



Dairy Cattle Breeding Developments

EBI Discussion Group Award
8th January 2008

Brian Wickham
Chief Executive
ICBF



Introduction

- ICBF proud co-sponsor
 - Successful groups of farmers
 - Cattle breeding accomplishments
- ICBF's priorities for the next stage
 - Donagh Berry – EBI developments
 - Andrew Cromie – GEN€ IRELAND® expansion
 - Martin Burke – HerdPlus® service

ICBF's Dairy Breeding Priorities

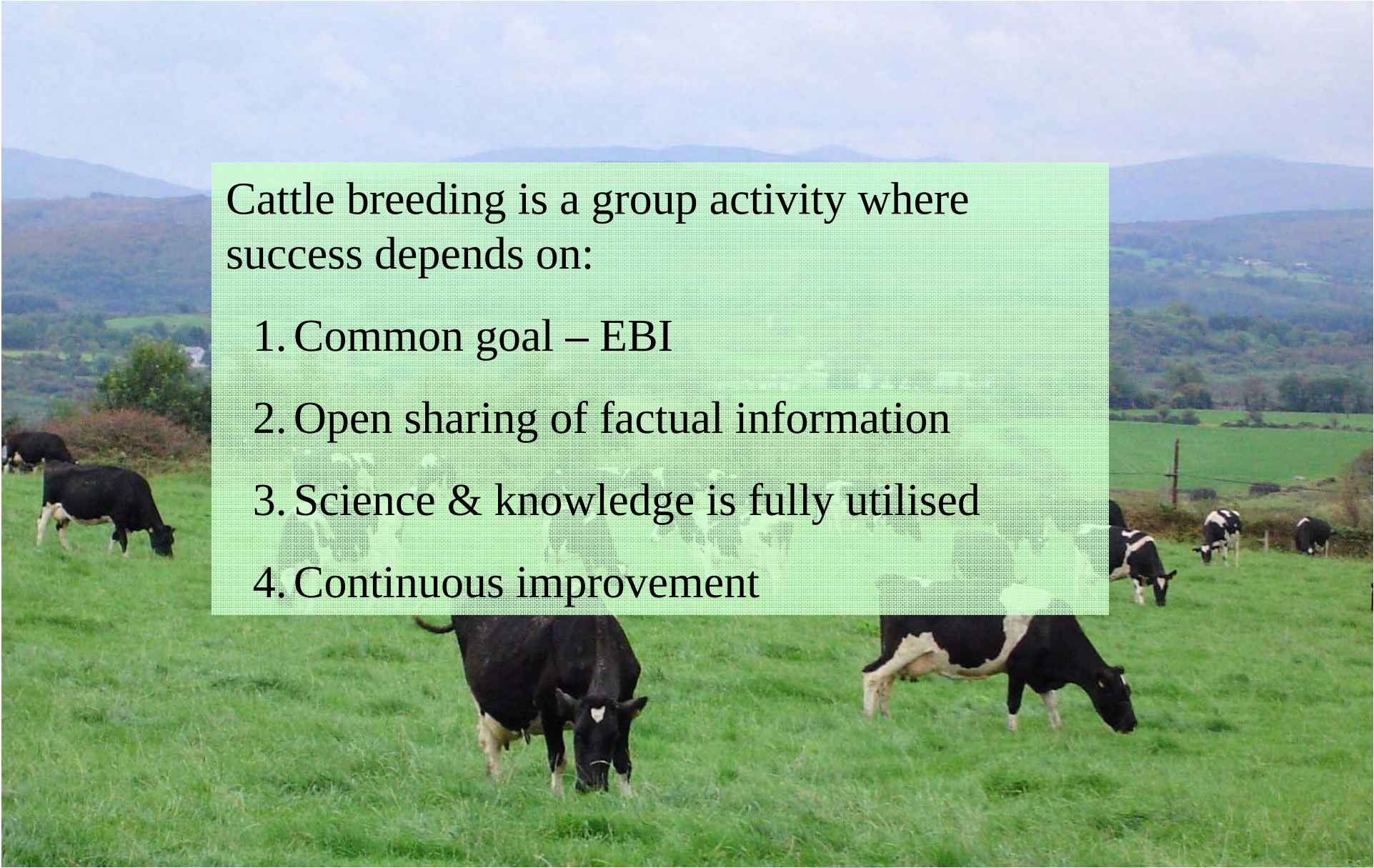
- EBI evolves to incorporate new:
 - data (AI handhelds, MART, hoof trimming ...)
 - knowledge (results from research)
 - technologies (genomic selection)

ICBF's Dairy Breeding Priorities

- GENE IRELAND® grows to optimum size
 - AI companies select bulls you find desirable
 - Enough herds and cows participate in 2008
 - Establish long term funding

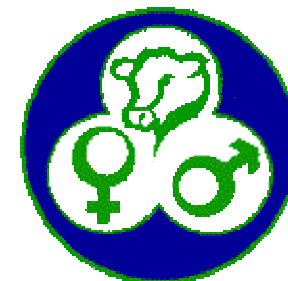
ICBF's Dairy Breeding Priorities

- HerdPlus®
 - 3,000 herds signed-up, 75% electronic
 - Expansion to many more herds
 - Enhancement of Sire Advice
 - Development of Discussion Group features
 - Development of information service to facilitate animal trading (selling & buying)



Cattle breeding is a group activity where success depends on:

1. Common goal – EBI
2. Open sharing of factual information
3. Science & knowledge is fully utilised
4. Continuous improvement



EBI Developments

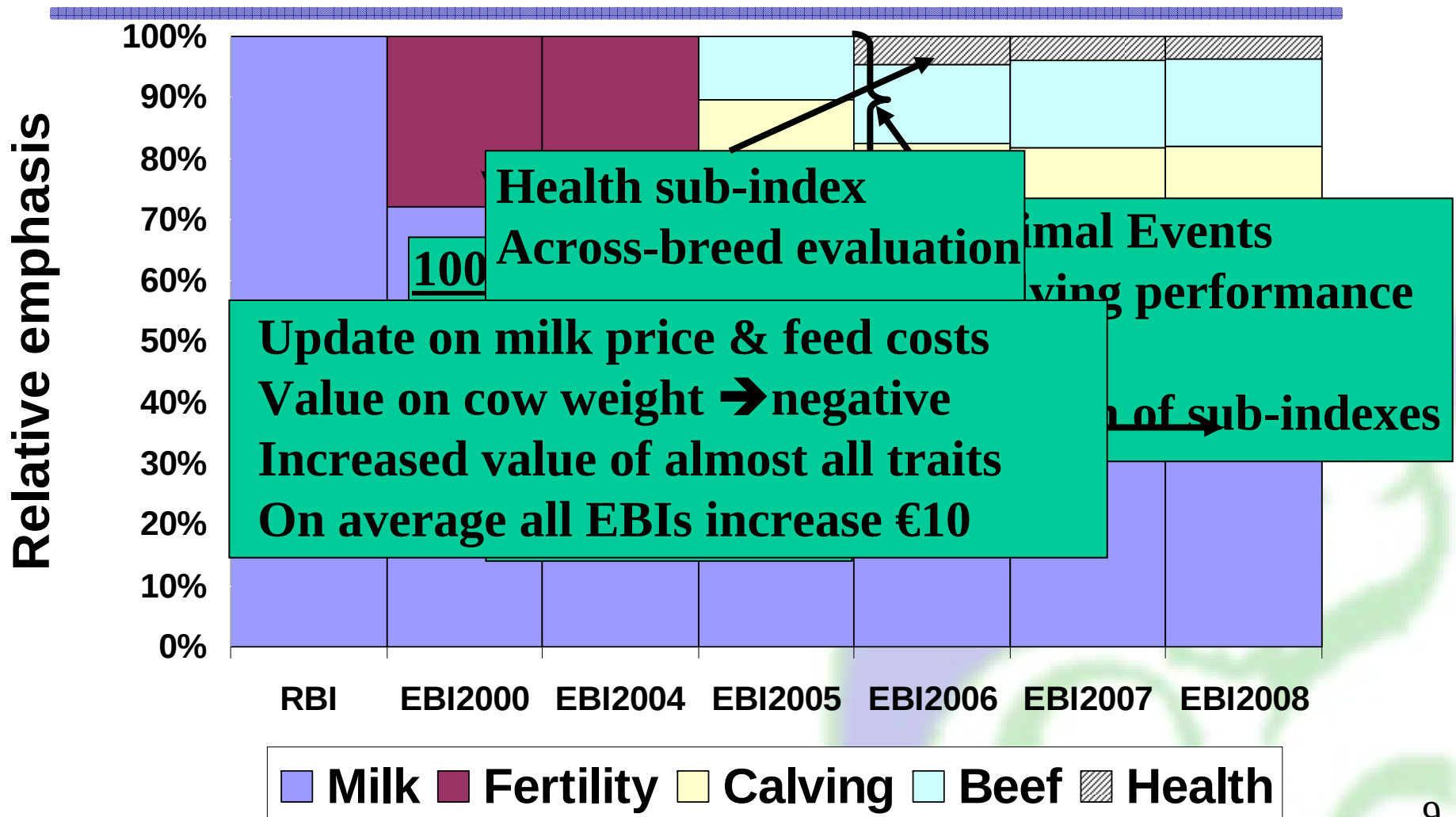
Donagh Berry
TEAGASC, Moorepark



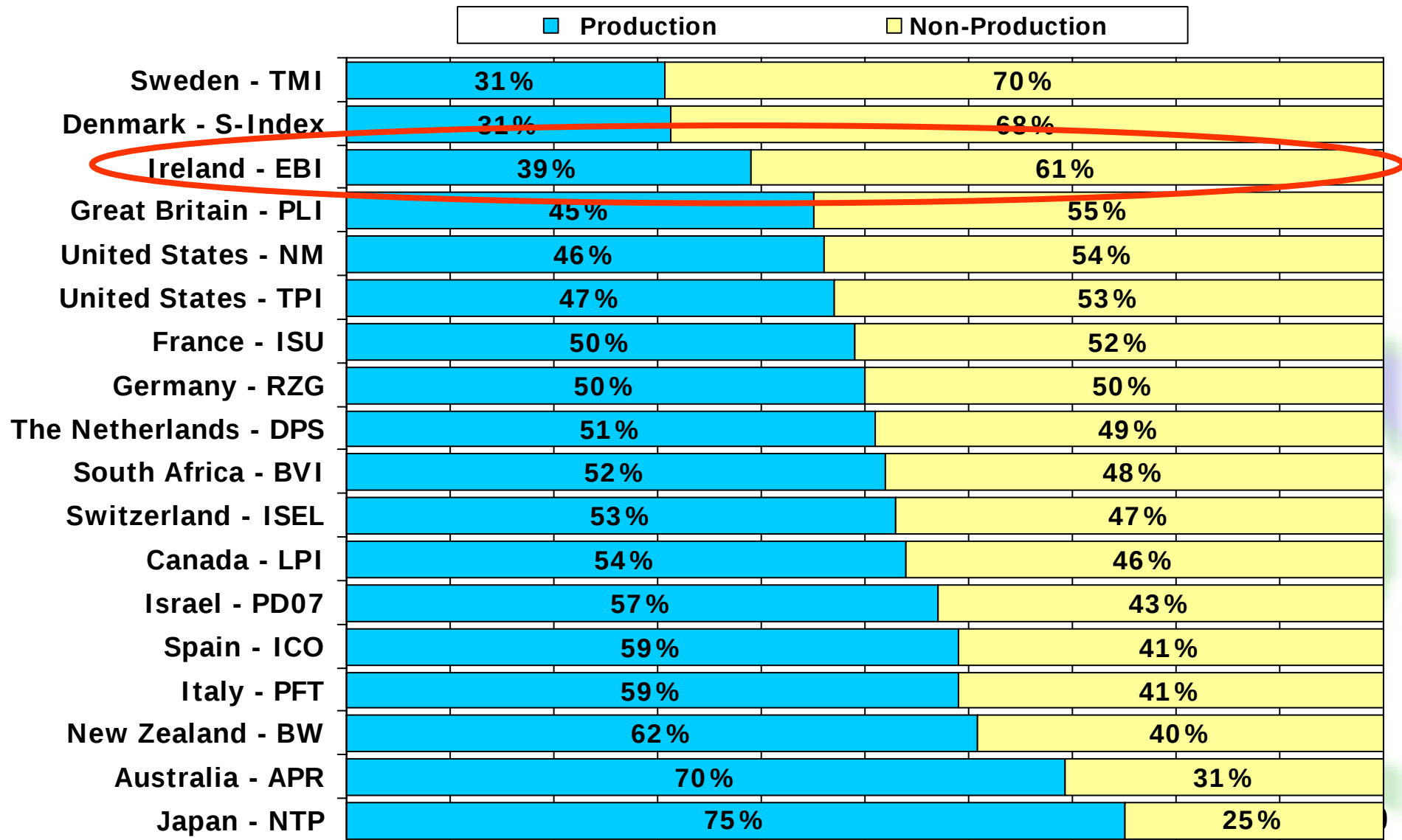
Breeding Objectives

- **Place in a breeding program**
 - Most important
 - Most dynamic
 - Most controversial
- **Choice of traits**
 - Important (economically, environmentally, socially)
 - Genetic differences between animals
 - Measurable (related to measurable traits)

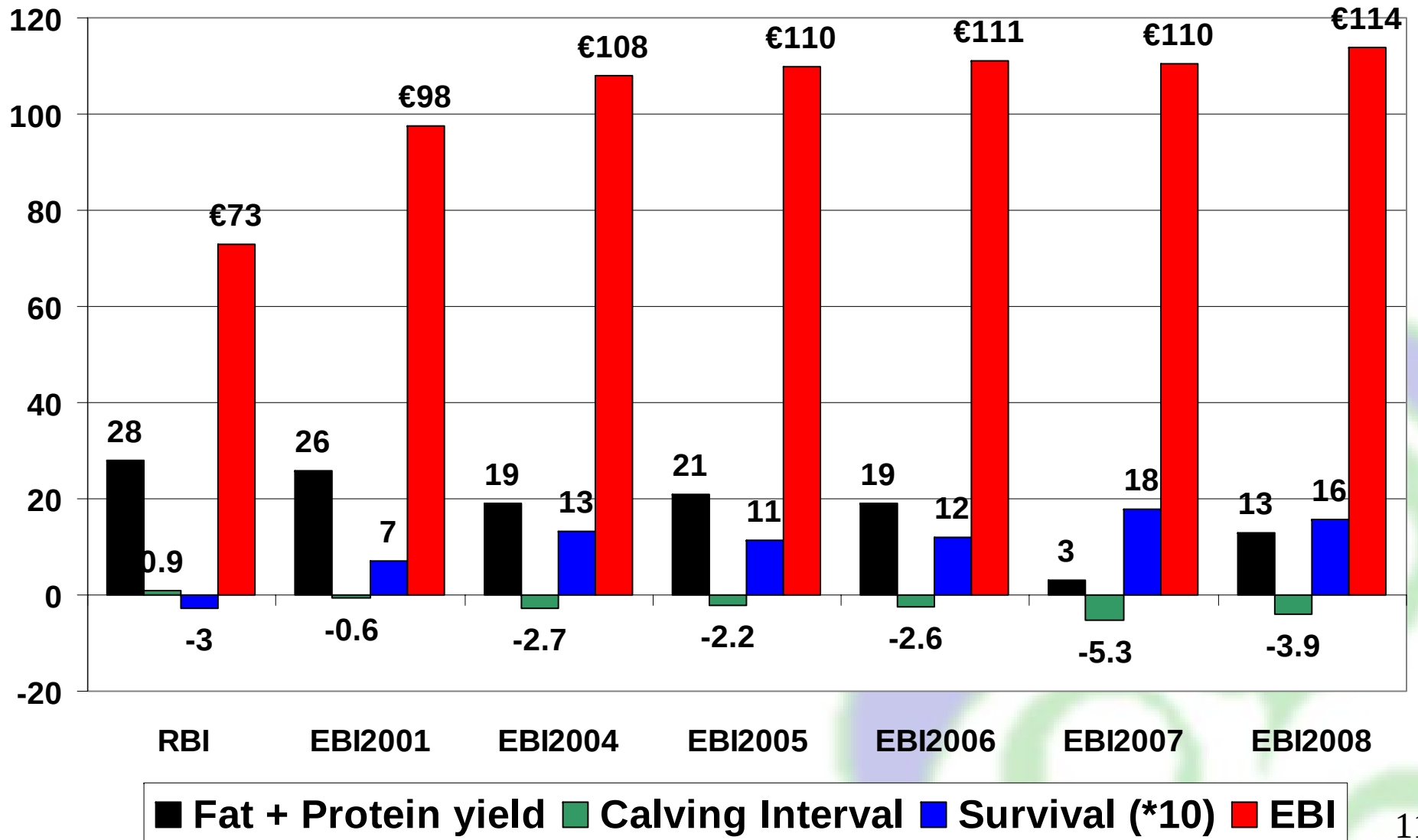
Evolution of EBI



Relative emphasis

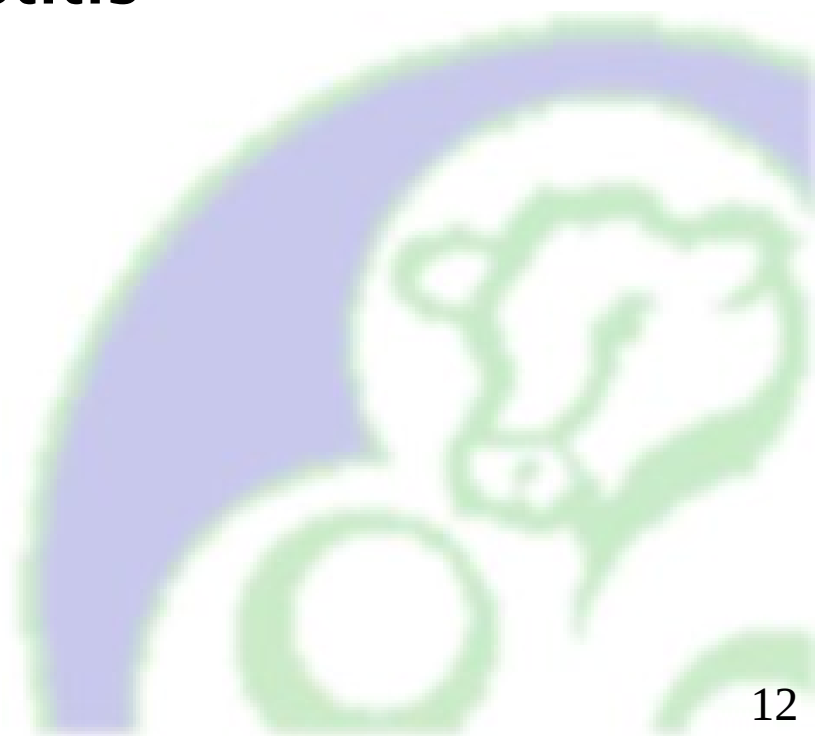


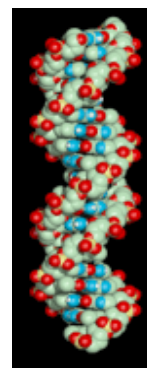
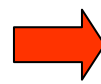
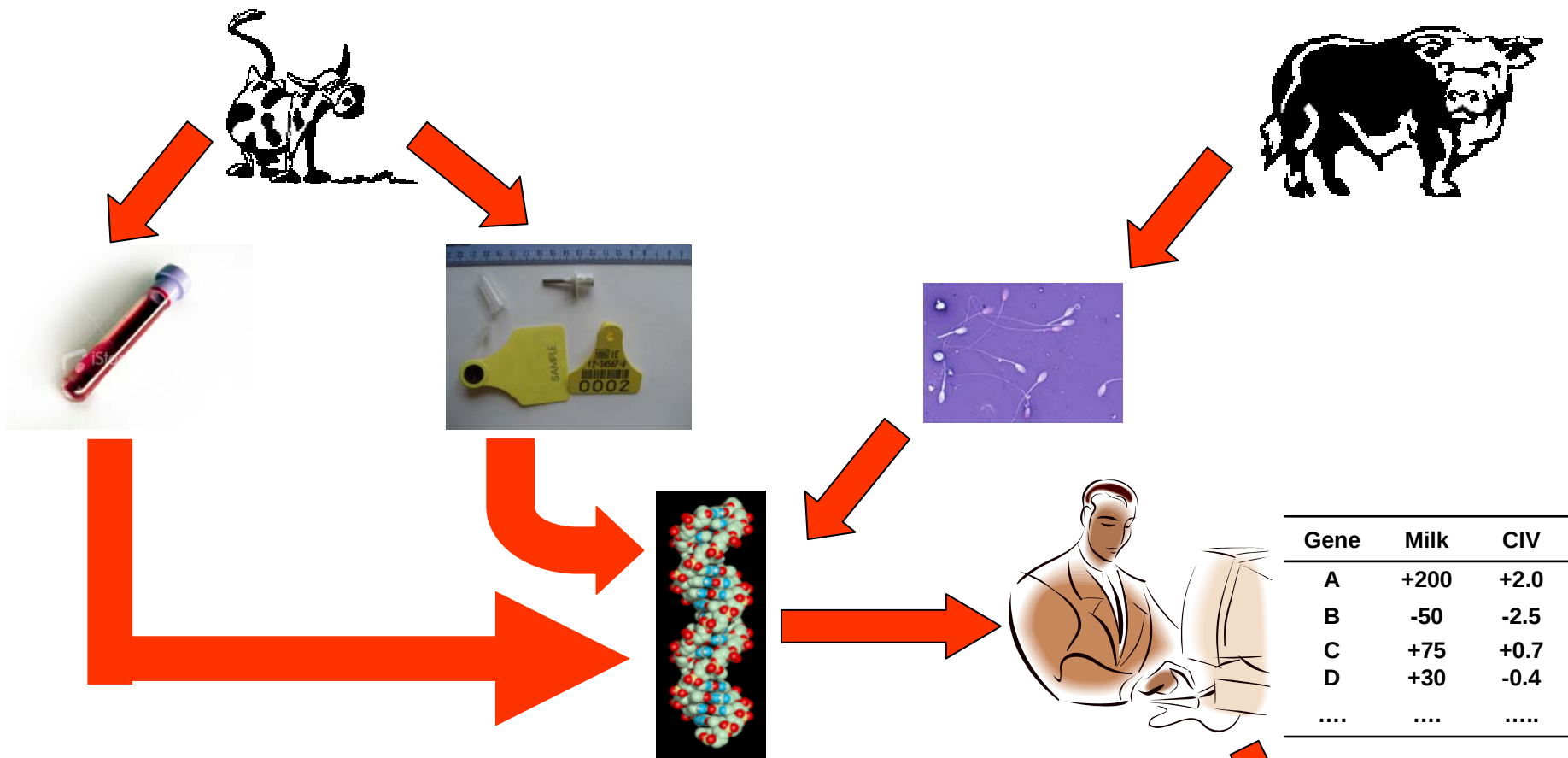
Response to selection



The Future

-
- **Better trait definition**
 - Insemination data - Fertility
 - Mart data – Calf value
 - Health – Lameness / mastitis
 - **Review of economics**
 - **Better statistics**
 - Across-breed evaluation
 - More lactations
 - Test-day models
 - **Use of biotechnology**
 - Genomic selection





**Accurate
EBIs**



Gene Ireland Developments

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Andrew Cromie
ICBF



G€N€ IRLAND®

- “Not enough top AI bulls”; Single biggest problem facing dairy farmers.
- G€N€ IRLAND® program launched in 2005.

Year	Bulls	Dtrs	EBI
2005	31	78	€86
2006	55	87	€99
2007	51	~100	€112

- Good progress but;
 - Farmers want bulls from the “best” cows.
 - Farmers need to have semen earlier.
- Points well made at recent G€N€ IRLAND Meeting!

New for 2008

1. Better young bulls (EBI = €116).

Year Test	No. Bulls	Average Dam EBI	Top 2000 >€113	Top 5% >€89
2005	31	€79	10%	39%
2006	55	€76	10%	25%
2007	51	€85	21%	43%
2008	90	€114	48%	100%

2. Earlier semen delivery;

- Semen already collected from 20 bulls.
- Packing and distribution from 1st February

3. Other breed packs (e.g., JE & JE Cross)

New for 2008

4. New ICBF & Teagasc initiative for Teagasc Discussion Groups.

- Farmers want to support GENE IRELAND
- 35 straw minimum too high (small herds).
- High level of efficiency being achieved in groups.
- 25 straw offer (5 bulls * 5 straws) for farmers involved in Teagasc discussion groups.
- Objective is to have all members of the group involved in the GENE IRELAND program.

5. Major increase in bulls & herds involved in the GENE IRELAND (70 bulls & 1500 herds)

New for 2008 & 2008+

- One clear breeding objective for GEN€ IR€LAND;
 - High EBI; Milk solids & fertility.
- Ancestry issues have been resolved.
- More scientific approach to “bull mothers”, e.g., work undertaken by NCBC & Teagasc.
- First GEN€ IR€LAND heifers due to calve in next few weeks.
- **Farmers can have renewed confidence in the program.**



HerdPlus® Developments

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Kevin Downing
ICBF



Irish Cattle Breeding Federation

www.icbf.com


HerdPlus
Profit through Science

HerdPlus Developments

- **Web Site Updated.**
- **Teagasc Discussion Group Reports.**
- **Sire Advice.**

HerdPlus Web Site Developments

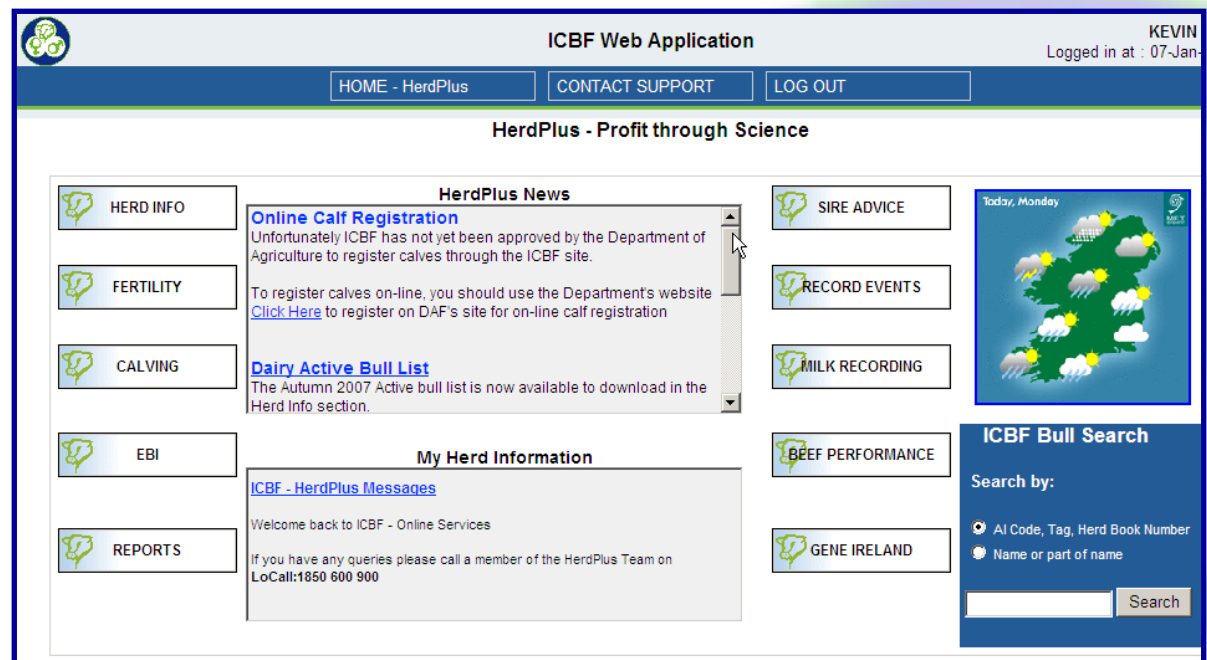


Launch of New Layout – Ploughing '07

- Broken down into management modules e.g. Calving, Fertility, Milk Recording, etc.
- HerdPlus News & Farmer Specific Information.
- Bull Search & Weather link.

Improvements for '08

- Update Reports
- Stock/Nitrates Reports
- Milk Solids/Cow/Year
- Profiles
 - Column Sorting
 - Column Filtering
 - Averages
 - Improved Printing



Teagasc Discussion Group Reports



Key Points

- Only available to advisor & members within your discussion group.
- No more posting of information to your advisor prior to meetings.
- Compare your herd with group averages & the group's top performer.

Current Reports

- EBI
- Calving
- Fertility

Reports for 2008

- Milk Production
- SCC/Mastitis

EBI REPORT JULY 2007															
Discussion Group Name: ICBF SAMPLE HERDS															
Advisor: TEAGASC															
Name / Herd No.	Herd Size	Herd EBI	Milk Subindex		Fertility Subindex		1st Lactation Animals			05/06 Calves			07 Calves		
			E	%	E	%	No.	EBI(E)	>Herd Avg	No.	EBI(E)	>Herd Avg	No.	EBI(E)	>Herd Avg
SAMPLE HERDS	100	57	36	64	16	29	24	60	3	34	60	3	34	84	27
	49	80	36	45	38	47	9	91	11	20	94	14	17	103	23
	98	55	44	80	10	17	28	63	8	62	82	27	21	99	44
	108	58	22	39	31	54	26	69	11	19	67	9	29	104	46
	167	20	30	100	-10	0	68	16	-4	85	35	15	29	41	21
	71	42	9	22	32	77	29	40	-2	21	63	21	16	62	20
	105	63	15	24	42	67	34	72	9	35	71	8	36	62	-1
	185	14	38	100	-25	0	49	11	-3	138	40	26	33	40	26
	60	44	31	71	11	25	11	57	13	10	58	14	11	63	19
	208	69	23	32	46	66	46	73	4	66	80	11	72	82	13
Group Average	115	50	28	58	19	38	32	55	5	49	65	15	30	74	24
Group Top	208	80	44	100	46	77	68	91	13	138	94	27	72	104	46
Group Target															

Sire Advice

New Release Feb '08



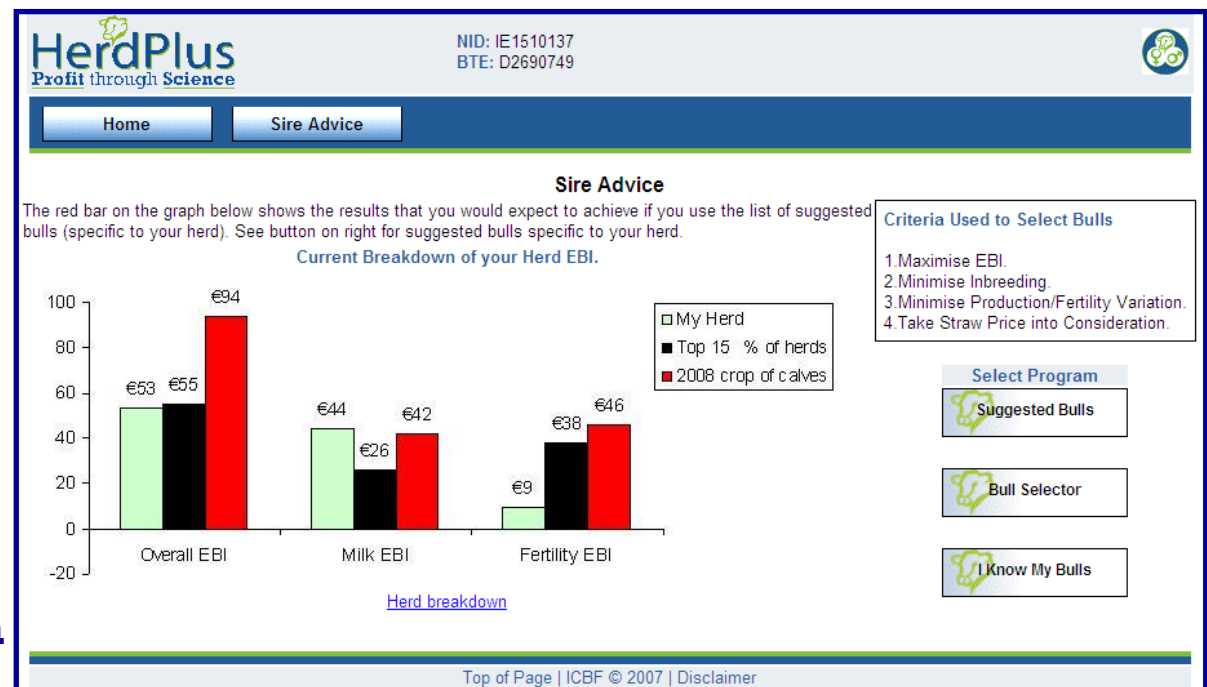
- Very positive response to '07 version – lots of good farmer suggestions.
- Completely new re-development for 2008.

Sire Advice can be run:

- For all AI Bulls
- For all Dairy Breeds
- Directly by the farmer
- With assistance of your breeding advisor (e.g. AI org, Teagasc, etc.).

ICBF's Suggested Bulls

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



Sire Advice

New Release Feb '08



Bull Trait Selector & Pre-selected Bulls List

1. Minimise Inbreeding.
2. Minimise Milk Kgs Variation.
3. Minimise Variation of Milk Kgs.

EBI & Semen Cost
= not taken into account
using these two options.

Pre-Selection (screenshot):

- Traits of importance.
- Breeds to choose from.
- Straw Price.

From List of bulls, choose:

- Suitable for Cows.
- Suitable for Heifers.
- Percentage Usage.

Traits		My Herd	Select Trait		Breed		AI Organization	
Dairy EBI	EBI	€ 53	☐		Holstein	☐	Dovea	☐
	EBI Rel%		☐		Friesian	☐	Dairygold	☐
Sub Index	Fertility	€ 9	☐		Montbéliarde	☐	Progressive Genetics	☐
	Milk	€ 43	☐		Rotbunte	☐	ABS	☐
	Beef	€ -6	☐		Swedish Red	☐	New Zealand Genetics/Eurogene	☐
	Health	€ -2	☐		Norwegian Red	☐	Alta Ireland	☐
	Calving	€10	☐		Brown Swiss	☐	Select All	
Milk Production	Prot (Kg)	9.90 Kg	☐		MRI	☐	Straw Price ☒ All ☐ < €50 ☐ < €40 ☐ < €30 ☐ < €20 ☐ < €10	
	Prot (%)	0.06 %	☐		Ayrshire	☐		
	Fat (Kg)	7.70 Kg	☐		Danish Red	☐		
	Fat (%)	0.00 %	☐		Select All			
	Milk (Kg)	202 Kg	☐					
Fertility	Calving Int	-0.3 days	☐					
	Survival	0.6%	☐					
Type	Overall Type	-0.40	☐					
	Feet & Legs	-0.30	☐					
	Udder	-0.30	☐					

Sire Advice

New Release Feb '08



Three Sire Advice Outputs

1. Standard Output (Bull 1, Bull 2, Bull 3)
2. Sub-Indexes (i.e. Milk, Fertility, etc.)
3. Traits (i.e. Milk Kgs, Prot %, etc.)

NID: IE1510137

BTE: D2690749

Home

Sire Advice

Allocation Results with Traits

Detailed Report (Sub Indexes)

Standard Report

Cows			Expected Calf Traits if Bull 1 is used							
FB	Cow Tag	Bull 1	Milk Kgs	Fat %	Prot %	Fat Kgs	Prot Kgs	CI Days	Surv %	Calv Diff
8	IESNYH0008G	RMZ	634	-0.04	-0.01	21.5	20.1	-3.26	3.52	-5.21
67	IESNYH0067P	RXO	216	-0.07	-0.01	-11.5	-7.5	-6.6	0.94	-3.61
136	IESNYH0136W *	RXO	405	-0.08	0.00	11.25	13.25	-1.93	2.29	-4.6
148	IESNYH0148P	RMZ	157	0.19	0.5	16	0.17	0.85	1.16	-3.74
167	IESNYH0167K	OJI	69.5	0.11	0.13	8.5	9	-5.46	1.13	-3.77
200	IESNYH0200Q	RXO	370	0.11	13	20.5	-1.5	-5.5	2.2	-4.13
226	IESNYH0226V	RXO	97.9	0.17	-0.09	12.6	8.1	-4.23	2.8	1
		Average:	278	0.107	3.96	14.5	7.08	3.15	2.03	-3.72



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