cattle breeding.

• Continued investment in cattle breeding and technologies will give excellent returns.

• The model established relies heavily on international cooperation and collaboration.

• Membership and full participation in the activities of ICAR and Interbull are fundamental to the achievements in Ireland cattle breeding.
HerdPlus – Social Networks

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