

## 1 Important Dates

- ✚ **Audit & Finance Sub-Committee Meeting** – Thursday 30<sup>th</sup> June, 10:00 to 10:30 – Maldron Hotel, Portlaoise.
- ✚ **ICBF Board Meeting** – Thursday 30<sup>th</sup> June, 10:30 to 13:00 – Maldron Hotel, Portlaoise.
- ✚ **Sheep Ireland Board Meeting** – Thursday 30<sup>th</sup> June, 14:00 to 16:30 – Maldron Hotel, Portlaoise.

## 2 Genomics Conference - Melbourne

This week I have been in Melbourne, Australia attending a conference “Applied Genomics for Sustainable Livestock Breeding”. The conference was attended by some 350 people and included ten invited international speakers, of which I had the honour of being one. Attendees represented the full range of dairy, beef and sheep breeding interests including scientists, breeding companies, breed associations and farmers. Participants came from a number of other countries including New Zealand, South Africa, South America, North America, Asia and Europe.

A webcast of the presentations is available at <http://www.smogenomics.org/>.

Key points I picked up included:

### General

- ✚ Genomic technology continues to move very rapidly.
- ✚ Gene sequencing costs are reducing more rapidly than computing costs. No end currently in sight.
- ✚ Within two to three years whole genome sequencing will be routine. We must be focusing on methods to make good use of the resulting data.
- ✚ Australia has established a series of CRCs (Co-operative Research Centres) which are jointly funded by industry and government. Each has a very specific purpose and a limited life – initially seven years with limited ability to be extended. These CRCs for dairy, beef and sheep are playing a very important role in genomics research primarily by ensuring the collection of performance data which is being used to establish genomic keys.
- ✚ I am following up on a number of collaboration opportunities that were identified during the conference.

### Dairy

- ✚ ADHIS, the organisation responsible for dairy cattle genetic evaluations in Australia, has just produced its first set of genetic evaluations incorporating genomic data.
- ✚ Some 7,500 Holstein calves per month are being genotyped with 3K chip in USA and Canada. The volume is growing rapidly.
- ✚ A new low density chip (5K) has just been announced by Illumina and it will replace the current 3K chip. It will give greater accuracy at the same cost.
- ✚ France is not using the 3K chip but rather focusing on the 50K chip. Their genomic selection program in dairy cattle has been operating for a number of years. It uses slightly different methods to other countries.
- ✚ If all the good pieces of dairy cattle chromosomes identified by Australian research could be combined into one animal it would, at least in theory, increase profit by some \$A1,600. This is equivalent to 100 years of genetic gain and illustrates the potential of genetics to improve the profitability of dairy farming.
- ✚ Breeding structures are changing rapidly worldwide with a number of countries using up to 50% of GS bulls for breeding dairy replacements.

## Beef

- ✚ The potential of genomics in beef breeding is just as great as it is in dairy but progress has been slower due to the lack of good performance data and limitations of the technology – the 50K chip is not sufficient to enable across breed genomic predictions.
- ✚ The HD chip is being used extensively but results are not yet available. It will be later in 2011 before the results will be available.
- ✚ The genomic services provided by Pfizer are causing considerable controversy. The key concern is that the genotypes are retained by Pfizer and not made available to the breeders for use in research and validation.
- ✚ Within breed genomic evaluations are available for a limited number of traits in the Angus breed based on the 50K chip.

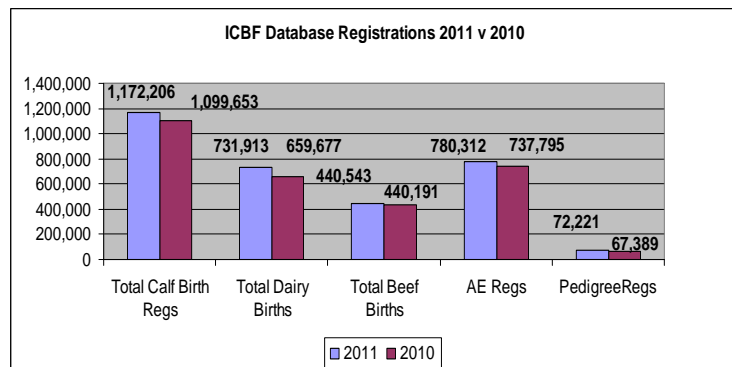
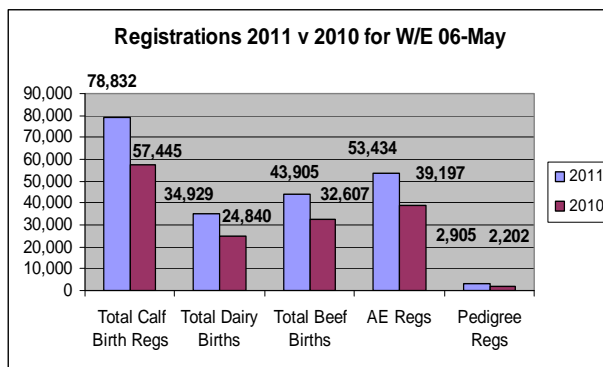
## Sheep

- ✚ The potential for the use of genomics in sheep is less than in dairy and beef.
- ✚ Large amount of sheep genomic research is being undertaken in NZ & Australia.
- ✚ A 50K SNP chip is available for sheep.
- ✚ Potential for genomics in sheep is limited mainly to those traits which are sex limited (e.g. maternal milk), expensive to measure (e.g. disease resistance) or can only be measured late in the animals life (fertility, survival and some wool traits).

## Other

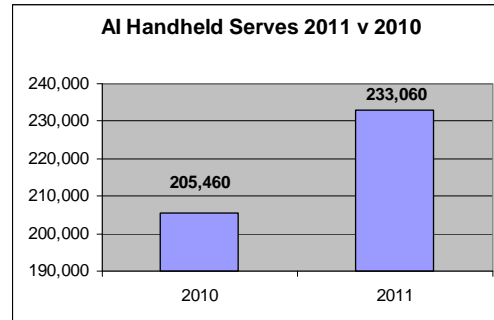
- ✚ There was a great deal of interest in the ICBF database and the amount of good quality data that is now available for cattle breeding in Ireland. We have established structures and systems which many other countries now aspire to for dairy, beef and sheep.

## 3 Database



- ✚ The stats above are compiled with the assistance of DAFF AIM systems.
- ✚ In the Suckler scheme, the number of 2010 born calves with meal introduced is 597,479 with the number of animals weaned at 523,514.
- ✚ Preparatory work for the new initiative with Farm Relief Services (FRS) continued this week. The project will involve hoof-care operators using handhelds to record the visit data and farmers will subsequently receive reports generated from the ICBF database.

- ✚ 'Sire Error' reports from the spring calving season have been sent out this week, and will continue to go out over the next week.
- ✚ Work is on-going in establishing electronic links to the commercial animal health laboratories. We had engagement with a further lab this week.
- ✚ Further refinements to the process of loading genotypes to the database are underway with a view to streamlining the process further.
- ✚ Developments to support the on-going data capture aspects of the Dairy Efficiency Programme (DEP) are on-going. The focus has now switched to the developments around the capture of health events.
- ✚ The graph shows Inseminations recorded on AI Handhelds in 2011 compared with 2010.



#### 4 GENEIRELAND®

##### Beef

- ✚ 245 herds have signed up so far.
- ✚ The average order is 17 straws per herd.
- ✚ More details on the bulls are available in the GENEIRELAND section of the website.
- ✚ To order straws phone 1850 600 900 or 045 521573.
- ✚ Approx. total straws sent out per bull currently available are in the table below.

BREED	AA	BA	BB	CH	CH	HE	PT	SI
CODE	MLJ	KCE	BZP	CSQ	DZP	GCT	CBQ	SXD
# STRAWS	450	505	250	355	135	160	250	300

#### 5 Sheep Ireland

- ✚ "A genetic evaluation for sheep has taken place on 05/05/2011. The data was extracted from the Sheep Ireland database on the 29/04/2011. The genetic evaluation outputs to farmers are currently being processed, and will be dispatched in the coming days. However, all results are readily available to individual breeders on the Sheep Ireland website <http://www.sheep.ie/>."

#### 6 Genetic Evaluations

- ✚ A new genomic evaluation run is currently underway. Over 600 animals are currently undergoing imputation with results expected next week. These results are for all animals where genotypes were received before the 1<sup>st</sup> May.
- ✚ The monthly run of the beef performance evaluation for animals linear scored between 15<sup>th</sup> March and 15<sup>th</sup> April has commenced and new proofs will be available next week.

7 Milk Recording

National Milk Recording Results by County - 10 day Period 26/04/11 to 06/05/11								
	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	19	1,304	69	27.8	3.75	3.13	1.91	218
CAVAN	39	2,086	53	26.8	3.79	3.31	1.90	296
CLARE	31	1,754	57	29.3	3.61	3.35	2.04	208
CORK STH	219	14,262	65	27.1	3.76	3.36	1.93	222
CORK NTH	284	19,932	70	28.9	3.78	3.40	2.08	238
DONEGAL	18	1,578	88	26.8	3.97	3.31	1.95	278
DUBLIN	2	119	60	26.2	3.31	3.33	1.74	305
GALWAY	21	1,466	70	26.6	3.73	3.25	1.86	345
KERRY	153	9,412	62	29.8	3.64	3.35	2.08	308
KILDARE	15	1,228	82	28.9	3.65	3.28	2.00	330
KILKENNY	63	5,310	84	27.1	3.65	3.26	1.87	212
LAOIS	39	2,855	73	26.8	3.75	3.34	1.90	304
LEITRIM	9	490	54	25.3	3.80	3.26	1.79	319
LIMERICK	137	9,233	67	29.7	3.62	3.37	2.08	268
LONGFORD	4	165	41	30.0	3.70	3.43	2.14	358
LOUTH	17	1,537	90	27.0	3.39	3.27	1.80	235
MAYO	25	1,467	59	28.6	3.45	3.29	1.93	301
MEATH	39	3,727	96	27.2	3.76	3.28	1.91	293
MONAGHAN	26	1,207	46	28.9	3.48	3.18	1.92	303
OFFALY	47	3,408	73	27.2	3.89	3.30	1.96	286
ROSCOMMON	2	101	51	31.9	3.55	3.26	2.17	172
SLIGO	13	528	41	29.4	3.56	3.32	2.02	281
TIPPERARY NTH	51	4,128	81	26.8	3.87	3.34	1.93	265
TIPPERARY STH	96	8,421	88	25.6	3.86	3.35	1.85	234
WATERFORD	60	5,934	99	27.9	3.93	3.38	2.04	208
WESTMEATH	24	2,048	85	28.7	3.60	3.26	1.97	219
WEXFORD	52	3,196	61	27.5	3.82	3.37	1.98	273
WICKLOW E	14	973	70	26.3	3.42	3.30	1.77	240
WICKLOW W	7	735	105	25.2	3.91	3.23	1.80	379
	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	1,526	108,604	70	27.8	3.69	3.31	1.94	272

National Milk Recording Averages by Province - 10 day Period 26/04/11 to 06/05/11								
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	1031	73,076	71	28.1	3.76	3.36	2.00	244
Leinster	342	26,605	78	27.4	3.65	3.29	1.90	281
Connacht	70	4,052	58	28.4	3.62	3.28	1.96	284
Ulster	83	4,871	59	27.5	3.75	3.27	1.93	292

National Milk Recording Statistics - Herds, Cows & EDIY 06/05/11						
Milk Recording Organisation	Total Herds Recorded YTD 06/05/11	No. EDIY Herds YTD 06/05/11	% Herds EDIY	Total No. Cows Recorded YTD 06/05/11	No. EDIY Cows YTD 06/05/11	% Cows EDIY
Munster	3,345	865	26%	229,738	64,934	28%
Progressive	2,011	642	32%	154,317	48,877	32%
Tipperary	112	42	38%	8,778	3,805	43%
<b>Total</b>	<b>5,468</b>	<b>1,549</b>	<b>28%</b>	<b>392,833</b>	<b>117,616</b>	<b>30%</b>

Recorded Cows by Milk Recording Organisation - Year on Year Comparison			
Milk Recording Organisation	YTD 2010 Cows Recorded 01/01/10 - 06/05/10	YTD 2011 Cows Recorded 01/01/11 - 06/05/11	2011 vs. 2010 Year on Year Difference (%)
Munster	202,493	229,738	11.9%
Progressive	133,689	154,317	13.4%
Tipperary	7,311	8,778	16.7%
<b>Total</b>	<b>343,493</b>	<b>392,833</b>	<b>12.6%</b>

\* Connacht Gold Milk Recording outsourced to Progressive Genetics Spring 2011. Progressive Genetics statistics now includes Connacht Gold data.

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