



UPDATE – for period 29th January – 4th February 2005

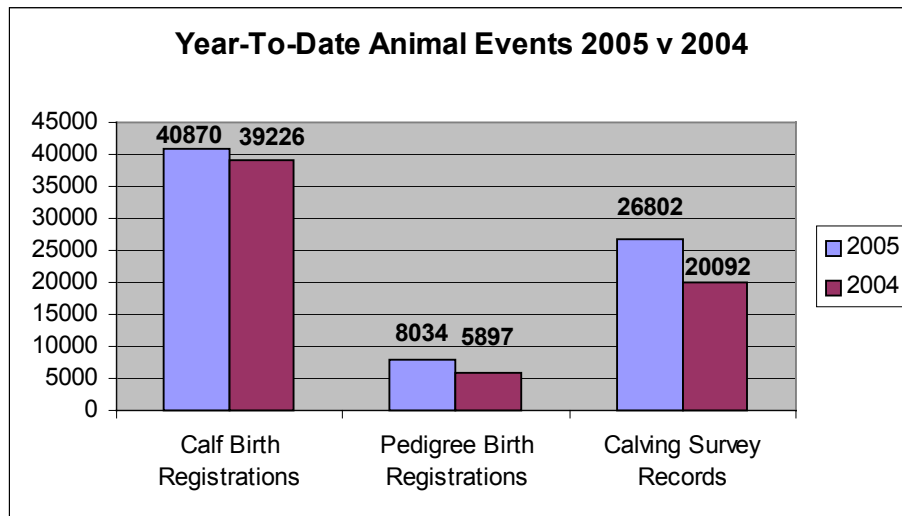
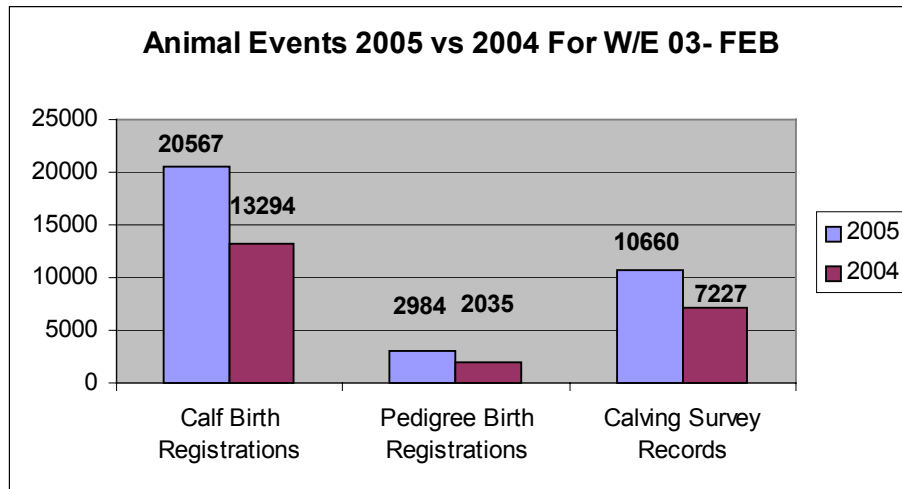
1 ICBF Board Meeting 3rd February 2004

Decisions at yesterday's Board meeting included:

- Endorsement of the decisions from the Beef Genetic Evaluation Consultation meeting held on Tuesday 25th January. That is:
 - *ICBF is to focus its work on providing Active AI Beef Sires lists for the Spring Beef AI Supplement of the Irish Farmers Journal due for publication on April 7th 2005.*
 - *These Active Sires lists will be based on genetic evaluations produced by a further iteration of the prototype system taking account of issues identified during the meeting on 25th January.*
 - *A further Beef Consultation meeting has been scheduled for Thursday 24th February to review developments.*
 - *Priority for later in 2005 will be the incorporation of beef linear scores for the relevant traits, provision of evaluations for stock bulls and females, and developing the evaluation system to provide results for weanlings within one week of linear scoring.*
- The Board will meet immediately after the Beef Genetic Evaluation Consultation meeting scheduled for Thursday 24th February to make final decisions in relation to the implementation of the new beef evaluations for spring 2005.
- Endorsement of the decisions on which there was universal agreement from the Dairy Genetic Evaluation Consultation meeting held on Tuesday 25th January. That is:
 - *That economic sub-indexes should be published for the groups of traits that contribute to the EBI. The groupings being Milk Production, Calving Interval & Survival, Calving and Beef.*
 - *That ICBF should give priority to researching and developing enhancements to the EBI to incorporate udder health traits and linear traits with a view to implementation in February 2006.*
 - *That ICBF work on establishing genetic evaluations for calving and beef traits for sires proven in other countries.*
 - *ICBF will proceed as rapidly as possible to implement across breed evaluations for milk production traits and the calving interval & survival traits. This includes provision of evaluations for cows milking in Ireland, participation in the relevant INTERBULL services and provision of EBI's for AI bulls of all other breeds with sufficient information in Ireland.*
- That the EBI be updated to incorporate the economic contributions from calving and beef traits for the February 2005 evaluations.
- ICBF will take initiatives to ensure the enhanced EBI and the reasons for the changes are communicated to the breeding industry.
- ICBF will explore all reasonable options for ensuring the concerns of those opposed to the change are fully addressed. (Attached is a copy of a paper presented to the Board following consultation with the Irish Holstein Friesian Assn in relation to their opposition to the change)
- The voting arrangements for future Genetic Evaluation Consultation Meeting will be amended to obtain a clear expression of the views of the organizations that make up the cattle breeding industry.
- ICBF's AGM will take place on 5th May 2005. The meeting is scheduled to start at 14:00 at the Heritage Hotel, Port Laois.

2 Database Update

- 169 new Herds added to the database - the new herds this week are primarily those who are members of AI organisations.



- A meeting was held with the AI member organisations this week about the roll-out of the AI handheld - decisions by the organisations are expected shortly.
- 2,904 Teagasc-ICBF permission forms have now been returned by Teagasc clients. Testing is completed and the initial reaction from Teagasc has been very positive. As soon as the most up-to-date Client/Advisor link files are received from Teagasc, the solution will be live.
- Work on the development of 7 extract files to support international genetic evaluations for beef has been completed.
- Arising out of the enhancement to the EBI to incorporate calving and beef, there will be a significant amount of work over the coming weeks, impacting on import and export files, as well as the publication format of the EBI reports to Farmers.
- Work on generating complete statistics from the database for 2004 is on-going. A number of the statistics tables will be ready next week and will be included in next weeks update
- Two members of the team will be visiting CR-Delta on Tuesday in order to finalise the solution that will make reporting from the ICBF database more autonomous and more efficient as a result.
- The Irish Angus herdbook is now live on the database. Initial training of the Irish Angus staff was held this week and further training will take place next week.



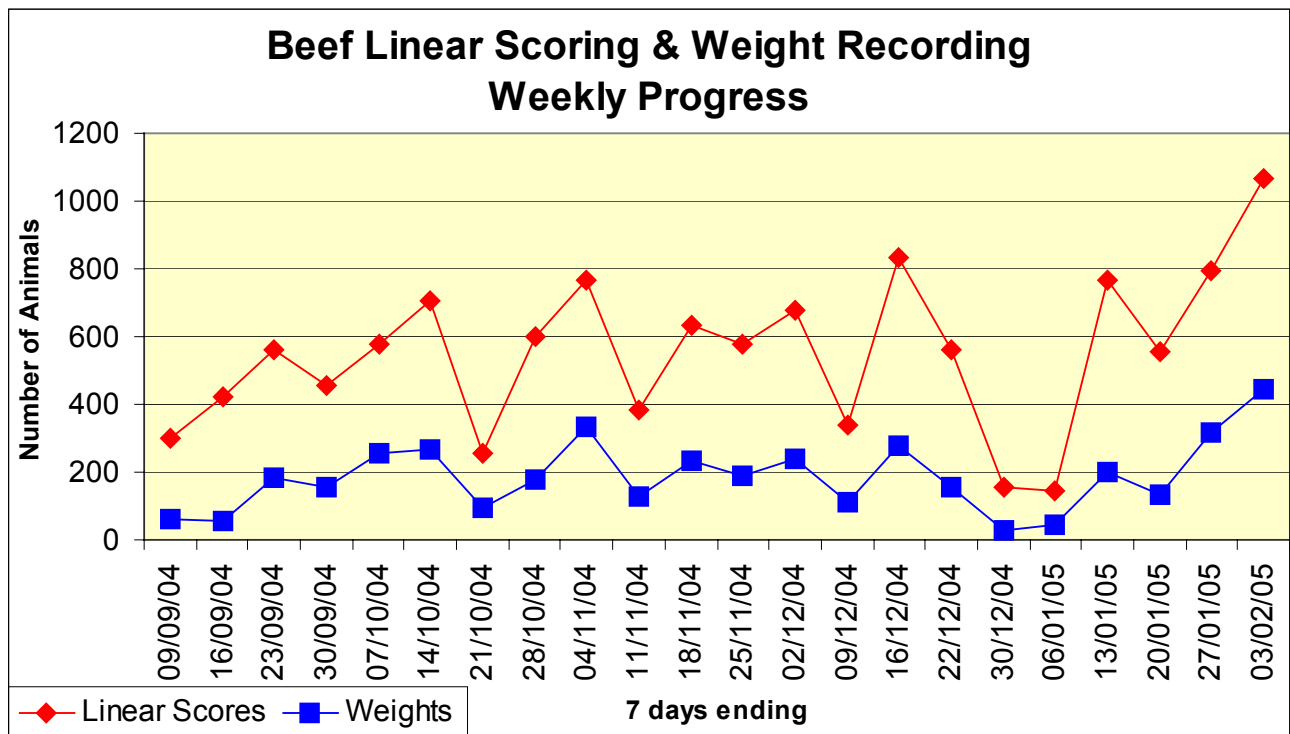
- The scanning of Animal Events sheets is on-going in the Animal Events office - this will assist the member organisations in dealing with farmer queries in a more timely fashion. Over the next few weeks, we will be fully integrating this to the intranet which the member organisations use.
- Work on the full integration of SMS text messaging to the database is continuing.

3 Genetic Evaluations

- Evaluations of Holstein Friesian linear traits are currently being computed.
- There are a number of changes that have been made to these evaluations and a full explanation will be distributed to AI and Herd Book organizations with the details in the next few days.
- The new evaluations for all traits including the enhanced EBI are due for release on Friday 18th February.

4 Beef Linear Scoring & Weight Recording

- A record week. Well done to all the linear scorers.



5 Important Dates

- Beef Genetic Evaluation Consultation Meeting – 24th February, 10:30 – 13:00, Heritage Hotel, Port Laois.
- ICBF’s AGM will take place on 5th May 2005. The meeting is scheduled to start at 14:00 at the Heritage Hotel, Port Laois.



6 Milk Recording Processing

Milk Recording Organisation	Herds Recorded Week 28/01/05 - 04/02/05
Progressive	371
SWS	86
Kerry	62
Dairygold	39
Connacht	12
Arrabawn	7
Tipperary	2
Total	579

7 Tully

- Applications for the April 2005 intake have been sent out to breeders with bulls born from the 18-7-04 to 7-11-04. A total of 2122 bulls have been targeted.
 - Angus 219
 - Aubrac 9
 - Blond 32
 - Belgian Blue 35
 - Charolais 544
 - Hereford 381
 - Limousin 681
 - Piedmontese 1
 - Saler 31
 - Shorthorn 5
 - Simmental 184.
- All bulls for the sale on 5th March have been linear scored, official Blups will be up dated on 10-2-05 and added to the Sales catalogue on the ICBF web site.
- A group of pedigree breeders from England will visit Tully on 8-2-05.

Brian Wickham Chief Executive Irish Cattle Breeding Federation Soc. Ltd, Highfield House, Shinagh, Bandon, Co. Cork, Ireland, Phone office +353 (0)23 20222, mobile +353 (0)86 826 9911 Fax office +353 (0)23 20229 E-Mail bwickham@icbf.com ICBF Web site www.icbf.com Assistant: Mary Madden. © Irish Cattle Breeding Federation Society Limited 2005.

1 Updating the EBI - Implications for the Irish dairy Industry.

1.1 Background.

- Recent work completed by ICBF has confirmed the value of including calving performance and beef merit into the Economic Breeding Index. In overall terms, inclusion of these data is expected to return an extra €2 million to dairy farmers under the current scheme and €8 million under an optimal scheme, through increased protein yield, increased carcass weight and improved calving performance by 2015.
- This work was presented at last weeks meeting of the dairy industry (Tuesday 25th January), where a number of industry organizations, including IHFA, expressed their concern about the proposed inclusion of these new traits into the EBI. Their main concerns centered on 3 key areas.
 1. *The weight on milk production in the proposed modification to the EBI goes below 60%. IHFA believes the weight should always be greater than 60%.*
 2. *The inclusion of beef and calving traits without including functional type traits especially udder, feet & legs, and locomotion is not justified. ICBF should put on hold the implementation, until such times as they have information on functional type traits.*
 3. *The Active Bull List contains very few bulls that IHFA members would be happy to use.*
- This document is an attempt to address each of these concerns, as well as acting as a stimulus for further discussion between ICBF and IHFA regarding the implementation of improvements to the EBI index.

1.2 Specific Concerns.

1.2.1 Reduced emphasis on milk production.

The weight on milk production in the proposed modification to the EBI goes below 60%. IHFA believes the weight should always be greater than 60%.

- The main reason that the weight placed on production has declined from 100% (in the RBI) is that fertility and survival have been given consideration in the breeding objective for HF cattle in Ireland. This need is illustrated by TEAGASC research which shows that the HF breed achieved substantial production improvement over a period of some 20 years but the associated deterioration in fertility resulted in nil improvement in farm profitability.
- It is impossible to “pre-determine” the relative weighting of a trait within an overall economic breeding index, because the % weight of any set of traits is a direct reflection of their contribution to farm profit and the amount of variation in the traits.
- This issue is also complicated by the fact that “relative weightings” assume traits are uncorrelated, which is not the case in practice. Furthermore, the

relative weights reflect all animals in the population and not just the sires that impact most on genetic gain, i.e., sires on the Active Bull List (see section 3.4 for details on the contribution of these sires to overall genetic progress).

- In trying to establish an answer to the question of “relative weights”, we must look at the impact of selecting on the index (and its component traits) over a period of time.

Table 1. Expected genetic gain in individual animal genetic merit after ten years of selection based on a genetic gain of €5.20/yr and in an optimal program*.

Trait / Index	EBI _{CURRENT}	EBI _{ALTERNATIVE}	Change	Optimal program*
EBI _{CURRENT} (€)	51.79	50.50	-€ 1.29	-€ 6.45
EBI _{ALTERNATIVE} (€)	54.34	55.77	€ 1.43	€ 7.15
Production index	23.35	23.87	€ 0.52	€ 2.60
Fertility index	28.45	26.63	-€ 1.82	-€ 9.10
Calving index	2.67	4.33	€ 1.66	€ 8.30
Beef index	-0.13	0.94	€ 1.07	€ 5.35
Milk (kg)	-1.48	1.26	2.74	13.70
Fat (kg)	4.62	4.57	-0.05	-0.25
Protein (kg)	3.12	3.28	0.16	0.80
Calving interval (d)	-2.22	-2.08	0.14	0.70
Survival (%)	1.18	1.10	-0.08	-0.40
Direct calving difficulty (%)	-0.61	-0.81	-0.20	-1.00
Maternal calving difficulty (%)	0.12	0.16	0.04	0.20
Gestation (d)	-0.21	-0.44	-0.23	-1.15
Calf mortality (%)	-0.06	-0.09	-0.03	-0.15
Cow carcass weight (kg)	-0.96	-0.01	0.95	4.75
Beef Carcass weight (kg)	-0.08	0.94	1.02	5.10
Calf carcass conformation	0.03	0.03	0.00	0.00
Calf carcass fat score	0.02	0.01	-0.01	-0.05

* Based on 100 sires test/year with 100 dtrs/sire.

- Looking at Table 1 indicates that 10 years of selection on the current EBI will result in the following changes to the various component traits.
 - Reduced milk yield (-1.48 kg/cow/year)
 - Increased fat yield (+4.6 kg/cow/year)
 - Increased protein yield (+3.1 kg/cow/year)
 - Reduced calving interval (-2.2 days/cow/year)

- Reduced cow size (-0.96 kg/cow carcass weight)
- In contrast, selection on the alternative EBI will result in the following changes, compared to selection on the current EBI.
 - Increased milk yield (+2.7 kg/cow/year) – *due to the positive relationship between milk production and live-weight, i.e., bigger cows produce more milk.*
 - Increased protein yield (+0.16 kg/cow/year) – *see above.*
 - Improved calving performance (-0.2% calving difficulty & -0.2 days Gestation Length) – *due to the inclusion of information on these traits in the new index.*
 - Increased carcass weight (+0.95 kg/cow/year) – *see above.*
 - Increased calving interval (+0.14 days/year) – *due to the negative relationship between beef performance and fertility.*
- The net effect of these changes will be to leave an increased profit of €7.15/cow/year under an optimal program, or €8.6 million across 1.2 million cows in the national dairy herd. Ignoring these improvements will result in less profit for farmers in the long term as well a continued decline in traits linked to profitable milk production. ***This is highly undesirable and not consistent with ICBF's overall objective of "increasing genetic gain for Irish dairy farmers"***

1.2.2 ICBF should have incorporated functional type traits in EBI.

The inclusion of beef and calving traits without including functional type traits especially udder, feet & legs, and locomotion is not justified. ICBF should put on hold the implementation, until such times as we have information on functional type traits.

- The initial development of the EBI included a review of all functional traits that provide useful information about calving interval and survival. As a result of this review, angularity & body condition score were incorporated as predictors of CI and udder depth and foot angle included as predictors of Survival.
- Over the last year ICBF's major priority for genetic evaluation research & development has been on beef, including calving ease. At the same time Donagh Berry (Teagasc, Moorepark) has been working in NZ developing his skills and preparing for undertaking a full review of the contribution of linear type traits to the EBI, with a view to implementation in 2006.
- Other work on potential sub-indexes will follow in due course, e.g., udder health/SCC and disease resistance. Where a sub-index is deemed to contribute to overall profit, then information on that trait will be included in the EBI. In this way, the EBI will continually evolve to reflect dairy farm profit. However, impact on bull rankings is not expected to be great, as evidenced by the high correlation between the current EBI and the alternative EBI ($r=0.97$). Waiting until we have information on all of the traits linked to profitable milk production is not an option as the economics of milk production and the traits that contribute to it will always be evolving. ***We must look to make step by step improvements as new information becomes available.***

1.2.3 Active Bull List not Supported by IHFA.

The Active Bull List contains very few bulls that IHFA members would be happy to use.

- Based on IHFA registrations in 2004, 6 out of the top 10 most frequently used bulls by IHFA members were on the ICBF Active Bull List 2003 (GMI, NHS, IRL, MFX, HRZ and AAP). Early indications from 2005 births suggests that this trend is increasing.
- Annex 1 includes a listing of “Active Bulls” ranked on the basis of alternative EBI. The listing contains only bulls with a minimum reliability for alternative EBI of 50%.
- There are a number of notable features from the new listing.
 1. Bulls whose EBI have increased include those bulls with improved performance for calving traits and beef merit, e.g., RUU.
 2. Bulls whose EBI has dropped include those bulls with below average values for calving performance and/or beef merit, e.g., UYC
 3. The sub-indexes give excellent clarity regarding the merits of each individual bull, including his strong and weak points.
 4. The sub-indexes also give excellent clarity regarding which traits are “driving” overall improvement in EBI. For example, the average EBI of all bulls on the Active Bull List is €72.5 (Table 2), which is made up of improvements in milk production (€54.2), fertility (€15.4), calving performance (€3.5) and beef merit (€0.5).

Table 2. Country comparison for AI bulls*

Country	Bulls	Alt_EBI	Milk	Fertility	Calving	Beef
AUS	1	€76.6	€81.0	-€0.8	-€9.7	€6.1
DNK	1	€91.1	€74.1	€20.5	-€11.7	€8.3
FRA	6	€72.3	€59.8	€8.9	€1.3	€2.3
IRE	28	€72.6	€49.0	€17.2	€5.6	€1.1
ITA	1	€70.2	€43.6	€31.1	-€2.1	-€2.4
NLD	16	€67.5	€54.3	€9.2	€5.5	€2.5
NZ	21	€75.5	€57.4	€19.9	€1.0	-€4.4
UK	1	€68.2	€61.7	€6.5	€0.0	€0.0
Overall	75	€72.5	€54.2	€15.4	€3.5	€0.5

* Average sub index values by country.

These “average values” also give a strong indication of % economic gain coming from each of the traits, i.e., 75% from milk production, 21% from fertility, 5% from calving performance and 1% from beef merit. Furthermore, the sub-indexes also identify strengths and weaknesses within the programs of other countries. For example, beef merit is not a trait of economic importance in NZ (live-weight has a negative weight in the NZ equivalent of the EBI). Hence the average beef merit for NZ bulls on the beef merit sub-index is €-4.4.

5. The number of bulls with Irish progeny on the list has increased from 39 (November 2004) to 55 (January 2005). This is due to emphasis now being placed on 2 new traits in the EBI, i.e., calving performance and beef merit (it should however be noted, that as conversion equations develop for these new traits, some bulls may appear on future versions of the active bull lists, due to they having then reached the minimum reliability for publication).
6. An increasing number of farmers are looking towards other dairy breeds as a means of increasing dairy farm profit. As a consequence, ICBF have initiated work to establish genetic evaluations for each of these breeds (on an across breed basis). Initial work on milk production proofs has indicated that in terms of milk production performance (i.e., milk kg, fat kg and protein kg), some of these breeds are “on-par” with the average of the black & white breed. However, all traits must be evaluated if total profit is to be established. A first glance at the merit of these breeds for some of the other traits indicates considerable breed differences for calving and beef performance (Table 3). These differences must be taken account of in future versions of the EBI.

Table 3. Calving and beef sub-indexes for other dairy breeds.

Breed	Sires	Calving Sub index	Beef sub index
JE	5	€7.0	-€12.0
MO	18	-€23.0	€14.0
MRI	7	-€1.0	€5.0
RB	5	-€5.0	€12.0

- The above improvements to the Active Bull List, should result in the listing having an increased acceptance amongst all sections of IHFA membership.

1.3 Summary.

- Based on extensive research work carried out the ICBF project team, there is no doubt that the improvements suggested in the EBI will result in further profit for Irish dairy farmers (€8.6 million to dairy farmers in 2015 under an optimal breeding program).
- The improvements are also consistent with the desires of IHFA who wish to see more Irish bulls, with good functional type on the list. This can be confirmed from an assessment of the first draft of the new “Active Bull List”.
- The EBI will continue to evolve over time as information becomes available on each of the new traits linked to profitable milk production.

Brian Wickham, Chief Executive

