

IRISH CATTLE BREEDING FEDERATION

***Developments in Dairy
Evaluations.
ICBF Dairy Industry Meeting***

19th February 2009

Agenda

- Genomics Update – FK
- Implications for breeding decisions in Spring 2009 – AC
- Genomics advice for farmers/industry & further developments – FK/AC
- Dairy breeding developments 2009.
- Best practice in cattle breeding.
- Any other business.

Setting the Scene – Last weeks ICBF Update.

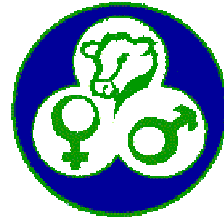
- **Genomic Selection - Important Decisions for 2009**
- On Thursday next week we will be finalising details of the way our information services will be amended to incorporate genomic data. The decision making process will involve a consultation meeting with the dairy breeding industry followed by a meeting of the IBCF Board.
- **Active Bull List**
- The key issue being addressed is the ICBF Active Bull list. This list has become the focal point for identifying the bulls widely available in AI that have the greatest potential to increase farm profitability.
- The bulls on the list are the best available in Ireland to breed dairy replacements.
- Our role is to assemble information that enables farmers to make good decisions. We judge our effectiveness through the rate at which the EBI of dairy replacements is increasing.
- There is a lot of potential to increase the current rate of gain.

Setting the Scene – Last weeks ICBF Update.

- Genomics is a new technology with the potential to substantially increase the gain in EBI through increased use of selected two to four year old bulls.
- With the use of genomic testing we expect to see an increasing percentage of the highest EBI bulls being these younger bulls for which complete progeny test data is not yet available. While they will have high EBIs they will have lower reliabilities than traditionally found on the active bull list.
- The risk to the herd owner associated with the lower reliabilities on these higher EBI bulls can be reduced through the use of several such bulls. The concept of using teams of bulls to reduce risk, while achieving high EBIs, is being strongly supported by ICBF.
- All the main AI companies operating in Ireland have indicated that they will be offer a selection of genomically tested AI sires in spring 2009.

Setting the Scene – Last weeks ICBF Update.

- To help farmers evaluate the wide choice of bulls we will be publishing EBIs that incorporate genomic data.
- With the incorporation of the genomic data the reliability of the EBI will increase over that obtained from ancestry information alone.
- *The key decisions are thus:*
 - *Ensuring the Active Bull List continues to be highly relevant.*
 - *The reliability criteria for a bull to be considered for the Active Bull list.*
 - *The terminology that will be used to describe the information that has been used in computing the EBI for an animal.*



IRISH CATTLE BREEDING FEDERATION

Genomics Update Francis Kearney

19th February 2009

Last meeting

- Initial run done prior to last meeting
- Results were sent to respective AI companies for feedback
- Initial testing showed that some actual calving proofs overwritten with genomic ~ relayed to AI companies
- Expected about 140 proven and young bulls in the next run

Update

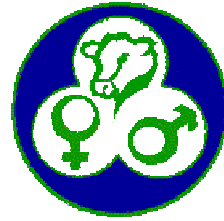
- 196 Samples sent to Denmark – end of Jan (mostly semen, some blood, hair)
- Expected return – Feb 6th
- Problems with DNA concentration – DNA extraction procedures
- Best 96 samples chosen – 49 semen samples retained – list sent to Als
- Expected return Feb 12th
- Problem in DNA with a consumable
- Samples to be on FTP site today?

Timeline

- Download samples from FTP site
- Start programs before weekend
- Expect to have results early next week
- Prelim proofs sent out for feedback
- Final decision based on feedback and testing

Missed bulls

- Technique used to up concentrate DNA in Wetherbys and send sample to Denmark
- Increase in concentration three-fold but still not enough for some bulls
- Need to get more semen from these bulls
- List included in handout



IRISH CATTLE BREEDING FEDERATION

Implications for Breeding Decisions in 2009

19th February 2009

ICBF Active Bull List – Key Issues.

- The key decisions today are;
 - Ensuring the Active Bull List continues to be highly relevant.
 - The reliability criteria for a bull to be considered for the Active Bull list.
 - The terminology that will be used to describe the information that has been used in computing the EBI for an animal.

ICBF Active Bull List - Review

- Launched in 2002.
- Objective – help farmers increase profit from breeding;
 - High EBI Bulls.
 - Semen available.
 - Free from genetic recessives, e.g., CVM
 - Reliably proven – 2%/year/increase
 - One single list covering all breeds & systems.

Why the need to review?

- Dairy breeding is changing;
 - Role of genomic tested AI bulls (~50% rel).
- Frustration amongst farmers;
 - Can't get semen from some bulls on list.
 - Some bulls are not of interest....
 - Not all high EBI bulls are on list....
- *Are we making sufficient genetic gain?*
 - *Quantity & Quality of replacements.*

Breeding is Changing; US List

http://aipl.arsusda.gov/dynamic/sortnew/current/HOL.xls - Windows Internet Explorer

http://aipl.arsusda.gov/dynamic/sortnew/current/HOL.xls

Google USDA genetic evaluations Go 3 blocked Check AutoLink AutoFill Send to USDA genetic evaluations Settings

http://aipl.arsusda.gov/dynamic/sortnew/current/HO...

A1 USDA Evaluations for Available Holstein Sires

USDA Evaluations for Available Holstein Sires

Sorted by Net Merit

January, 2009

Top 100 = 64 are GS bulls

Minimum reliability is 60%

ID	NAAB	Name	NM\$	REL	PTA Milk	PTA Fat lbs	PTA Fat %	PTA Protein	PTA Protein %	REL Yield	PTA SCS	PTA DPR	PTA PL	Herds	Daus
6	HOUSA000060996956	001HO08784 BADGER-BLUFF FANNY FREDDIE	918	69	1661	71	0.04	59	0.04	72	2.58	3.3	9.2	0	0
7	HOUSA000053557278	007HO10176 MR REGELCREEK SHOT AL-ET	914	67	1742	113	0.18	65	0.05	70	2.71	-0.3	6.3	0	0
8	HOUSA000138938125	007HO10072 BRIGREEN RUSSELL	854	65	1271	112	0.25	49	0.04	69	2.66	1.8	6	0	0
9	HOUSA000053557280	007HO10059 MR REGELCREEK SHOT ALAN-ET	841	68	2088	89	0.05	71	0.03	71	2.60	-0.5	5.5	0	0
10	HOUSA000062175933	029HO13517 PINE-TREE MARTHA SHOLTEN-ET	808	68	2064	103	0.10	73	0.04	71	2.75	-0.7	4.6	0	0
11	HOUSA000063026939	001HO09527 CO-OP BOSSIDE MASSEY-ET	808	65	1818	64	-0.01	68	0.05	69	2.53	1.3	5.7	0	0
12	HOUSA000138905680	076HO00581 WABASH-WAY EXPLODE-ET	785	66	2307	84	0.00	70	0.00	70	2.76	-0.6	4.5	0	0
13	HOUSA000122358313	007HO06417 O-BEE MANFRED JUSTICE-ET	778	99	1118	79	0.15	60	0.10	99	2.69	2.6	6.1	7391	40144
14	HOUSA000064287983	007HO10011 BOSSIDE PS PRENTICE-ET	777	67	1618	92	0.12	59	0.04	70	2.71	0.4	5.7	0	0
15	HOUSA000138762896	007HO09916 BRANDT-VIEW BIGTIME-ET	771	64	1821	103	0.14	63	0.03	68	2.60	-0.9	3.2	0	0
16	HOUSA000137611441	001HO09167 CO-OP O-STYLE OMAN JUST-ET	767	70	1607	67	0.03	58	0.04	73	2.73	2.4	6.5	0	0
17	HOUSA000062175932	001HO09208 PINE-TREE MARTHA SHAMPOO-ET	763	70	1793	96	0.11	56	0.01	73	2.61	0.8	6	0	0
18	HOUSA000061886730	014HO05434 JENNY-LOU SHOTTLE TRUMP-ET	761	70	2641	101	0.02	66	-0.05	73	2.61	-1.1	4.8	0	0
19	HOUSA000062769056	001HO09387 BEYERCREST RAMOS JOE CRI-ET	748	69	798	59	0.11	43	0.07	72	2.62	2.7	7.3	0	0
20	HOUSA000060597003	007HO08081 ENSENADA TABOO PLANET-ET	737	84	2630	83	-0.05	75	-0.01	89	2.88	0.3	5.8	55	71
21	HOUSA000062942427	001HO09192 LOTTA-HILL SHOTTLE 41-ET	737	66	2491	76	-0.05	63	-0.04	69	2.65	-0.8	5.9	0	0
22	HOUSA000062030790	001HO08654 CO-OP OMAN LOYDIE-ET	734	72	1484	76	0.08	68	0.09	75	2.82	1.7	4.4	0	0
23	HOUSA000137959529	001HO09417 MORNINGVIEW HO-HO	734	68	2156	87	0.03	57	-0.03	71	2.84	1.0	6.4	0	0
24	HOUSA000052475507	011HO09911 LARCREST ALTAENDURO-ET	720	70	-20	72	0.29	31	0.12	73	2.86	3.3	7	0	0
25	HOUSA000063685691	007HO09879 PINE-TREE SPEARMINT-ET	720	70	1243	90	0.17	34	-0.01	73	2.65	0.7	6.4	0	0
26	HOUSA000062398820	001HO09040 CO-OP OMAN CAVANA-ET	706	70	508	84	0.25	42	0.10	73	2.63	2.1	5.3	0	0
27	HOUSA000061376268	001HO07949 KINGS-RANSOM TM DIVA CRI-ET	704	81	1705	85	0.09	48	-0.01	86	2.77	0.9	5.2	51	82
28	HOGBR000000598172	029HO12209 PICSTON SHOTTLE	698	96	2315	102	0.07	67	-0.01	99	2.64	-2.9	3.2	3409	10964
29	HOUSA000062617936	029HO13454 DE-SU MOTIF-ET	698	67	1816	87	0.08	43	-0.04	70	2.62	-1.1	4.7	0	0

⏪ ⏩ 🔍 \HOLSTEIN\HO_US_NM\HO_US_CM\HO_US_FM\HO_ALL_NM\HO_ALL_CM\HO_ALL_FM\

Unknown Zone

start

Inbox - Microsoft Out... Inbox - Microsoft Out... Vodafone 3G Broadb... ICBF_Active_Bull_List... Microsoft Excel - GSb... http://aipl.arsusda.g... EN 22:11

Breeding is Changing; Interbull Meeting

- All major dairying countries are starting to use GS data.
- ICBF will start publishing EBI's with GS data included in National evaluation in Feb 2009.
- US has started (Jan 09). Other countries (NZ, NLD, FRA....) will follow this year.
- Interbull will be providing a service including GS data from late 2009.
- Expect to see more high EBI bulls available in Ireland with GS data in future.
 - Domestic & foreign programs.

Farmer issues; Availability & preference

Rk in 07	Code	Bull Name	Brd	F in 08	Owner
1	RUU	RUUD 22	HO	7979	NCBC
2	OJI	O-BEE MANFRED JUSTICE	HO	935	Eurogene/LIC
3	HKU	HAIKU	MO	127	Dovea AI
4	ILZ	ILIZAC	MO	144	Dovea AI
5	TIH	TITTENSER HYLKE	FR	6456	Dovea AI
6	INW	IONONE	MO	20	Eurogene/LIC
7	HFL	HEDRA FESTIVAL	HO	1496	Dovea AI
8	KES	KELSTEIN E 164	HO	2918	NCBC
9	DVJ	DE VETHS JIRO	HO	363	Eurogene/LIC
10	BGZ	BAGWORTH CAMS AMBIENCE	FR	442	NCBC
11	SLL	SALLYHALL TORELLO	FR	129	Dovea AI
12	SJT	SMITHS HUGO JUMPSTART S1	FR	698	Eurogene/LIC
13	BGW	BAGWORTH ELLISTON BELL	FR	305	Eurogene/LIC
14	FOI	CARNATION FREEDOM CRI ET	HO	255	Dovea AI
15	KBA	KATSHAAR BRENDAN	HO	4229	NCBC
16	DCA	DOVEA CAESER ET	FR	486	Dovea AI
17	DEU	DONEEN MARLEEN HUGO	HO	3716	NCBC
18	SBH	SRB BALLS HERITAGE	HO	82	Eurogene/LIC
19	WAL	WALTERS JESTER	HO	29	Eurogene/LIC
20	PIS	PISTILL	HO	231	Eurogene/LIC

Farmer Issues; High EBI bulls not on List

Code	Name	Brd	Owner	Calves in 08	EBI
WUZ	WINDSOR-MANOR DURHAM	HO	NCBC	332	€179
KNW	KIERNANS NORWESTER S1	FR	Eurogene/LIC	677	€177
WPE	WHINLEA PALAD ECKLAND	HO	Eurogene/LIC	333	€166
RMW	RIVERLOCK MOWING MACH	HO	Eurogene/LIC	268	€152
KSI	KLASSIC DIRECTOR	HO	Eurogene/LIC	362	€151
HNN	HANSEN*CV	HO	NCBC	353	€138
RIL	NARISTI LO	HO	NCBC	569	€133
RIP	REARY MC CARTHY ET	FR	Dovea AI	1102	€117
MCL	MASCOL	HO	Dovear AI	297	€113
LLO	LILAS MOUN	HO	NCBC	473	€123
	Average				€145

- Low reliability is the major issue.
- How do we overcome?

Genetic Gain; Quantity & Quality.

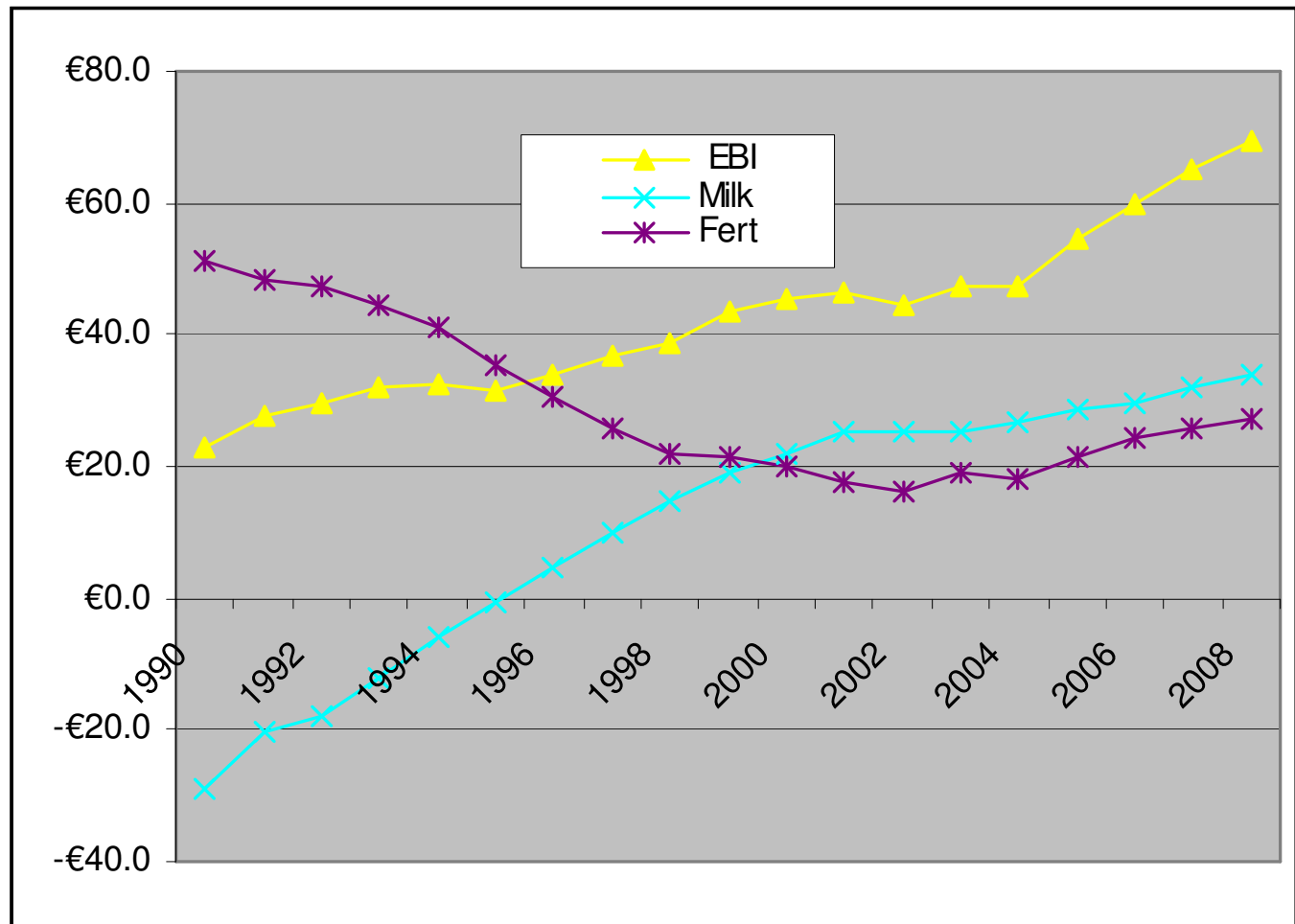
Year	Dairy replacements*	AI Bred	% AI*
2006	255,174	107,901	46%
2007	245,902	122,748	52%
2008	260,000*	133,399	57%

** Estimate for 2008*

- Positive progress on AI bred replacements.
- But for expansion, industry needs 350k dairy replacements/year....80% AI bred.....
- We are still a long way from these targets.

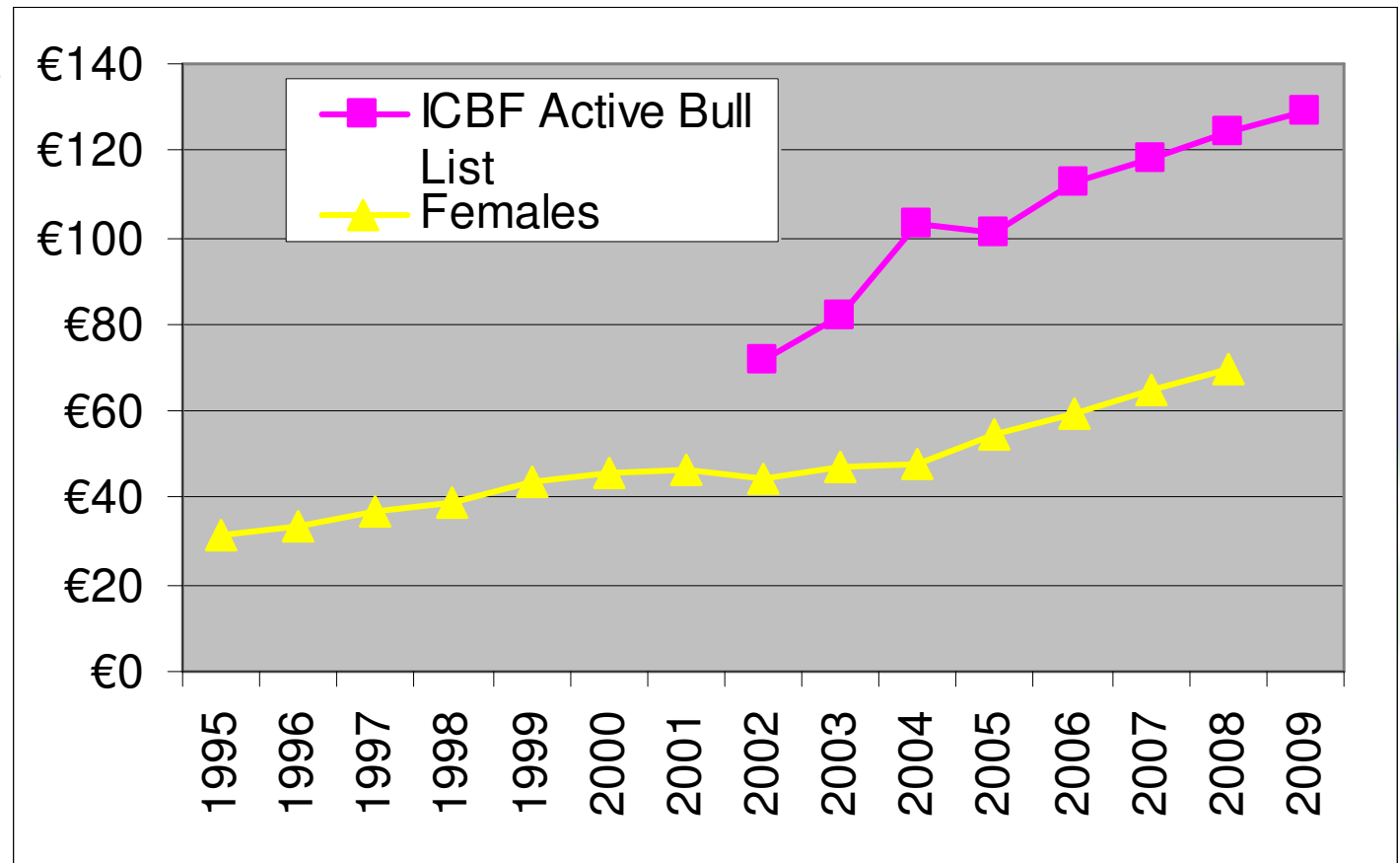
Genetic Trends – EBI Females

- Genetic Trends are positive.
- Females = ~ €5/year.
- Positive but rate of gain is 25% of optimal (€20/year!)



Genetic Trends – Active Bull List & Females

- What drives gain?
- ICBF Active Bull List.
- Also improving at €5/year.
- Is this enough?



Trends in ICBF Active Bull List (2002 – 2008)

	2002	2003	2004	2005	2006	2007	2008
EBI	€72	€82	€103	€101	€113	€118	€124
Milk	€60	€60	€64	€59	€57	€46	€52
Fertility	€12	€22	€35	€35	€44	€60	€60
Minimum EBI	50%	50%	52%	52%	54%	56%	58%
Average Reliability	73%	66%	67%	70%	73%	74%	76%
Average DOB	Sep-93	Feb-95	Apr-96	Aug-95	May-96	Sep-97	Mar-98
Bulls with dtrs in Ire	27	19	22	35	32	43	41
Domestic Bulls	14	9	12	21	18	22	17
New top bull (<=7 years)	32	37	37	16	11	12	11

- Key Trends;
 - Genetic trends = <€5/year....rate of gain declining?
 - Average reliability is increasing but average age of bulls is now 10 years old.
 - Only 12-15 “new” bulls per year.

Trends; A Closer Look (2005 – 2008)

- Average EBI of Bull list is €125 (still not high enough).
- But average weighted EBI of all sires is ~€100
- And Only ~60% of calves born from sires on list.

	2006	2007	2008
<u>Analysis of Replacements</u>			
Female AI Bred Replacements	107,901	122,748	133,399
Proven sires with EBI (<1986 & T05, T06, T07 removed)	99,468	111,802	120,007
<u>EBI Analysis of All AI sires</u>			
Number Sires	1,367	1,339	1,382
Weighted EBI	€92.3	€101.1	€105.1
<u>EBI Analysis of Sires from preceding Active Bull List</u>			
Number Sires	75	75	75
Weighted EBI	€117.5	€124.7	€126.2
Female AI bred replacements born from sires on preceding list	57,823	71,226	70,467
% total	58.1%	63.7%	58.7%

Review Findings

- Our industry needs more high EBI dairy replacements.
 - Realistic targets; 250k AI bred & EBI gain of ~€15/year.
 - We are a long way off; 130k AI bred & EBI gain of €5/year.
- The ICBF Active Bull List is our key tool through which to deliver more profit from breeding for farmers.
- How can we increase its uptake & effectiveness and help reach our targets?

Key Questions for each List

- Score each list 1-5 (1=strongly disagree, 5 = strongly agree) for each of the following questions.
- Will this list;
 - Help increase the EBI of our National dairy herd?
 - Ensure farmers have access to new top bulls each year?
 - Promote the increased use of AI for breeding dairy replacements.
 - Be easy to assemble and update as more/new information becomes available?
 - Be easy for farmers/industry to use & interpret

Option 1; Dtrs & 60% rel

- Continuation of current approach.
- 2% increase in reliability.
- Bulls must have daughter evaluation & 60% reliability.

	2008	Option 1; Dtrs & 60% rel
EBI	€124	€127
Milk	€52	€47
Fertility	€60	€66
Minimum EBI	58%	60%
Average reliability	76%	77%
Average DOB	Mar-98	Mar-99
Bulls with dtrs in Ireland	41	49
Domestic Bulls	17	24
New top bull (<=7 years)	11	15
Number GS bulls	0	0

Option 2; Dtrs & 35% rel

- Bulls must have Interbull milk & fertility evaluation & minimum EBI reliability of 35% (ensure consistency with 3 & 4)
- 1st crop bulls are ~ 40-70%.

	2008	Option 2; Dtrs & 35% rel
EBI	€124	€134
Milk	€52	€52
Fertility	€60	€65
Minimum EBI	58%	35%
Average reliability	76%	71%
Average DOB	Mar-98	Oct-99
Bulls with dtrs in Ireland	41	39
Domestic Bulls	17	18
New top bull (<=7 years)	11	17
Number GS bulls	0	0

Option 3; GS Teams

- Same as option 2, but now including GS data.
- Bulls must have an Irish genomic EBI, calving proof (50%) & minimum EBI reliability of 35%.
- Teams of 6 bulls.
- Bulls nominated by AI company.
- ~5,000 doses/bull.
- Recommend min 30 straws per team

	2008	Option 3; GS Teams
EBI	€124	€138
Milk	€52	€56
Fertility	€60	€65
Minimum EBI	58%	35%
Average reliability	76%	69%
Average DOB	Mar-98	Mar-00
Bulls with dtrs in Ireland	41	34
Domestic Bulls	17	23
New top bull (<=7 years)	11	23
Number GS bulls	0	8 (48)

Option 4; GS Bulls

- Same as option 2, but now including GS data.
- Bulls must have an Irish genomic EBI, calving proof (50%) & minimum reliability of 35%.
- ~5,000 doses/bull.
- Recommend that farmers use bulls in teams.

	2008	Option 4; GS Bulls
EBI	€124	€150
Milk	€52	€69
Fertility	€60	€64
Minimum EBI	58%	35%
Average reliability	76%	58%
Average DOB	Mar-98	Aug-02
Bulls with dtrs in Ireland	41	16
Domestic Bulls	17	37
New top bull (<=7 years)	11	48
Number GS bulls	0	39

Option 1-4; Comparison.

	2008	Option 1; Dtrs & 60% rel	Option 2; Dtrs & 35% rel	Option 3; GS Teams	Option 4; GS Bulls
EBI	€124	€127	€134	€138	€150
Milk	€52	€47	€52	€56	€69
Fertility	€60	€66	€65	€65	€64
Minimum EBI	58%	60%	35%	35%	35%
Average reliability	76%	77%	71%	69%	58%
Average DOB	Mar-98	Mar-99	Oct-99	Mar-00	Aug-02
Bulls with dtrs in Ireland	41	49	39	34	16
Domestic Bulls	17	24	18	23	37
New top bull (<=7 years)	11	15	17	23	48
Number GS bulls	0	0	0	8 (48)	39

Terminology

- What should we call these selected 2-4 year old bulls with additional genomic data that will be on the ICBF Active Bull List
 - Genomically Selected (GS) Bulls
 - Next generation.
 - Forward pack.
 - DNA proven.
 - Lay-off bulls.
 - Don't differentiate
 - Others.
- Score each on a 1-5 basis (1 = low preference & 5 = high preference).

Minimum reliability

- ICBF are recommending that we reduce the reliability for bulls onto the Active Bull List to 35%. Bulls must be either;
 - Daughter proven; Interbull milk & fertility proofs.
 - Genomically selected; Irish genomic EBI & calving proof from country origin (50%).
- Our goal is to review this upwards as more information becomes available.
- Does this seem reasonable as a first step (Yes/No)?

Semen Limits – Holstein Friesian

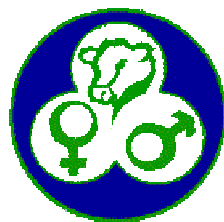
- In light of GS developments, ICBF will recommend to DAF that we create a new category for GS bulls (not test & not wide-spread proven) and that these bulls should be made available to Irish farmers in 2009 at 5,000 doses per bull.
- Does this seem reasonable as a first step (Yes/No)?

Semen Limits – Other Breeds

- For bulls of other breeds, we need to establish a GS key for Ireland.
- To help establish this we will look to include semen from these bulls in an expanded GENE IRELAND program. As a result we will review upwards the current 1,000 straw limit on these bulls to 3,000 doses per bull.
- Does this seem reasonable as a first step (Yes/No)?

What next?

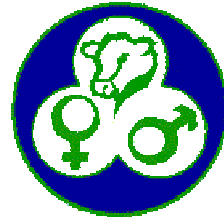
- Comments, thoughts & feedback.
- What have we missed today?
- Official proofs – next week.
- Official Active Bull List – next week
- Educational/promotional campaign for farmers & industry.



IRISH CATTLE BREEDING FEDERATION

***Dairy Breeding Developments
2009
ICBF Dairy Industry Meeting***

19th February 2009



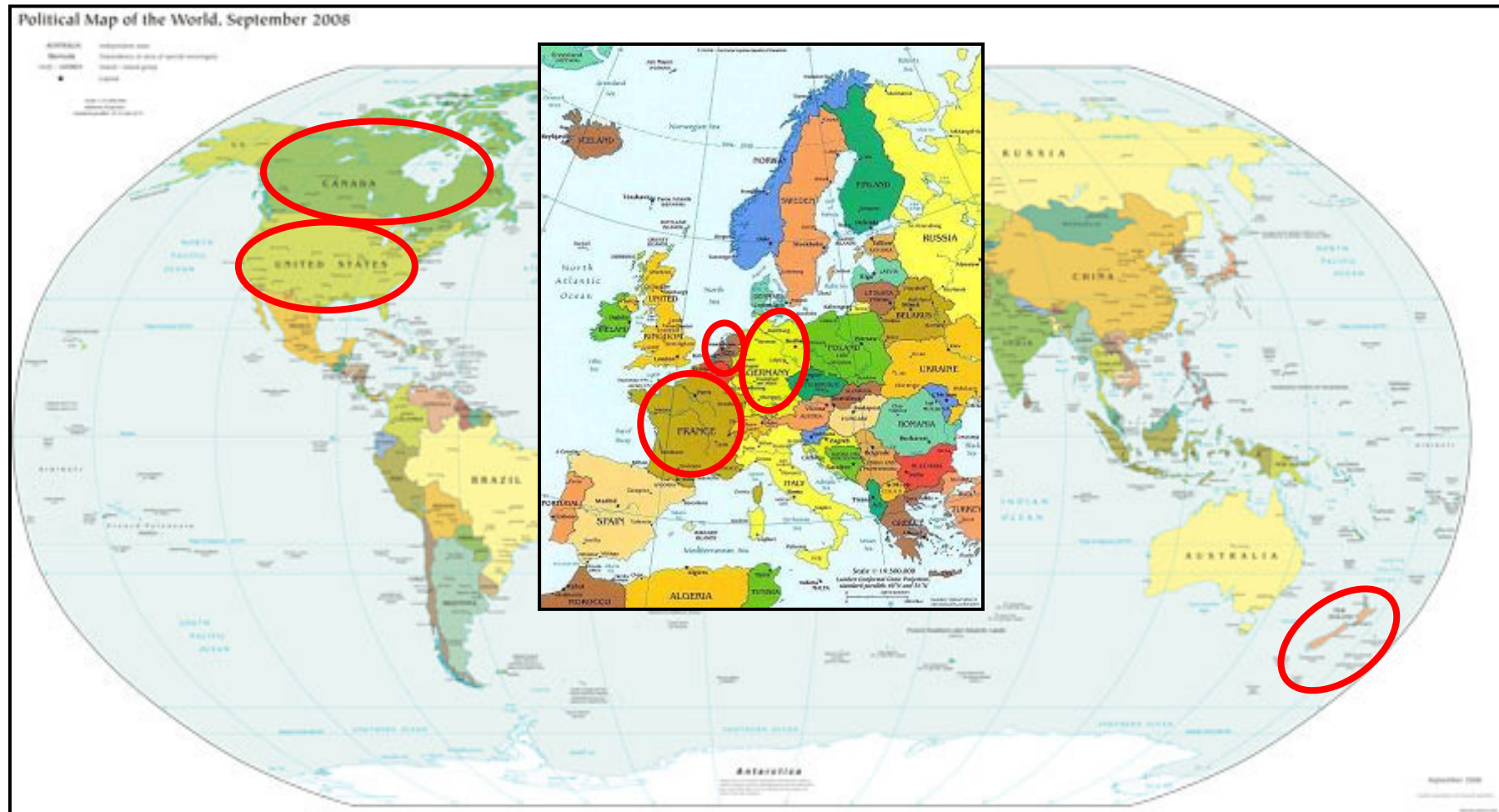
IRISH CATTLE BREEDING FEDERATION

Conversion Equations for Foreign Animals

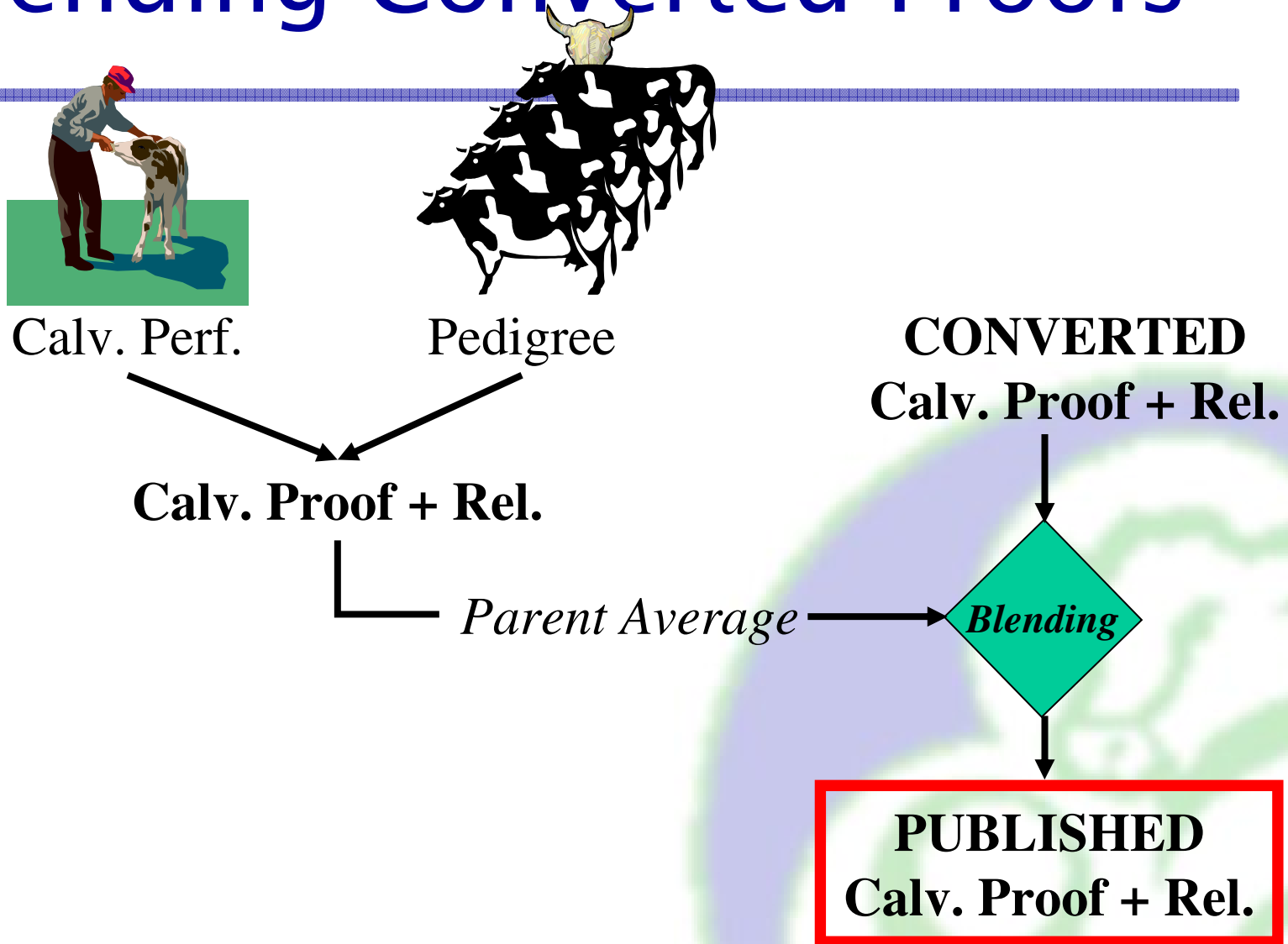
Direct Calving

21 January 2009

Countries Involved



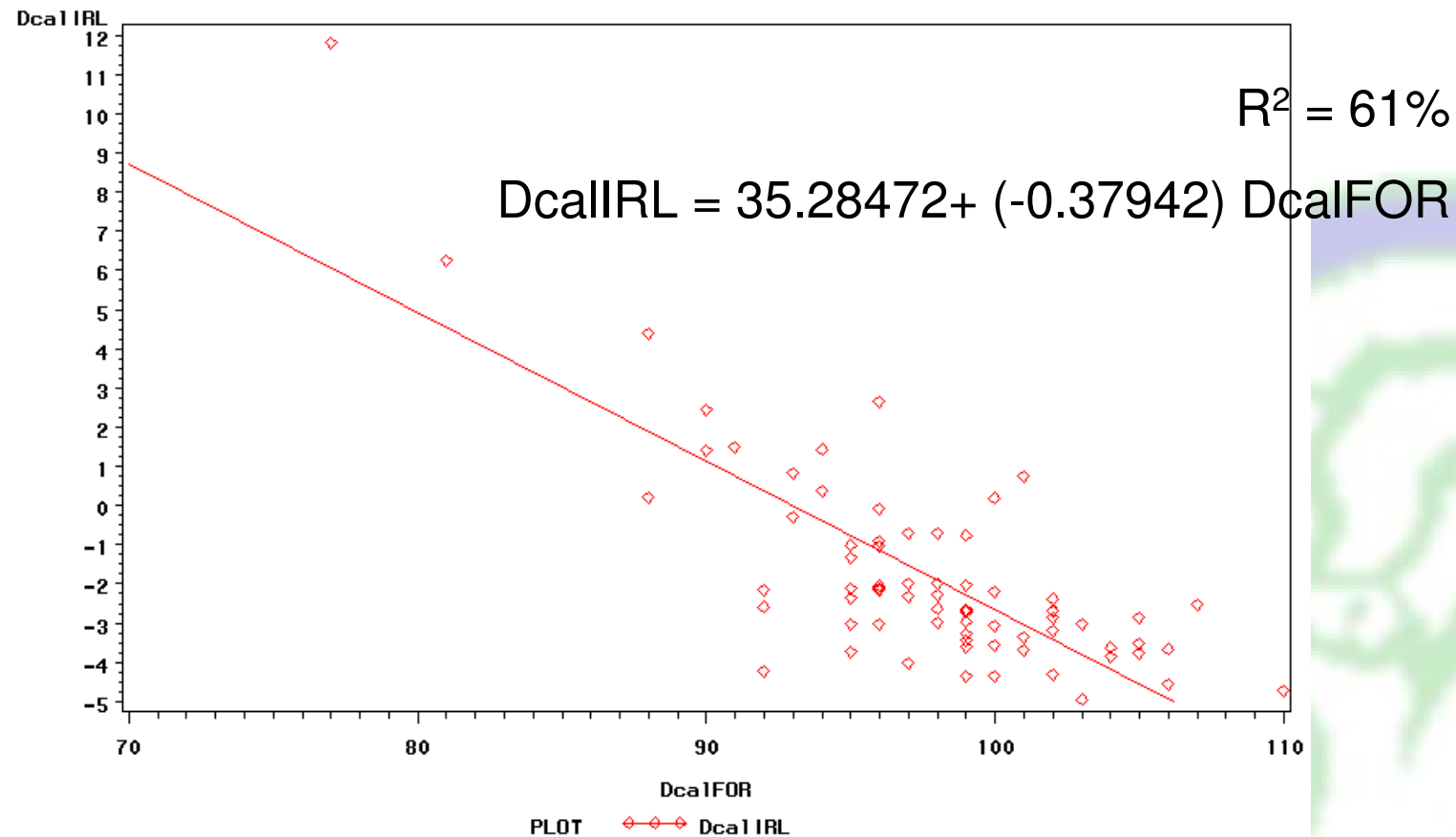
Blending Converted Proofs



Example : Canada

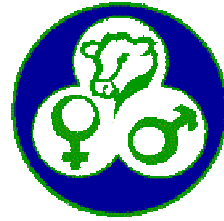
Multiple Correlation for DIRECT CALVING DIFFICULTY Holstein (CAN)

Significant variables $P < 0.15$
Reliability (%) > 0.8



Conversion Parameters

	CAN	DEU	FRA	NLD	NZL	USA
N bulls	73	34	74	91	64	123
Rel _{IRL}	>80%	>80%	>80%	>90%	>80%	>90%
R ²	61%	40%	48%	46%	29%	60%
Est. r _g	82%	67%	76%	74%	66%	81%



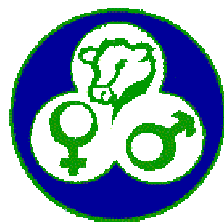
IRISH CATTLE BREEDING FEDERATION

Interbull Test Runs

Cork Airport Hotel
20th January 2009

Interbull Test Run

- April 28th and September 8th
- Required to complete test run before entering routine run to make proofs official
- Still borderline with number of bulls for breeds other than HO/FR
- Other Breeds – Jerseys, Red breeds (RDC)
- Other traits
 - Calving for all breeds.
 - New longevity & fertility for all breeds.
 - Longevity, fertility, production for JER/RDC



IRISH CATTLE BREEDING FEDERATION

Linear Type Evaluations

Cork Airport Hotel
20th January 2009

Overall Type

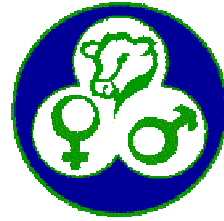
- Change to publication of overall type
- Previously used Overall Type as provided by Interbull
- But definition across country can be different
- Now combine individual traits that make up Overall Type – consistent with UK
- Overall Type = $(0.0562*STA + 0.0106*CW - 0.0612*BD - 0.0314*ANG - 0.0096*RA - 0.0193*RW + 0.393*LAF + 0.792 * MAM)$

Trait Changes.

- Locomotion and Body condition scores are now evaluated by Interbull
- Evaluated domestically for a number of years
- Rear Leg Rear Set was used as predictor of locomotion for foreign bulls
- Locomotion and BCS now available for foreign bulls where country has supplied proofs to Intebull. RLR still used where locomotion is not available

Other Issues.

- Research project – Edinburgh University.
- Definition of Overall Type.
 - Relationship with longevity?
- Multiple breeds.
 - Some data for other breeds, e.g., GENE
IRELAND bulls,
- Irish base & scale.



IRISH CATTLE BREEDING FEDERATION

Farmer Management Traits

Cork Airport Hotel
20th January 2009

Background

- Increasing scale; farmers want “easy-care” cows.
- Weight on farmer management traits will increase in future.
- Currently recording a lot of this data across many systems.
- Need to consolidate.

Examples of Records (i)

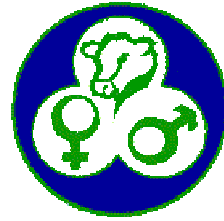
- Dairy Linear Type
 - Traits: Temperament & Ease of milking.
 - How: 1-9 scale as part of linear score visit.
 - Number: 20k records per year.
- GENRE IRELAND recording
 - Traits: Farmer satisfaction, Temp, Milking Speed, Leakage.
 - How: Farmer recording, 1-5 scores, on-sheets (or via web).
 - Number: 5.5k records & 270 herds.
- Health recording
 - Traits: Lameness, Mastitis, Retained Placenta
 - How: Farmer recording, 1-5 scores, on-sheets (or via web)
 - Number: 13k records & 800 herds (high incidence of events e.g., MA (35%), LM (30%) & RP (10%))

Examples of Records (ii)

- Lameness recording.
 - Traits: Incidence lameness, severity lameness (1-5 scores)
 - How: Technician recording, AI handheld.
 - Number records:
- EDIY milk meters.
 - How: EDIY milk meters.
 - Traits: Milking speed, temperament.
 - Number records: 0 – potential 100k/year.
- Calving performance – Fran
 - Traits: Calving difficulty (%)
 - How: 1-4 scores
 - Number records: 1 million+

Where next?

- Project to evaluate bulls for range of traits of economic importance;
- Options;
 - EV's (& index) for each trait. Include in current sub-index, e.g., Health.
 - One “ease of care index”, i.e., Labour costs associated with; mastitis, lameness, temperament, milking speed, retained placenta, farmer satisfaction....
 - Others?



IRISH CATTLE BREEDING FEDERATION

Across Breed Evaluations

Cork Airport Hotel
20th January 2009

Assessment of Breeds

- Implementation of Sampling tool Work of John Hickey
- Assesses criteria for inclusion of a breed on its own: records in evaluation Sinead McParland, Francis, now running at ICBF for beef evaluation
- Extend to Milk, Fertility, Calving

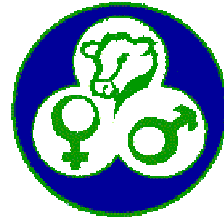
Specific Heterosis Effects

- Two studies nearing completion
- Noreen Begley PhD thesis: Norwegian Red x Holstein Breed and crossbreed effects.
Moorepark, ICBF, UCD
- Mauro Penasa MSc thesis: Heterosis and breed effects in other crosses: HO, FR, MO, JE
University of Padova, Massey University, ICBF
- Both studies indicating heterosis effects across all 5 traits in Milk and Fertility index
- Papers from both studies submitted to peer reviewed journals

Impact

- Implementation of work on breeds and heterosis effects simultaneously
- Facilitate release of culling index





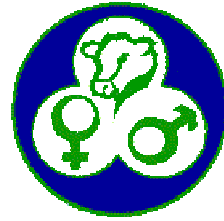
IRISH CATTLE BREEDING FEDERATION

Genetic Evaluation Schedule

Cork Airport Hotel
20th January 2009

Plan for 2009

- Official Interbull run dates;
 - Jan 15, April 1, August 19.
 - ICBF “additional” run November 1.
 - AI bulls ~ 1 week after these dates.
 - All animals ~ 3 weeks after these dates.
- Test runs; April 28th and September 8th
 - Development in evaluation work finished by September test run (calving, fertility, longevity + other breeds).
 - Other changes at this stage as well?



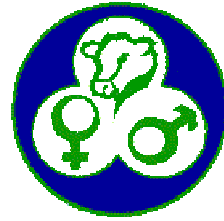
IRISH CATTLE BREEDING FEDERATION

AI Bull Application Process

Cork Airport Hotel
20th January 2009

Update

- On-line bull application process.
- Cover ICBF & DAF requirements.
- Spec developed.
- Unfortunately other database development priorities have superseded.
- “On Hold”.



IRISH CATTLE BREEDING FEDERATION

Breeding for Profit; Best Practice in Cattle Breeding

Cork Airport Hotel
20th January 2009

Trends in Breeding

Area	Example statistic	2005	2006	2007	2008
AI	Number AI registered dairy replacements	75,000	83,502	98,723	118,045
	Technician recorded inseminations*	N/A	N/A	323,109	350,216
Milk Recording	Number of cows in milk recording	408,456	437,300	458,518	498,321
	Number herds in milk recording	6,041	6,224	6,245	6,567
Herdbooks	Number herdbook registrations	79,108	85,754	87,832	90,000
	Number herdbook members	13,932	14,397	15,787	16,000
ICBF Animal Evaluations	Average EBI of dairy born females	€31	€37	€47	€60
	Average €uro-Star of beef born females	€123	€126	€128	€130
ICBF HerdPlus	Number of Animal Event Registrations	534,997	604,915	607,226	1,253,739
	Number herds on HerdPlus	N/A	1,500	3,000	4,700
GENE IRELAND	Number dairy bulls on progeny test.	21	45	44	72
	Number beef bulls on progeny test.	N/A	10	15	20

* Based on 150 technicians with handhelds across both years.

Plan for 2009

- Element of ICBF strategy for 2009.
- Follow on from successful “Profit with AI” campaign
- Three elements; (i) Journal page, (ii) EBI€100 Discussion Grp, & (iii) Euro-Star Discussion Group.
- No NDP funding; costs of program from beneficiaries.
 - ~€20k for AI sector – costs covered from service fees.
- Sustainable model for future & expand into other areas.