# UPDATE – FOR PERIOD 19TH JUNE – 25TH JUNE 2004

## 1. Beef Breeding Technical Meeting – Thursday 24th

- **Tully** – September '04 intake planning underway with steps being taken to ensure best bulls go into artificial insemination. The sale for these bulls will be held on **Saturday 5th March 2005**. A second sale is being considered for the May '05. The Nov '03 intake will be promoted for sale as soon as final TB test results are known (test on July 30th).

- **Database** – Good progress has been made with pedigree certificates and BLUP reports now flowing. Animal Events for beef herds progressing well with 4 to 5 commercial cattle recorded for each pedigree animal. So far 125,000 calving surveys in 2004 with sire breed not HF. Priority now on smaller breeds and task lists.

- **Calving Survey Evaluations** – A copy of the update provided to the meeting is attached. Excellent progress has been made with answering questions raised at the recent consultation meeting. Full run of evaluations is planned for July with results for comment in August.

- **Beef Breeding Plan** – Herd books looking for genetic evaluations, maternal traits and international links. Key to beef breeding is use of AI in suckler herds to progeny test 30 or so bulls per year. Proposal based on use of synchronization and stock bulls under development.

- **Visit to France** – two ICBF staff spent three days last week in France looking at aspects of beef breeding there. A copy of their presentation has been placed on the ICBF website.

- **Next Meeting** – Wednesday 1st September at Horse & Jockey

## 2. Beef Linear Scoring Standards Committee – Thursday 24th

- **Inspectors Training** – plans for July training endorsed.

- **Appeals** – appeals procedures updated based on experiences from a recent appeal. Agreed that procedure should be straightforward and that ICBF should monitor the outcome to ensure any corrective action required is taken.

## 3. ICBF Strategic Plan

- Analysis of strengths, weaknesses, opportunities and threats being undertaken in preparation for discussion at July Board meeting.

- ICBF's strategy for next three to four years is under preparation.

## 4. Database Project - Milk Recording

- **No. Herdowners Milk Recorded in IRIS - January 2004 to date = 5,866**

| | |
|---|---|
| Progressive | 1,865 |
| Dairygold | 1.572 |
| Kerry | 1,087 |
| SWS | 959 |
| Tipperary | 146 |
| Connacht Gold | 120 |
| Nenagh | 117 |

- **Weekly Update - No. herd tests processed in last 7 days = 1,111**

| | |
|---|---|
| Progressive | 423 |
| Dairygold | 264 |
| Kerry | 198 |
| SWS | 170 |
| Tipperary | 22 |
| Nenagh | 19 |
| Connacht Gold | 15 |

## 5. International Evaluations

- Sandrine Antunes an agriculture degree student from France started work in ICBF's offices this week. She spent the last two weeks in Paris becoming familiar with the French systems for identifying Charolais and Limousin cattle.

- While at ICBF she will help develop systems and procedures for ensuring the correct international identification is stored on the ICBF database for all foreign-born ancestors of Irish cattle. Charolais and Limousin will provide the case study.

- The outcome from this work, which is being undertaken in close collaboration with our French counterparts and INTERBULL, will provide the basis for Irish participation in the international evaluation of beef cattle.

## 6. Genetic evaluation update

- National genetic evaluation for milk production traits was completed this week. 157, 313 cows calving in various parities in 2004 were included in the evaluation. This was however only 39% of the milk recorded dairy cows calving this year. The majority of the records of cows calving in 2004 were rejected because of the absence of sire information. More detailed analysis of the results will be available next week.

- A re-run of the evaluation will be required to investigate the effect of the upcoming base change from cows born in 1995 to cows born in 2000. Also work was carried out this week to correct the lactation periods of some cows in IRIS. The impact of this change of data used for genetic evaluation will be investigated next week in another test run. Extraction of the data for these test runs will happen over this weekend.

- National genetic evaluation for calving interval and survival traits is in progress. During this run, CMMS data will be used to verify the herd status of each cow. Also, the maximum calving interval allowed in the genetic evaluation will be extended to 800 days to allow in cows that are being recycled.

- The latest calving difficulty evaluation results were received and processed this week. These formed a basis for discussion at the beef technical meeting. Basically, the results shows that **the predominance of Holstein cows as breed of dam did not bias the calving difficulty evaluation of non Holstein breeds** of bulls. Data extraction for the next run has been postponed to allow the update of the database with the latest available insemination records.

# *Development in Calving Performance Evaluations for Beef & Dairy Sires - Update*

*Beef Technical Meeting*

*Thursday 24th June, Heritage Hotel, Portlaoise*

# *Key questions from meeting (18th May)*

1. Proofs are biased upwards due to fact that a high % of records are from dairy dams – investigate?

2. Are bulls that were "easy-calving" in the old system now more difficult under the new system – investigate?

3. Estimate genetic correlation between calving difficulty and gestation length?

4. Repeat work for "dead at birth" and "dead at 28 days"?

5. Make use of foreign data?

   - Correlations with proofs in UK, France, Austria…..
   - Integration of foreign records into Irish evaluations…..

6. Breed of sire vs. breed of dam breakdown in data for analysis?

7. Low correlation for gestation length for LM breed?

# *Improvements (May vs. June)*

- ***No new calving data.***

- Age at calving included in model (in addition to parity) = a better adjustment for "easy-calving sires" used on heifers.

- Updated breed fractions from pedigree file.

- Include correction for "UNK" breed fraction.

- Regressions on sire breed (as opposed to fixed classes).

# *Summary of Proofs (June 04)*

| Breed | Recs | Calving Diff | | | | Gestation Length | | | | Dead at Birth | | | | Dead at 28 Days | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ave | Max | Min | Rel | Ave | Max | Min | Rel | Ave | Max | Min | Rel. | Ave | Max | Min | Rel |
| Angus | 30 | -0.4 | 4.2 | -4.2 | 87 | -1.1 | 0.2 | -2.7 | 74 | -0.8 | 1.1 | -2.4 | 48 | -1.2 | -1.1 | -1.4 | 10 |
| Belgian Blue | 30 | 5.4 | 10.8 | 0.8 | 88 | -0.8 | 0.1 | -2.1 | 76 | -0.2 | 2.2 | -2.0 | 52 | -0.8 | -0.5 | -0.9 | 12 |
| Charoloas | 18 | 7.5 | 10.6 | 3.6 | 80 | 0.8 | 2.0 | 0.0 | 55 | 0.2 | 1.0 | -0.6 | 29 | -0.4 | -0.3 | -0.4 | 5 |
| Friesiam | 63 | 0.8 | 4.9 | -2.6 | 88 | -1.9 | -0.2 | -3.9 | 70 | -1.5 | -0.3 | -2.5 | 48 | -1.1 | -0.7 | -1.3 | 11 |
| Hereford | 17 | 1.7 | 4.0 | -0.1 | 84 | -0.4 | 1.6 | -2.4 | 71 | -0.7 | 0.5 | -1.7 | 39 | -1.0 | -1.0 | -1.1 | 7 |
| Holstein | 415 | 1.9 | 10.3 | -2.9 | 88 | -1.3 | 0.6 | -3.1 | 75 | -1.3 | 1.4 | -3.0 | 52 | -1.2 | -0.9 | -1.5 | 14 |
| Jersey | 7 | -4.2 | -1.7 | -6.6 | 83 | -1.2 | -0.3 | -2.1 | 66 | -2.0 | -1.5 | -3.2 | 37 | -0.4 | -0.3 | -0.6 | 4 |
| Limousin | 20 | 3.4 | 5.9 | -0.3 | 83 | 1.3 | 2.3 | -0.4 | 61 | -1.1 | -0.1 | -1.9 | 38 | -1.0 | -0.8 | -1.1 | 7 |
| Montbelliarde | 20 | 3.8 | 8.3 | 1.5 | 81 | 0.0 | 0.8 | -2.6 | 58 | -0.1 | 2.3 | -1.4 | 35 | -0.9 | -0.9 | -1.0 | 5 |
| MRI | 5 | 1.3 | 2.3 | 0.7 | 82 | -1.5 | -0.7 | -2.5 | 63 | -1.7 | -1.1 | -2.1 | 36 | -0.6 | -0.6 | -0.7 | 6 |
| Norwegian Red | 11 | -0.6 | 0.2 | -1.6 | 77 | -1.6 | 0.0 | -2.8 | 71 | -2.2 | -1.4 | -3.0 | 26 | -0.6 | -0.6 | -0.7 | 2 |
| Rotbunte | 6 | 1.7 | 2.8 | 0.4 | 89 | -1.3 | -0.7 | -1.8 | 58 | -1.3 | -0.2 | -2.1 | 47 | -0.6 | -0.5 | -0.6 | 6 |
| Simmental | 9 | 5.0 | 8.6 | -0.4 | 83 | 1.1 | 1.9 | 0.1 | 56 | -0.2 | 0.8 | -1.4 | 34 | -0.3 | -0.2 | -0.4 | 5 |

- Correlations have improved for gestation length (0.88 vs. 0.78) and Calving Difficulty (0.64 vs. 0.62).

- Trends across breeds are consistent with international trends .

- *Large variation in proofs within all breeds and for all traits – "opportunity" not a "threat".*

4

# *1. Removal of dairy dams from analysis*

| Code | Name | Br | Recs | ALL | No_BW |
|------|------|-----|------|------|------|
| DJR | DRIMEEN JUPITER | BB | 2753 | 5.3 | 5.5 |
| HTA | HORTENSIA | LM | 1744 | 3.7 | 4.3 |
| TKT | TREASURE KNIGHT | BB | 1758 | 5.9 | 8.3 |
| KIW | KILANETIG IRWIN | BB | 1934 | 2.3 | 2.3 |
| EOB | EDMUNDO OF BALLINULTY | AA | 3725 | -1.0 | 1.4 |
| DDZ | DE XHOS DAMIER | BB | 1571 | 10.8 | 9.9 |
| EWN | ELWIN | BB | 2098 | 5.6 | 4.9 |
| TON | LITRON | LM | 962 | 5.5 | 5.9 |
| IVP | IRMIN VAN PHAENOCRYST | BB | 1369 | 3.3 | 3.1 |
| BFF | BREANROSS FAITHFUL | AA | 1807 | -3.9 | 0.4 |
| MZT | MOZART | CH | 444 | 10.4 | 9.7 |
| MRU | MEILTRON LEISURE | HE | 1059 | 2.0 | 2.6 |
| SKM | SHANKILL MAX | AA | 906 | 0.8 | 0.3 |
| VDC | VICTORIEUX D AU CHENE | BB | 507 | 10.2 | 8.3 |
| LTG | LUTTRELLSTOWN GAYNOR | LM | 432 | 3.2 | 3.5 |
| BHH | BARNHILL HAMISH | LM | 501 | 5.3 | 5.4 |
| CF52 | DOONALLY NEW | CH | 78 | 7.1 | 7.7 |
| EPN | EPSON | LM | 106 | 5.9 | 5.5 |
| TIY | TINTIN DE MY | BB | 288 | 7.1 | 6.3 |
| AED | D'OZO ADMIRE ET | BB | 628 | 6.6 | 4.9 |
| BDJ | BALLYDUFF JEWELLER | SI | 169 | 5.6 | 5.4 |
| JSN | JESANA NAPOLEON | AA | 684 | -1.4 | 0.9 |
| LYM | LISLANEY MICK | AA | 936 | -2.3 | -1.6 |
| HRB | HARDI DE BOVE | BB | 326 | 0.8 | 2.6 |
| NRO | NERO | BB | 569 | 4.9 | 4.9 |
| LIR | LOISIR | CH | 182 | 6.8 | 8.0 |
| GUY | GENERAL DU GORTIL GAYOT | BB | 589 | 6.5 | 9.8 |
| SSN | SIMONS NOBEL | BB | 336 | 7.2 | 7.2 |
| JEB | JUSTICE ERIC S65 OF BLELACK | AA | 359 | 0.7 | 1.9 |
| EDJ | DU JARDIN ESPOIR DU JARDIN | BB | 304 | 4.1 | 5.2 |



$y = 0.7695x + 1.508$
$R^2 = 0.8638$
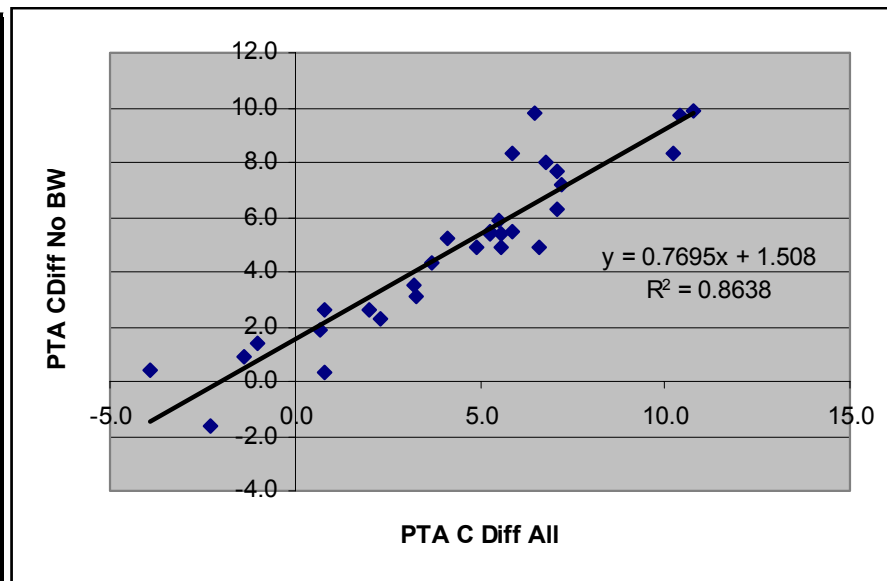
- **_Do dairy dams bias the analysis?_**
- Little change in ranking when dairy dams are excluded.
- Proofs are not biased by use of data from dairy dams
- Range in proof reduced slightly – less data.

5

# 2. Proofs for "easy calving" bulls?

| Code | Name | Old_Recs | Old_Diff | % Rank | Rel% | PTA C Diff | % Rank | %Ranking |
|------|------|----------|----------|--------|------|------------|--------|----------|
| CYY | CLONBRONEY TERRY | 536 | 0.6 | 21% | 42 | -4.3 | 1% | 1 |
| BFF | BREANROSS FAITHFUL | 575 | 1.9 | 48% | 98 | -3.9 | 3% | 3 |
| KKD | KILKELLY DEFENDER | 259 | 0.5 | 18% | 90 | -3.7 | 5% | 5 |
| LYM | LISLANEY MICK | 381 | 0.0 | 9% | 98 | -2.3 | 11% | 11 |
| LRH | LAHEENS RICHARD | 173 | 0.0 | 8% | 73 | -1.6 | 19% | 19 |
| JSN | JESANA NAPOLEON | 196 | 1.7 | 46% | 97 | -1.4 | 23% | 23 |
| EOB | EDMUNDO OF BALLINULTY | 918 | 0.0 | 40% | 99 | -1 | 32% | 32 |
| MTL | MINIT OF LISS | 388 | 1.0 | 28% | 93 | -0.9 | 36% | 36 |
| MPD | MOUNTGORDAN PRIDE | 243 | 0.7 | 19% | 87 | -0.3 | 56% | 56 |

| | Total Bulls | Easy-calving bulls | Average Rank_Old | Average Rank_New |
|------|------|------|------|------|
| AA | 149 | 9 | 27% | 20% |
| CH | 234 | 11 | 24% | 30% |
| LM | 175 | 11 | 23% | 47% |
| SI | 164 | 10 | 24% | 41% |

- ***Are "easy-calving" bulls now more difficult in the new system?***
- Average rank of "easy-calving" bulls still in top 50% for all 4 breeds investigated.
- Across all bulls – little change but some bulls may change (differences in data recording and models)

6

# *3. Genetic correlations between traits?*

|  | Gestation Length | Dead at Birth | Calving Difficulty |
|---|---|---|---|
| Gestation Length | 1.00 |  |  |
| Dead at Birth | 0.33 | 1.00 |  |
| Calving Difficulty | 0.43 | 0.52 | 1.00 |

- ***What is the genetic correlation between the calving performance traits?***

- Positive correlation between all 3 traits

- Longer gestation = increased mortality = increase calving difficulty.

- Trends are consistent with work in other countries.
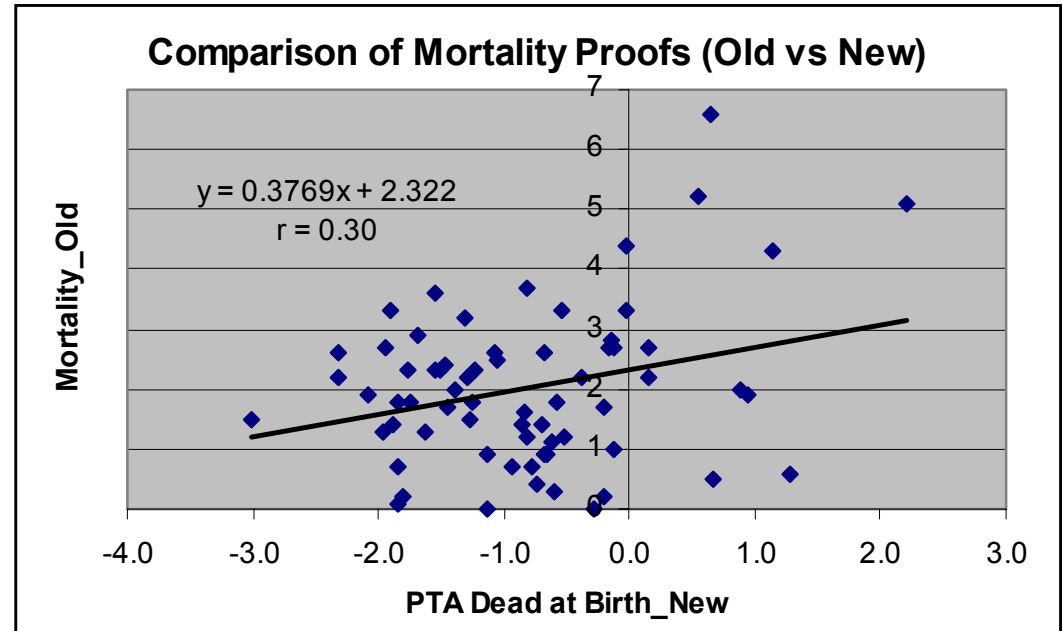
# *4. Dead at Birth & Dead at 28 days?*

- ***Repeat analysis for mortality traits?***

- Two traits analyzed - "Dead at Birth" and "Dead at 28 Days"

- Same genetic evaluation model applied.

- Direct heritability = 2.2% and 0.2% respectively.

- Average mortality = 4.0%

- Range = -3.2% (almost zero mortality) to + 1.8% (almost 6% mortality).



Sires rel >65
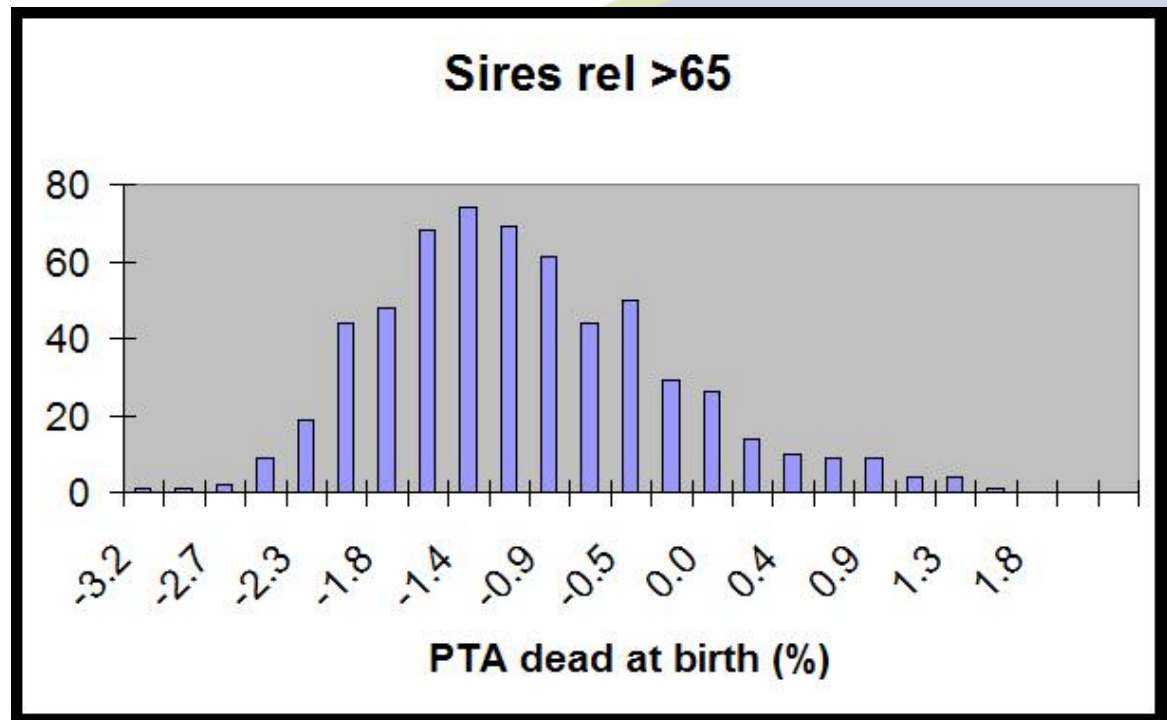
PTA dead at birth (%)

# *4. Mortality – Old vs. new?*

- Correlations between "Old" and "New" = 0.30 for mortality traits

- Lower correlation for mortality traits – why?

**Comparison of Mortality Proofs (Old vs New)**

$y = 0.3769x + 2.322$
$r = 0.30$
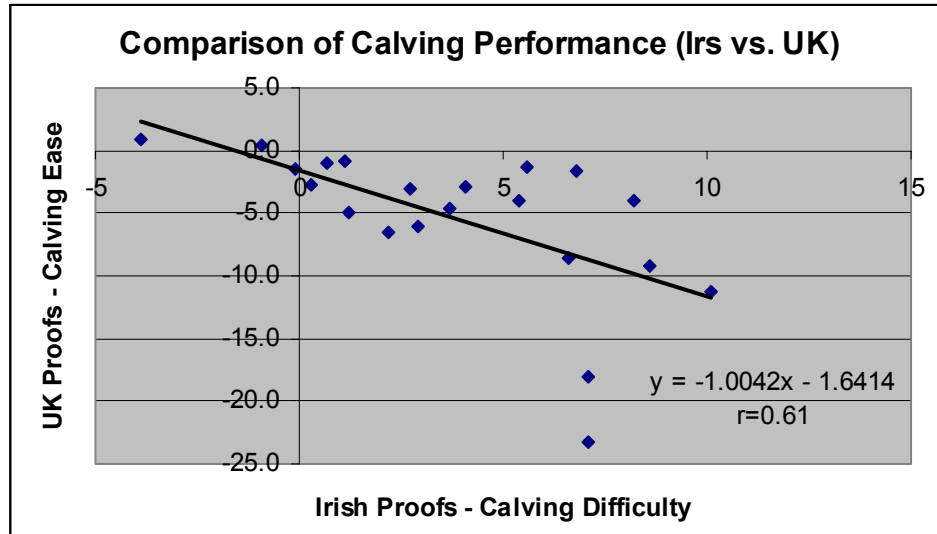
Mortality_Old

PTA Dead at Birth_New

- Definition of trait – "dead at birth" (AE) vs. "dead at birth or dead within 48 hours" (old)

- Higher accuracy of recording via AE

- More accurate model; herd, dam, breed…

- Some further work merited.

# *5. Use of foreign data - IRE vs. UK*

| CODE | BULL | BRD | IRE CDiff | Rel% | UK CEase |
|------|------|-----|-----------|------|----------|
| DMG | DMM DISTINCTION 17G | AA | 2.2 | 77 | -6.6 |
| RHD | RAINBOW HILLS INDEPENDENCE 11 | AA | 1.1 | 91 | -0.8 |
| JEB | JUSTICE ERIC S65 OF BLELACK | AA | 0.7 | 95 | -1.0 |
| SUB | SUNSET ACRES BANG | AA | -0.1 | 76 | -1.4 |
| MTL | MINIT OF LISS | AA | -0.9 | 93 | 0.4 |
| BFF | BREANROSS FAITHFUL | AA | -3.9 | 98 | 0.9 |
| | | | | | |
| IDU | INDURAIN | CH | 10.1 | 81 | -11.3 |
| GTN | DOVEA GIN TONIC | CH | 8.2 | 77 | -4.0 |
| ODI | ORGANDI | CH | 7.1 | 75 | -23.3 |
| CF52 | DOONALLY NEW | CH | 7.1 | 81 | -18.1 |
| HKI | ENFIELD HARA KIRI | CH | 6.8 | 79 | -1.6 |
| | | | | | |
| FRY | FERRY | LM | 6.6 | 54 | -8.5 |
| DAU | DAUPHIN | LM | 5.6 | 72 | -1.3 |
| RSJ | REDPATHS JAGUAR | LM | 4.1 | 74 | -2.9 |
| HTA | HORTENSIA | LM | 3.7 | 98 | -4.6 |
| GNI | GENIAL | LM | 2.9 | 55 | -6.1 |
| MBU | MALIBU | LM | 1.2 | 76 | -5.0 |
| | | | | | |
| FBX | FREIGHDUFF BRENDAN | SI | 8.6 | 84 | -9.2 |
| CUF | CAMUS FRONTIER | SI | 5.4 | 61 | -4.0 |
| BKI | BRINKTON BRILLIANT | SI | 2.7 | 61 | -3.1 |
| BOB | BLACKFORD RORY | SI | 0.3 | 52 | -2.8 |



**Comparison of Calving Performance (Irs vs. UK)**

$y = -1.0042x - 1.6414$
$r = 0.61$

- ***Good agreement between Irish & UK proofs for a sample of bulls used in both countries***

- Further work required to integrate foreign proofs into domestic evaluations for "imported sires".

10

# *Work to be completed?*

1. Breed of sire vs. breed of dam breakdown in data for analysis – next "test" run?

2. Low correlation for gestation length for LM breed?

3. Mortality traits – further investigation?
   - Low heritability for "dead at 28 days"
   - Correlation between old and new?

4. Use of foreign data – further investigation?


➢ *All "major" work completed at this stage – May 18th industry meeting.*

➢ *Proceed with next phase of project…….*

# *Implementation Plan.*

- Further test run including all calving data (historical + Animal Events data from 1st January 2002) – starting in next few days.

- Proofs released to industry (mid-July).

- Feedback invited from industry.

- Official "direct" proofs for dairy and beef sires – mid August 04?

- Official "maternal" proofs for dairy sires – August 04

- Maternal proofs for beef sires – February 2005?