1. Important Dates

- **ICBF Board Meeting** – Thursday 16th September, 10:30 to 14:00 – Highfield House, Bandon.
- **Sheep Ireland Board Meeting** – Thursday 16th September, 14:00 to 16:30 – Highfield House, Bandon.
- **Tully Bull High Health Status Sale** Friday 8th October, ICBF Tully Central Performance Test Centre.

2. WCGALP 2010 Leipzig

This week Ireland has been strongly represented at the World Conference of Genetics Applied to Livestock Production (WCGALP) held in Leipzig, Germany. Attending are 1,400 scientists and students from 60 countries representing Universities, research organisations and breeding organisations. Species covered include cattle (dairy and beef), sheep, goats, poultry, pigs, and fish. There have been 900 papers presented either orally or as posters.

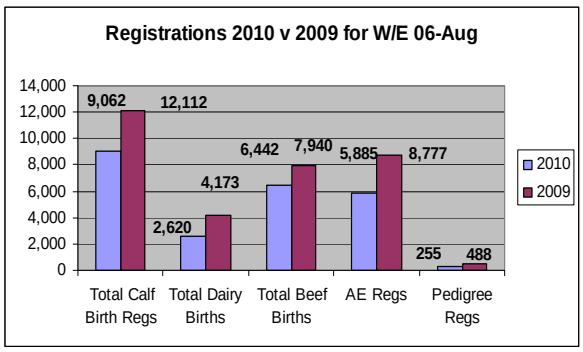
I have asked the Irish delegates to provide their impressions and these include:

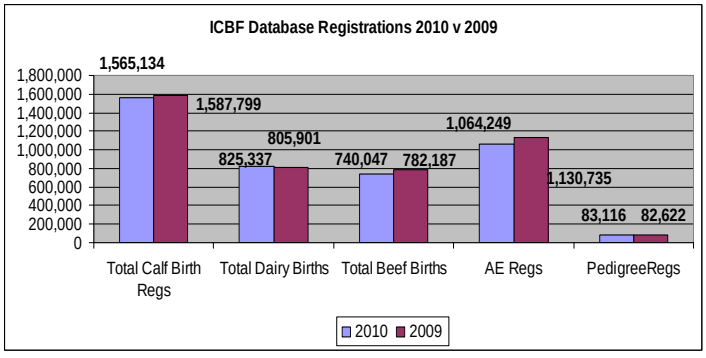
1. Beef Genomic is in the starting blocks; 800K chip; willingness to exchange and cooperate between countries and countries with good crossbred data.
2. These have been nice developments in software and databases to accommodate the use of genomic data.
3. Meat quality is on par with feed intake in that both are expensive to measure and require good designs to obtain useful information for breeding decisions. There were some nice talks on the subject and the potential link to using genomic data. Maybe a project should be kicked-off in Ireland.
4. On a more personal point of view there was great value in contacts with key persons re: software and methods for my work.
5. Genomic selection is a reality in many countries now but scientists are grappling with three major issues notably:
   a. access to genotypes from other countries to enhance training populations and predictions
   b. bias in genomic proofs, and
   c. implications for the structure of breeding programs.
6. A heightened focus on functional traits in dairy cattle breeding and acknowledgement of their importance.
7. In terms of beef breeding and application of genomic selection the major drawbacks will be a lack of good quality phenotypes to evaluate SNP effects.
8. There is a lot of interest in the genetics of feed efficiency traits and their associations with production traits.
9. Move from storing SNP data to storing full gene sequences. This will require us to sequence a number of highly informative sires and then impute up genotypes for potentially all other animals for which we have DNA. This work should be done in collaboration with other interested countries. There is a desire to collaborate in this area, otherwise many countries will end up sequencing the same bulls (cost for a full gene sequence is $10k/animal).
10. Start to consider fully integrated genetic evaluations incorporating phenotypic and genomic data – as opposed to the current post blending approach.
11. "***In the era of genomics, phenotypes are king***". We must put more effort and investment into our data recording systems, especially for traits that are difficult to measure. e.g., mastitis incidence, and lameness. There is a lot of merit in research herds with high quality phenotypes and contract herds for research & development purposes (i.e., progeny test herds).

12. There are a number of countries wishing to push ahead with the IGenoP proposition. Ireland is taking a leading role in the development of the structure and architecture to make this happen. We must prioritize efforts into ensuring that we deliver on these commitments.
13. All countries are now acknowledging some over-estimation of the genomic data (5-10% overestimation of the genetic value). However, correlations are high. Continue to work on understanding reasons for this over-estimation.
14. Move to a routine Interbeef evaluation for weaning weight, including reliabilities. This should be given top priority within the Interbeef project. We should then prioritize other traits, e.g., calving difficulty and carcass data.
15. Many simulations using different input parameters suggest that a 50% to 100% increase in genetic gain is achievable from using genomic selection over and above traditional progeny testing schemes; however, based on the parameters simulated continuous re-estimation of marker effects is necessary to maintain accuracy and therefore genetic gain.
16. The many different types of genomic selection algorithms yield similar accuracies although variation occurs among traits.
17. Several different algorithms for imputing from low to high density marker panels were presented; many studies showed that the accuracy of imputation achievable was high.
18. Several countries and companies are using the High Density Illumina SNP chip.
19. There is an immediate requirement to identify the most informative animals in the world (dairy and beef) to sequence that can later be used for imputation for all animals; at least 20X coverage is necessary to achieve at least 12X coverage at all positions on the genome.
20. RFI (residual feed intake) may not be suitable for inclusion in a total merit index for beef cattle.
21. Heritability of many disease traits is biased downwards because of a lack of sensitivity and specificity of the test and a lack of equal exposure among contemporaries.
22. Of the 777,000 SNPs on the new Illumina High Density SNP chip approximately 600,000 remain after editing within Holsteins.

Irish scientists participated in 12 presentations at the conference (copies can be found in the publications section of the ICBF website). Most of these were based on data provided from the ICBF database. It is very gratifying to see Irish animal scientists making such important contributions to the developments in animal breeding on the world stage.

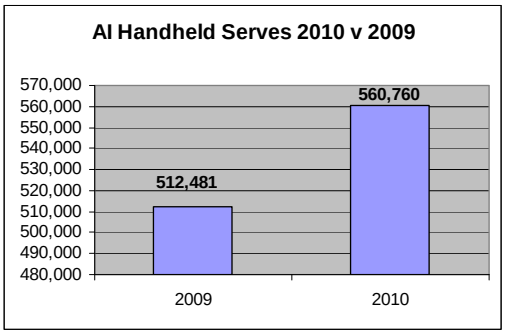
3. Database





- The stats above are compiled with the assistance of DAFF AIM systems.
- In the Suckler scheme, the number of 2009 born calves with meal introduced is 658,992 with the number of animals weaned at 596,587.

- The first significant batches of Suckler pre-wean forms for 2010 have gone out this week. This will continue for the next few weeks.
- Work is continuing on the design of the new catalogue service for both beef and dairy animals.
- Vets wishing to begin interacting with the AHI/ICBF system can register at http://www.animalhealthireland.ie/registerpage.php.
- Work on a new Dairy Replacements discussion group report continued this week.
- Work is almost complete on the web tool to help manage the storing of samples used in the genomics process at ICBF.
- Updates to the Beef Calving Report began this week.
- Work is ongoing on the window server infrastructure, involving a move to a more resilient infrastructure for email, file servers, etc.
- Work on a new infrastructure for communicating with marts is on-going, with a view to getting the data flows on a more efficient and effective basis.
- The graph shows Inseminations recorded on AI Handhelds in 2010 compared with 2009.



4. Sheep Ireland

- The Belclare Sheep Society sale was held in Kilkenny Mart last Tuesday. All sheep entered had €uro stars, there was a strong commercial farmer interest at the sale with 5 Star Sheep securing a premium price.
- The Suffolk Sheep Society has their premier sale in Roscrea Mart tomorrow Saturday 7th August. They have a very high entry of indexed sheep with 62 sheep with €uro-Stars out of the 180 entered.
- The Texel premier sale will be held on 14th of August in Blessington Mart at 11 am. €uro-Star evaluations will be available on the sheep that were recorded through Sheep Ireland for this sale also.
- The Rouge premier sale will be held at Tullamore Mart on the 11th of August at 1 pm.
- The €uro-Star figures for all the sheep in these sales as well as all other lambs in the Sheep Ireland flocks are available at www.sheep.ie.

5. Milk Recording

National Milk Recording Results by County - 10 day Period 27/07/10 to 06/08/10

	No. Herds Recorded	*No. Cows Recorded*	*Average Herd Size*	*Average 24hr Milk kg/Cow*	*Average Fat %*	*Average Protein %*	*Average F + P kg*	*Average SCC*
CARLOW	12	969	81	21.8	4.05	3.33	1.61	592
CAVAN	29	1,553	54	24.0	3.46	3.14	1.58	410
CLARE	27	1,236	46	24.2	3.68	3.34	1.70	231
CORK STH	295	20,393	69	21.7	3.90	3.42	1.59	315
CORK NTH	262	19,724	75	21.8	3.91	3.47	1.61	290
DONEGAL	17	1,620	95	22.6	4.06	3.42	1.69	283
DUBLIN	2	110	55	20.9	3.52	3.40	1.45	494
GALWAY	30	1,685	56	25.7	3.82	3.35	1.84	318
KERRY	123	8,459	69	24.1	3.70	3.37	1.70	361

KILDARE	17	1,354	80	23.9	3.85	3.42	1.74	398
KILKENNY	42	3,212	76	19.1	3.97	3.42	1.41	332
LAOIS	17	1,364	80	22.7	3.76	3.49	1.65	415
LEITRIM	8	346	43	27.8	3.57	3.35	1.92	312
LIMERICK	111	7,970	72	22.8	3.78	3.36	1.63	308
LONGFORD	7	346	49	22.0	3.51	3.32	1.50	305
LOUTH	13	1,400	108	21.3	3.64	3.32	1.48	300
MAYO	32	2,116	66	25.7	3.36	3.46	1.75	333
MEATH	51	4,570	90	21.9	3.84	3.43	1.59	441
MONAGHAN	24	1,277	53	26.2	3.48	3.29	1.77	374
OFFALY	13	1,031	79	26.3	3.84	3.31	1.88	413
ROSCOMMON	3	141	47	23.9	2.64	2.38	1.20	339
SLIGO	8	379	47	24.0	3.32	3.46	1.63	354
TIPPERARY NTH	37	2,975	80	21.2	3.89	3.45	1.56	325
TIPPERARY STH	52	4,361	84	19.5	3.97	3.44	1.44	282
WATERFORD	59	5,016	85	20.8	3.81	3.40	1.50	320
WESTMEATH	14	1,130	81	22.9	4.06	3.45	1.72	405
WEXFORD	52	4,150	80	20.4	3.75	3.42	1.46	373
WICKLOW E	15	1,169	78	21.0	3.55	3.43	1.47	434
WICKLOW W	14	1,104	79	18.5	3.91	3.34	1.34	580
	No. Herds Recorded	*No. Cows Recorded*	*Average Herd Size*	*Average 24hr Milk kg/Cow*	*Average Fat %*	*Average Protein %*	*Average F + P kg*	*Average SCC*
National	**1,386**	**101,160**	**71**	**22.7**	**3.71**	**3.35**	**1.60**	**367**

National Milk Recording Averages by Province - 10 day Period 27/07/10 to 06/08/10

Provincial	*No. Herds Recorded*	*No. Cows Recorded*	*Average Herd Size*	*Average 24hr Milk kg/Cow*	*Average Fat %*	*Average Protein %*	*Average F + P kg*	*Average SCC*
Munster	966	70,134	73	22.0	3.83	3.41	1.59	304
Leinster	269	21,909	81	21.7	3.77	3.39	1.56	422
Connacht	81	4,667	58	25.4	3.34	3.20	1.66	331
Ulster	70	4,450	64	24.3	3.67	3.28	1.69	356

National Milk Recording Statistics - Herds, Cows & EDIY 06/08/10

Milk Recording Organisation	Total Herds Recorded YTD 06/08/10	No. EDIY Herds YTD 06/08/10	% Herds EDIY	Total No. Cows Recorded YTD 06/08/10	No. EDIY Cows YTD 06/08/10	% Cows EDIY
Munster	3,551	995	28%	272,656	84,185	31%
Progressive	1,990	757	38%	171,924	64,671	38%
Tipperary	132	56	42%	11,723	5,606	48%
Connacht	148	57	39%	9,769	3,649	37%
Total	**5,821**	**1,865**	**32%**	**466,072**	**158,111**	**34%**

Recorded Cows by Milk Recording Organisation - Year on Year Comparison			
Milk Recording Organisation	**YTD 2009 Cows Recorded 01/01/09 - 06/08/09**	**YTD 2010 Cows Recorded 01/01/10 - 06/08/10**	**2010 vs. 2009 Year on Year Difference (%)**
Munster	246,193	272,656	9.7%
Progressive	167,376	171,924	2.6%
Tipperary	10,642	11,723	9.2%
Connacht	8,413	9,769	13.9%
Total	**432,624**	**466,072**	**7.2%**

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