



IRISH CATTLE BREEDING FEDERATION

Genetic Improvement of Cattle – Now and in the Future.

Brian Wickham

Joint Tipperary IFA AGM &
Arrabawn Co-op Farmer Meeting

Thursday 20th January 2011



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Content

- What do Irish farmers want cattle to do for them?
- Tools for Irish farmers to increase profits
 - Public websites
 - HerdPlus
 - Breeding scheme
 - Other
- Summary

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1. What do farmers want?

Dairy Farmers

- Income (€) ++++
 - Milk (protein, fat – lactose, water)
 - Meat
 - Weaners
 - Breeding stock
- Expenses (€) -----
 - Feed
 - Replacements
 - Health
 - Labour
- **Profit** = Income - Expenses

Beef Farmers

- Income (€) ++++
 - Meat
 - Weaners
 - Breeding stock
- Expenses (€) -----
 - Feed
 - Replacements
 - Health
 - Labour
- **Profit** = Income - Expenses

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2. How to find the best cattle to breed from?

1. Rank candidates on the merit of future progeny.
2. Candidates – AI bulls worldwide, stock bulls in Ireland, cows & heifers in own herd.
3. Progeny Merit – genetic evaluations and indexes.
4. Complicated by disease regulations & risks.

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ICBF WEBSITE – OPEN TO ALL



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](#)

Home Services News & Publications About ICBF

Services

- HerdPlus [Sign up](#)
- GENE IRELAND
- Genetic Evaluations
 - Genetic Evaluation Bull Files
 - Active Bull Lists
 - Economic Selection
 - Blade
 - Dairy
- Tully Beef Centre
- GROW
- Milk Recording
- Herdbook Services
- Suckler Scheme

Publications

- This Week's Report (pdf)
- Past Weekly Reports
- Cattle Statistics
- Annual Reports
- Academic Papers
- Active Bull Lists
- Learn more about ICBF
- Contact Information
- Costs and Benefits
- The Database
- Members
- Structure
- International Representation
- Legal and Privacy

HerdPlus
Profit through Science

Online Services

User name

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 No, ITT

☐ Name or part of name

[Search](#)

[Active Bull Lists](#)

Any comments on the new icbf website can be submitted [here](#)

Sheep Ireland [www.sheep.ie](#)

AHI [Animal Health Ireland](#)

Discussion Group Competition Sign Up Form

ICBF.com

Beef

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Home Services News & Publications About ICBF

Active Bull Lists

Dairy

[Current List](#)

Beef

[Current List](#)

Evaluations

- [Main Evaluations Page](#)
- [Beef Results](#)
- [Dairy Results](#)
- [Conversion Equations](#)
- [Active Bull Lists](#)
- [Publication Schedule](#)
- [Notes](#)

2010

Autumn 2010 ([Pdf](#), [Excel](#))

Support Material: [Guide, Review and Analysis](#)

Spring 2010 ([Pdf](#), [Excel](#))

Support Material: [Guide, Review and Analysis](#)

2009

Autumn 2009 ([Excel](#))

All Active Dairy Bulls Autumn 2009 ([Excel](#))

Spring 2009 ([Excel file](#))

ICBF.com

Beef

[View as Excel](#)

Evaluation Date: Dec 2010

Tag	Bull Name	Breed	Suckler Beef Value		Weanling Export		Beef Carcass		Daughter Milk	Daughter Fertility		Calv Diff		Doc	Supplier	Price	Avail		
			€ Star	Rel	€ Star	Rel	€ Star	Rel		€ Star	Rel	€ Star	Rel						
NFU	NETHERTON FLEUR'S LEGACY	AA	€ 138 *****	37%	€ 60 *****	41%	€ 57 *****	32%	€ 141 *****	13%	€ 36 **	2%	2.4 **	50%	~03 **	40%	NCBC	40	Medium
RWB	RAWBURN LORD ROCKET F609	AA	€ 113 *****	66%	€ 17 *****	63%	€ 17 *****	58%	€ 304 *****	13%	€ 45 **	2%	5.7 **	94%	.07 *****	70%	Dovea	8	High

Evaluation Date: Dec 2010

Tag	Bull Name	Breed	Suckler Beef Value		Weanling Export		Beef Carcass	
			€ Star	Rel	€ Star	Rel	€ Star	Rel
NFU	NETHERTON FLEUR'S LEGACY	AA	€ 138 *****	37%	€ 60 *****	41%	€ 57 *****	32%
RWB	RAWBURN LORD ROCKET F609	AA	€ 113 *****	66%	€ 17 *****	63%	€ 17 *****	58%

ICBF.com

Euro-Star Rating (ICBF, Dec 2010)					
AI Code:	RWB	Breed:	AA (100%)	Sire:	WEDDERLIE NETMARK A281 / S502
Animal Name:	RAWBURN LORD ROCKET F609	Owner:	DOVEA GENETICS	Dam:	RAWBURN LADY ROSS A105 / UK5621
Date of Birth:	11-MAY-2006	Date of Evaluation:	Dec 2010	MGS:	RAWBURN TRANSFORMER / RAW
National ID:					
International ID:	AANGBRM562106300609				
		Euro-star Index			
		Calving Traits			
		Weanling			
		Beef Carcass			
		Milk			
		Linear Type			
		Pedigree			
		Fertility			
		Prev Eval			

Blups

% Rank	Star Rating (within breed)	Index and Traits	Euro-Value	Data Reliability	Star Rating (across breed)	% Rank
99%	★★★★★	Suckler Beef Value (SBV)	€113	66%	★★★★★	89%
95%	★★★★★	Weanling Export	€17	63%	★★	21%
94%	★★★★★	Beef Carcass	€17	58%	★★	22%
24%	★★	Daughter Fertility	€45	2%	★★★★★	73%
99%	★★★★★	Daughter Milk	€304	13%	★★★★★	99%
Other Key Traits						
1%	★	Calving Difficulty (% 3 or 4)	5.73%	94%	★★★	48%
99%	★★★★★	Gestation Length (Days)	-1.75 Day(s)	94%	★★★★★	99%
77%	★★★★★	Docility (1-5 score)	0.07	76%	★★★★★	80%

Data Reliability: 40% - 60% = Average 20 - 40% = Below Average < 20% = Poor



For Pedigree cattle there is a great service available from most of the Herd Books.

The On-Line Herd Book is supported by ICBF and is based on the information in the ICBF database.



Index Information						
	% Rank	Within Breed		Index €	Rel %	% Rank
Dec 2010	1	★	Calving Traits	1	80%	★★★★★

Calving Difficulty (% of calvings scored as 3 or 4)

Index Information						
	PTA	Reliability	Percentile Rank within breed	Eurostar within Breed	Percentile Rank across Breed	Eurostars across Breed
Dec 2010	5.73	94	1	★	48	★★★

Sire Progeny and Progeny Herd Mate Information

	No. of Births	Herd Mate Births	Scored 3 or 4 (%)	Herd Mate Scored 3 or 4 (%)	Male Births	1st Parity		2nd Parity		3rd parity	
						Records	Scored 3 or 4 (%)	Records	Scored 3 or 4 (%)	Records	Scored 3 or 4 (%)
Dec 2010	306	2127	7	4	152 (50%)	127	9	52	6	127	6

Information on Dams of Progeny (Cows mated to the sire)

	Avg Calving Index (€)	Avg PTA Calving Difficulty	Average % in Dams By Breed							
			AA	BA	BB	CH	FR	HE	HO	LM
Dec 2010	10	-2	36	0	3	5	8	4	18	9

Gestation (Days between insemination and calving)

	PTA	Reliability (%)	Percentile Rank		Average Mate PTA Gestation	Births	Herd Mate Births	Gestation (days)	Herd Mate Gestations
			Within breed	Across Breed					
Dec 2010	10	94	1	★	-1.75	127	52	6	127

HERD BOOK WEBSITE – OPEN TO ALL



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Click to sort

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Trait and index percentiles

Data Rel: 40% - 60% = Ave 20% - 40% = Below Ave < 20% = Poor

Weaning Export, Beef Carcass, & Replacement Calf Traits		Replacement Milk & Fertility Traits		
Wean Wt Dir (kg)	10.67	Calv 2m(days)	-0.88	
Wean Calf Quality(%)	22.88	Survival (%)	0.95	
Carc Wt (kg)	33.51	Age 1st calv (days)	-3.62	
Carcass Conf Score	2.14	Wean Wt Mat (kg)	4.88	
Carcass Fat Score	-0.60	Calv Diff Mat (%)	6.03	
Dry Matter Intake (kg)	-0.02	Cull Cow (kg)	35.49	
Calving Traits		BLUP Linear Type		Rel
Calving Diff	6.87	Muscle	119.00	38%
Gestation Len (days)	4.20	Skeletal	124.50	38%
Mort (%)	1.08	Functional	97.50	25%

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SEARCH RESULTS

					Beef Value			Replacement Value		Other	BLUPS		
Animal Number	Animal Name	Sex	Dob	Sucker Beef Value (€)	Calving Traits (€)	Weaning Exports (€)	Beef Carcass (€)	Milk and Fertility (€)	Calf Quality (€)	Difficulty Calving (%)	MUS	SKE	FUR
IE331302030653	KILLOUGH FERGUSON	M	10/10/2010	144.00	-18.00	76.00	129.00	8.00	278.00	6.87	119	124.5	97.5
IE341036090297	CROHANE FILL	M	07/03/2010	142.00	-13.00	75.00	128.00	-29.00	295.00	5.92	119	124	77
IE341424860219	BROOKLAND FRED	M	30/03/2010	139.00	-12.00	73.00	122.00	-14.00	279.00	5.64	110	111.5	119.5

Showing first 3 of 3 animals that match your criteria. Please refine your search to ensure all animals are included.

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HERDPLUS® - USER PAY SERVICE FROM ICBF

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HerdPlus®

What is Herdplus?

- Cattle Breeding Information Service
- Provides reports to Beef & Dairy Farmers

What is so special about these reports?

- You can compare your Herd against National Avg Figures
- Reports are designed by Farmers for Farmers

How do I send in information for my herd?

- Register all calves through Animal Events

How much does it cost?

- €60/year – electronic, €120/year – postal

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HerdPlus® Beef Products

CALVING REPORT

NITRATES REPORT

SLAUGHTER
REPORT

INBREEDING
CHECKER



€URO-STAR REPORT

€URO-STAR
CATALOGUE

SUCKLER COW
REPORT

DIRECT HELPLINE TO
ICBF STAFF

Herd Management Tools For Increasing Profit

Suckler Cow Report

Animal Details				Ancestry Details				Euro-Star Index				
Jumbo:	350			Sire:	Sire's Sire:	DHK DUNROBIN HALLMARK 10D X B		Within Breed	Index	Rel%	Across Breed	
Official Tag:	IE301104090360				Sire's Dam:	GLCD3118 AUGHMAREE DAISY		★★★★★	Suckler Beef Value		€ 127 36% ★★★★★	
Animal Name:	BALLYVILLE PLUS 1 (X)							Beef Value				
Date of Birth:	24/02/2001							★★★★★	Weaning Export	€ 43 37% ★★★★★	★★★★★	
Breed:	HE (100%)							★★★★★	Beef Carcass	€ 43 36% ★★★★★	★★★★★	
Herdbook:	Pedigree Registered			Dam:	IEJLQZ0155R			Replacement Value				
Scored:					BALLYVILLE NELLIE			★★★★★	Daughter Fertility	€ 68 ★★★★★	★★★★★	
Weighted:								★★★★★	Daughter Milk	€ 154 42% ★★★★★	★★★★★	
BLUP Index (Reliability 32%)				Dam's Sire:	CGO	CILL CORMAIC GENERATOR		★★	Other Key Traits			
MUSCLE	SKELETAL	DOCILITY						★★★★★	Mat Calving Diff %	€ 7.77 42% ★★★★★	★★★★★	
108	122	0.21		Dam's Dam:	SKA606392	BALLYVILLE JUNE		★★★★★	Gestation Length	€ 0.19 47% ★★★★★	★★★★★	
								★★★★★	Docility	0.21 22% ★★★★★	★★★★★	

Calving & Fertility Performance										Weanling & Carcass Performance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

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HerdPlus® Dairy Products

EBI REPORT

CALVING REPORT

ON LINE PROFILES

FERTILITY REPORT

BREEDING CHART

DAIRY COW REPORT

SIRE ADVICE

MILK RECORDING
PROFILES

DIRECT HELPLINE TO
ICBF STAFF



Herd Management Tools For Increasing Profit

Dairy Cow Report

Animal Details				Details & EBI Indexes										
Jumbo	2			Sire	GMI (€ 101)									
Tag	IE141407880268			Dam	DBL972259 (€ 162)									
Name	GERAGHTOWN SALLY 20 VG88			Dam's Sire	0100542064									
DOB	17-Feb-01	9y 9m		EBI	Milk	Fert	Calv	Beef	Mainten	Health				
Breed	HO 56.3%	FR 43.8%		€ 214	€ 103	€ 95	€ 20	-€ 16	€ 10	€ 2				
EBI Rank	1			Milk Kg	Fat Kg	Prot Kg	Fat %	Prot %	Calv. Int.	Surviv				
In Herd	Born In herd			42	22.5	13.5	0.4	0.23	-5 days	2.9%				
Status	Milking													
Due Calve	20-MAY-11 MMU			ExpEBI € 208										
Calving & Fertility				Milk Production										
Lact	Calved	Calf Tag	Sex	On Farm	Num Calv	Milk kg	Fat kg	Prot kg	Fat %	Prot %	F+P kg	SCC	Days	
1	12-Mar-03	10369	F Y	Y	1	4612	227	177	4.92	3.83	404	38	248	
2	11-Feb-04	10402	M N	N	2	5746	264	230	4.6	4.01	495	57	265	
3	22-Jan-05	40446	F Y	-	346	6397	333	251	5.21	3.93	585	95	279	
4	04-Feb-06	50505	F Y	-	378	6989	315	276	4.51	3.95	591	181	284	
5	26-Apr-07	20584	M N	-	446	5997	298	245	4.97	4.08	543	52	211	
6	14-Apr-08	70647	F Y	Y	1	6367	303	260	4.76	4.09	564	44	317	
7	05-Jun-09	10740	M N	N	1	4727	209	181	4.43	3.83	390	309	210	
8	11-May-10	30791	M N	N	3	3828	165	150	4.31	3.93	316	64	177	
					Avg (Comp)	374	5834	278	231	4.77	3.96	510	111	259
					Lifetime Production	44663	2114	1770	4.73	3.96	3888		169	

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HerdPlus® Summary

- Dairy Launched 2006
- Beef Launched 2008
- Currently 8,200 Farmers on HerdPlus®
 - 5,000 Dairy
 - 3,200 Beef
- €60/year – On-line, €120/year – Postal
- Hassle free way to get Breeding information on your Herd

Phone 1850-600-900 for info



BREEDING SCHEME



Genomics

Dairy

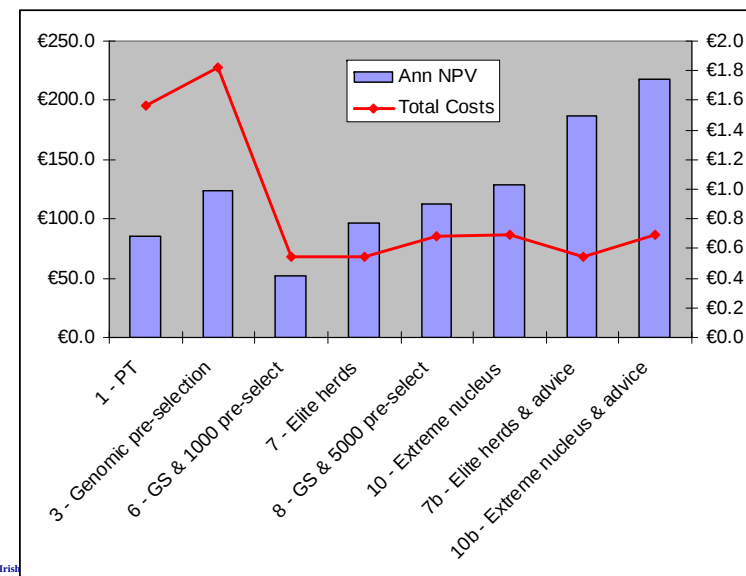
- DNA test at birth gives as much information for EBI traits as 15-20 progeny.
- 40% of AI matings 2010 to genomic bulls.
- Accuracy improving.
- Cost of testing declining.
- A revolution in breeding.
- Ireland is a leader in the application of genomics.

Beef

- Irish training research has commenced.
- Need DNA from more animals with accurate evaluations.
- Seeking international collaborators.
- First results expected in 2011.



Cost & benefit from different schemes



Breeding Scheme

- Very high rates of return.
 - €1 = €50-€100, depending on uptake.
- Genomic schemes are more cost-effective than progeny test schemes.
- Increasing accuracy of GS prediction can double rates of genetic gain.

Breeding Scheme

- Invest in genotyping females.
 - €250k in females = €20m per annum.
- Targeting of high merit herds with breeding advice.
 - Elite calves & accuracy.
- Important role for “Next generation” herds in future.
 - Elite calves, accuracy, R&D & focus.

Breeding Scheme

- Bio-security.
 - Lay off GS bulls for potential return to AI. More cost effective than increasing PT.
- Inbreeding.
 - Manage through targeted advice & Active Bull List. More cost effective than increasing PT.

Implications.

- Increased role for females.
 - Training & directed advice.
 - Moving away from 100 bulls & 100 dtrs.
- Working with elite herds.
 - Genotypes & phenotypes.
- Establishment of Next generation herds.
 - In conjunction with industry stakeholders.
- Inbreeding through breeding advice.

SERVICES FROM SERVICE PROVIDERS



Service & Data Providers

- Milk Recording
- AI
- Herd Book
- Veterinarians
- Advisors
- Marts
- Meat Factories
- DAFF



CONTINUOUS IMPROVEMENT



Research & Innovation

- Members
- Customers
- Teagasc
- DAFF
- Universities
- Contractors
- EU projects
- International collaborations



Summary

- Irish cattle farmers want to breed more profitable cattle.
- Ireland now has a world-class system for finding cattle with the greatest genetic potential to increase profits.
- Genomics is fundamentally altering the way we breed cattle. The revolution is well underway for dairy and we expect it to start in 2011 for beef.