

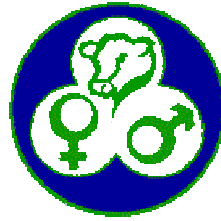
IRISH CATTLE BREEDING FEDERATION

G€N€ IR€LAND User Meeting

Cork Marts, Corrin, Fermoy

13th November 2008





IRISH CATTLE BREEDING FEDERATION

***Review of GEN€ IR€LAND Programs
(2005-2008).***

“The Science.”

Andrew Cromie.

Cork Marts, Corrin, Fermoy

13th November 2008

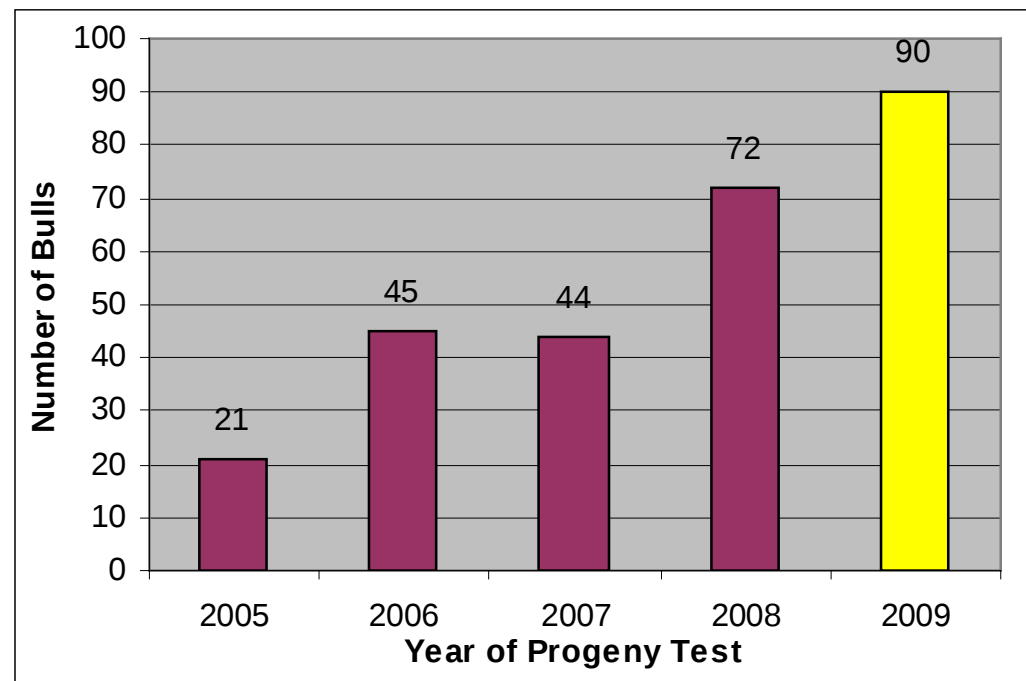


GENE IRELAND – Objectives

- Dairy Program launched in 2005.
- Three main objectives.
 1. Increase scale of progeny test program
 - 100 bulls each with 100 daughters.
 2. Increase efficiencies of progeny test.
 - Targeted herd approach.
 3. Increase EBI of young bulls.
 - New “top 10” bull each year.

1. Scale of program – Spring Only.

- Target = 100 bulls.
- Scale increasing each year.
 - Late start in 2007
- Additional ~10 bulls in Autumn.
- Target 90 bulls for Spring 2009.



2. Efficiency of program – Spring Only.

- Target; 700 straws = 100 dtrs in proof.
- Improvements in efficiency (~10-15 straws/dtr is accepted “norm”)
- 2005 program; ave 80 daughters, but only 50 in current proof....“*carry-over, sold, culled*”.
- 2006 & 2007 programs – will “lose” 15-20 daughters for each bull.
- 2008; need ~117 live heifers next Spring.
- Need farmers to use semen in current season.

Year	Insems/dtr	Dtrs
2005	9.4	80
2006	7.5	92
2007	6.8	104
2008	6.0	117

3. Average EBI of young bulls – **Spring Only.**

- Major increases in EBI of bulls teams.

- Doubled compared “old programs”
- Increasing emphasis on fertility.
- Target = €155 for Spring 2009

Year	EBI	Milk	Fert
2005	€102	€68	€29
2006	€120	€58	€48
2007	€125	€61	€50
2008	€142	€55	€58
2009	€155	€60	€60

- Can the program deliver a “new top 10 bull” each year?
- ***The key objective of the program.***

4. Testing the Science – Does GENE IRELAND “work”?

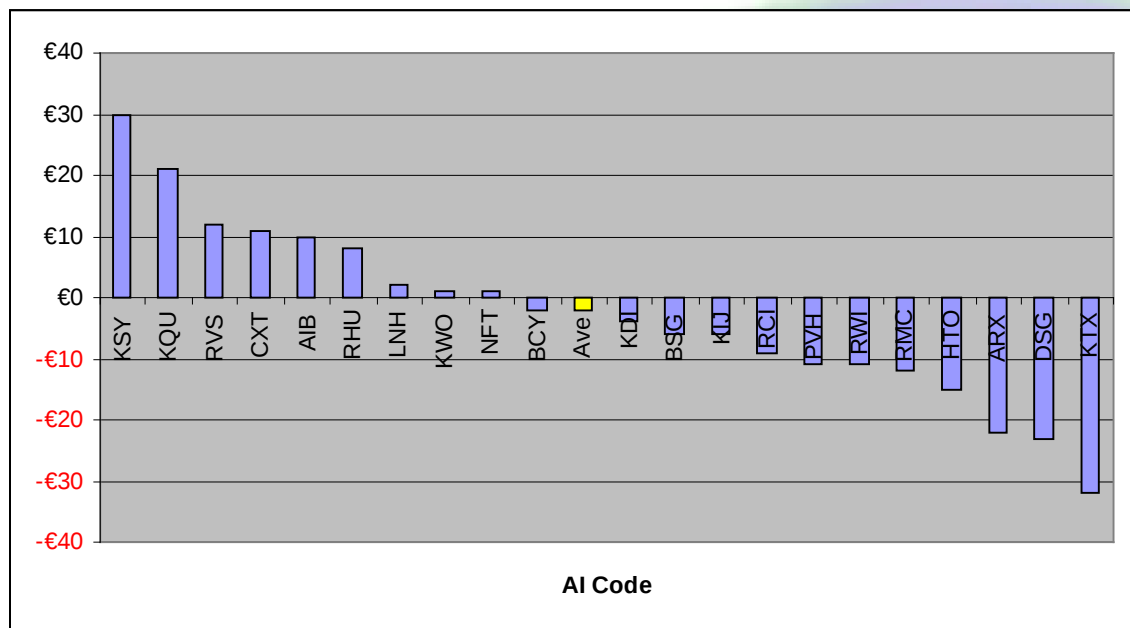
- 2005 bull team.
 - “Parent Average” EBI = €102
 - Average reliability of team (5 bulls * 5 straws) = 85%
- What does the “science” tell us?
 - “Actual EBI” for team of bulls = +/- €10 (€92-€112)
 - “Range of EBI’s” for individual bulls = +/- €70 (€32-€172)

G€N€ IR€LAND - Spring 2005 Crop

Code	Name of Bull	Sire	EBI	PAve	Diff	Rel	Dau	Hrds	Milk	Fert
AIB	CARRIGOON ARCHIBALD	AHD	€115	€106	€10	61	33	28	€59	€43
ARX	COOLTEEN ARCHIE	AHD	€81	€103	-€22	66	55	41	€55	€40
BCY	BALLINDINAS CAREY	GMI	€98	€100	-€2	63	44	38	€67	€30
BSG	BALLYBROOK DESIGN	DXD	€93	€99	-€6	63	48	43	€45	€49
CXT	CARRACOUSH EXTASY 4	WIM	€122	€110	€11	56	25	18	€128	-€19
DSG	BALLYMARTIN DESIGN 2	DXD	€44	€67	-€23	61	29	23	€44	-€1
HTO	HILLSDALE LOOSTER	LOO	€97	€113	-€15	62	41	35	€78	€19
KDI	KILCOLMAN DESIGN	DXD	€91	€95	-€4	65	53	40	€32	€50
KIJ	KILLINGLEY SIJKE SLOGAN	ESZ	€71	€77	-€6	69	108	78	€22	€39
KQU	KILQUANE TAUS	RGK	€72	€50	€21	65	64	51	€62	-€2
KSY	KILLINGLEY SIJKE DELCOY 2	DCD	€135	€105	€30	63	70	50	€91	€18
KTX	KILLINGLEY BET EXCELLENC' LYE		€85	€117	-€32	69	100	73	€32	€56
KWO	KILCLUTOWN DESIGNER JOM	DXD	€89	€89	€1	64	45	30	€38	€58
LNH	CARRIGOON LENA ARCHIE	AHD	€120	€118	€2	57	28	20	€20	€73
NFT	COOLNASOON FAIRGALT 2	GMI	€112	€111	€1	49	12	10	€58	€34
PVH	PINEVILLE HUGO	UYC	€112	€123	-€11	64	51	39	€75	€29
RCI	CARRAIGBUI MERCI	GMI	€100	€108	-€9	61	29	26	€33	€61
RHU	BALLYBROOK ROYAL HUGO	UYC	€141	€134	€8	67	65	49	€103	€31
RMC	REARY MCGINLEY	NHS	€93	€106	-€12	71	96	70	€60	€12
RVS	RAHEENVARREN SJOERD	NHS	€115	€103	€12	61	36	26	€96	€12
RWI	REENBAWN MERCI	GMI	€109	€120	-€11	60	26	22	€66	€46
Average G€N€ IR€LAND 2005			€100	€102	-€2	63	50	39	€60	€32

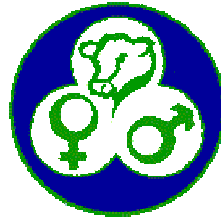
Yes. The Science Works!

- Parent Average EBI of 2005 Bull Team = €102
- Actual EBI of 2005 Bull Team = €100 (-€2)
- Across all bulls; EBI Difference Range = +/- €30
- Best bull = RHU (€141)
- **“Science” has been proven.**
- **Major +++ for G€N€ IR€LAND**



G€N€ IR€LAND – Summary

- G€N€ IR€LAND is delivering on its 3 main objectives.
 - Scale = 100 bulls.
 - Efficiency = 700 straws & 100 daughters
 - EBI = €20/year increase.
- The “science” is now proven.
- Please continue to support G€N€ IR€LAND.
 - Driving the future profits of the dairy industry



IRISH CATTLE BREEDING FEDERATION

***Review of GEN€ IR€LAND
Programs (2005-2009).
“The Practice”
Rachel Wood.***

Cork Marts, Corrin, Fermoy

13th November 2008



GENE IRELAND – How it works?

- Farmers & Industry want a National progeny test service.
- ICBF provide the “frame-work” for program;
 - ICBF sign-up herds, co-ordinate semen dispatch, collect data & produce EBI's
 - AI companies purchase bulls, collect semen & forward semen to ICBF for dispatch.
 - Four AI organisations involved; NCBC, Dovea, Eurogene/LIC & ABS Genus
- Novel, cost-effective & beneficial approach to National Progeny Test program.

Today's Talk.

1. Herd sign-ups.
2. Range of breeds.
3. Semen collection, assembly & dispatch.
4. Data follow-up.
5. GEN€ IR€LAND “In Practice”.



Herd Sign-ups – Spring Only.

- 1205 herds involved in 2008 program.
 - Industry support, e.g., Teagasc Disc Groups.
 - High EBI HF pack.
 - Range of breeds.
 - Started “sign-ups” early. Completed by Mar
- Spring 2009 program - need ~1575 herds.
 - Recruitment starts today.

Program	No Bulls	No Herds
2005	20	150
2006	45	482
2007	44	686
2008	71	1205
2009	90	1575

Range of breeds & herds – Spring 2008

Breed Pack	Bulls	Straws	Ave Straws	No Herds
High EBI HF	52	37,026	712	907
Pure Friesian	13	7,804	600	189
Red Breeds	3	1,457	486	70
Cross-bred	3	2,040	680	124
Totals	71	48,327	681	1205*

- High EBI (€142) HF most popular.
- EBI's for other packs is problematic.
 - Imported bulls, limited data...
 - Service offered based on demand (farmers & AI)
- Expect similar range of breeds for next year.

Semen Collection & Dispatch

- Semen collected by AI organisations & forwarded to ICBF (700 straws/bull).
- ICBF send semen packs to farmers via nominated AI service provider (including breeding charts).
- Key is get semen moving early (Feb in 2008).
- **But**.....many of the bulls are only 1 year old @ semen collection (genetic gain & EBI).
- Some problems at end of last years breeding season. Working to correct & improve.
- Best advice for farmers.....sign-up early.....

Data follow-up – Inseminations are key.

- Having accurate data is key
- ICBF follow up missing data from farmers.

Program	No Bulls	No Herds	Straws Disp.	% Rec Insems
2005	20	150	421	N/A
2006	45	482	560	56%
2007	44	686	650	81%
2008	71	1205	681	70%???
2009	90	1575	700	85%

- Still missing inseminations for 2008 program (70%?? for Spring 2008)
- Target for Spring 2009 = 85% recorded inseminations.

New Traits – Farmer Satisfaction

- New trait recorded this year; “Would you like another heifer like this?”
 - Good milk solids, good fertility, quiet, profitable.
 - 1= Strongly disagree – 5 = strongly agree.
- Collected 7,500 heifer records from targeted GENE IRELAND users this Autumn.
 - Expanding to all dairy farmers.
 - Please record (via web-site).
 - Valuable trait for farmers in the future.

Initial Results.

- Initial results promising.
- RHU – top bull on satisfaction and top “new bull”
- Need more data!

Bull	EBI	Recs	Ave Scores
RHU	€141	16	4.25
HZO	€143	58	4.17
JKB	€38	24	4.04
LPP	€122	26	4.04
KWA	€149	21	4.00
MKU	€100	33	4.00
AXA	€111	21	3.95
HRZ	€102	124	3.93
QUR	€131	32	3.91
LOO	€131	29	3.90

G€N€ IR€LAND “In Practice”; Spring 05 Results

Herd 1: Eamon Coughlan.

- Milking 138 cows, outside Fermoy
- 1st Lact. Progeny - 305D predictions:

	No	DIM	Milk (Kgs)	Fat (Kgs)	Prot (Kgs)	Fat %	Prot %	EBI
Non-GI Prog	22	251	4759	196	161	4.14	3.39	€90.5
GI Prog	10	267	5372	215	175	4.05	3.36	€74.9

G€N€ IRLAND “In Practice”; Spring 05 Results

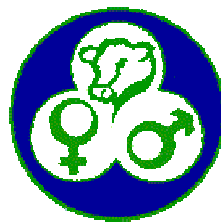
Herd 2: Seamus Quigley, Tipperary

- Milking 346 cows outside Nenagh
- 1st Lact. Progeny - 305D predictions:

	No	DIM	Milk (Kgs)	Fat (Kgs)	Prot (Kgs)	Fat %	Prot %	EBI
Non-GI Prog	90	255	4532	207	164	4.59	3.63	€106.6
GI Prog	29	250	4640	202	164	4.37	3.53	€95.2

Summary

- Farmers & industry want a National Progeny Test program.
- GEN Ireland is delivering for the industry.
- We are always looking to making improvements to the service.
 - EBI, earlier semen, genomics....
- Look forward to working with you in 2009.



IRISH CATTLE BREEDING FEDERATION

***G€N€ IR€LAND
Plans for 2009.
Andrew Cromie.***

Cork Marts, Corrin, Fermoy
13th November 2008



Background

- G€N€ Ireland is delivering for farmers.
- Two major changes to G€N€ IRELAND for 2009.
 1. NDP funding has been removed.
 - This funding covered the cost of the farmer incentives; insemination, calving, milk recording & linears.
 2. Potential for higher EBI bulls from Genomic Selection.

G€N€ IR€/Genomics - Research.

- Research project initiated.
- Impact of Genomic Selection (GS) on G€N€ IR€LAND program.
- Theo Meuwissen (Norway) contracted.
 - Original EBI work (100 bulls * 100 dts)
 - Wrote the paper that “launched” GS.
- Results recently presented to Irish dairy industry.

GEN IR/Genomics - Research

- Two main approaches.
 - *Genomic Selection*; 500 bulls selected on genomic EBI & best 100 selected for progeny test.
 - *Young Graduates*; Bulls selected as sires of sons at earlier age (2-3 years as opposed to 5 years).

Research Conclusions.

- Extra genetic gain from genomics.

1. G€N€ IR€	Base-line (€20/cow/year)
2. G€N€ IR€ + Genomics	+ 16%
3. G€N€ IR€ + Young Graduates	+ 27%
4. G€N€ IR€ + Genomics + Young Graduates	+ 48%
- Reliability of Genomic EBI (+~20% over PA).
- New G€N€ IR€LAND can increase genetic gain by 48% (€20 to €30/cow/year).

New GEN IR - 2009.

- Continue with Optimum Program Size.
 - 100 bulls & 100 dtrs.
 - Ongoing research population.
- Farmers charged €5/straw for semen.
 - Genomic selected bulls at “discount rate”.
- No “farmer” incentives for data collection.
 - Insemination, calving records, milk recording & linear type.
- *All incentives will be paid on existing programs (including Autumn 2008).*

Why would I get involved in GEN IR - Farmers

- High EBI bulls.
 - Genomic selected.
 - Target of €155 for Spring 2009
- Semen @ €5/straw.
- Get ahead.
 - 1 year before “young graduates”.
 - 4 years before “proven bulls”.

Why is it important that we have G€N€ IR€ progeny test

- Single integrated program.
 - Focused & maximise genetic gain.
- Reduced costs for industry.
 - All stakeholders (farmers, AI orgs...)
- Resource for ongoing research.
 - Re-estimation of SNP's
 - Link to Teagasc/Universities.
 - Identification & evaluation of new traits.

ICBF Active Bull List – Spring 2009?

SIRE DETAILS				EBI DETAILS								
RK	Code	Name	% HO	EBI	Rel	Dau	Hrds	MILK	FERT	CALV	BEEF	HLTH
1	OJI	O-BEE MANFRED JUSTICE	100	€245	89	170	62	€119	€77	€47	-€3	€5
2	R XO	RAMOS	100	€213	74	-	-	€49	€122	€35	-€8	€15
3	G IO	GIBOR	97	€195	67	-	-	€73	€84	€31	-€6	€14
4	WUZ	WINDSOR-MANOR DURHAM ZEUS	100	€176	59	-	-	€51	€102	€26	-€7	€5
5	DEU	DONEEN MARLEEN HUGO	59	€160	86	161	124	€88	€73	€14	-€12	-€2
6	LWT	LAINGS WCO NIGHTHAWK	100	€159	58	-	-	€65	€58	€20	€18	-€2
7		G€N€ IRELAND Spring 2009	80	€155	85	-	-	€60	€60	€20	€10	€5
8	NVE	SAND-HILL DELTA NEVADA	100	€155	65	-	-	€51	€93	€19	-€5	-€3
9	WVZ	WHITTAIL-VALLEY ZEST-ET	100	€153	89	133	47	€57	€66	€30	-€7	€8
10		AI Company - High Fertiltiy	77	€153	90	-	-	€42	€98	€12	-€4	€4
11	TKY	SRC TIMOTHYS MANDRAKE	100	€153	62	-	-	€71	€68	€32	-€10	-€8
12	RDU	RUUD 96	100	€149	76	71	47	€72	€42	€34	€1	-€1
13	SGV	STIRLING MAGLEY ANVIL	100	€148	63	-	-	€95	€45	€18	-€6	-€4
14	WKP	BAGWORTH KEETS PAL	100	€147	58	-	-	€68	€66	€21	-€8	€0
15	TCZ	ALTA TUCANO	94	€147	71	-	-	€61	€69	€22	-€6	€1

Summary

- Genomics has much to offer Irish cattle breeding industry.
 - Increased genetic gains (50%).
- Looking forward to a new GENÉ IRÉLAND dairy progeny test next Spring.
- Thank-you for your support.
- We look forward to your continued support in 2009.