ICAR
Subcommittee Interbull

Reinhard Reents
Chairman of the Interbull Steering Committee,
IT Solutions for Animal Production

Outline

- Structure of Interbull
- Activities in communication
- International genetic evaluation service
- Current issues
Steering Committee
- Reinhard Reents, Chairman, DEU
- Gerd Pedersen Aamand, DNK
- Juraj Candrak, SR
- Brian van Doormaal, CDN
- Marj Faust, USA
- Bevin Harris, NZL
- Sophie Mattalia, FRA (renominated)
- Enrico Santus, ITA
- Hans Wilmink, NLD (renominated)
- Jan Philipsson, secretary

Technical Committee
- Hans Wilmink, Chairman, NLD
- Freddy Fikse, ITB
- Gerrit Kistemaker, CAN
- Tom Lawlor, USA
- Zengting Liu, DEU
- Esa Mantysaari, FIN
- Raphael Mrode, UK
- Paul van Raden, US

Genetic evaluation experts

Scientific Advisory Committee
- Georgios Banos, Chairman, GREECE
- Vincent Ducrocq, FRA
- Mike Goddard, AUS
- Larry Schaeffer, CAN

Outstanding scientists for animal genetics
Interbull Activities

- **2009 Interbull meeting**
  - Barcelona, Spain
  - August 2009
  - 151 participants from 32 countries

- **Interbull Technical Workshop**
  - Uppsala, January 2009 (100 participants)

- **Interbull Technical Workshop + 2nd Industry Meeting**
  - Paris, March 2010 (200 participants)
International Genetic Evaluation Services

New entries

- Production traits
  - Lithuania: Holstein and Red Dairy Cattle - January 2010

- Udder health
  - Slovak Republic: Holstein and Simmental

- Longevity
  - Check Republic: Holstein and Simmental - January 2010

- Calving trait
  - United Kingdom, Hungary and Switzerland (Red Holstein): Holstein

- Female fertility
  - Poland: Holstein - January 2010
  - United Kingdom introduced an across breed evaluation

- Workability
  - France: Holstein - August 2009
Participation Rate
Number of bull populations

<table>
<thead>
<tr>
<th>Breed group</th>
<th>Production</th>
<th>Conformation</th>
<th>Udder health</th>
<th>Longevity</th>
<th>Calving</th>
<th>Female fertility</th>
<th>Workability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown Swiss</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>5</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Guernsey</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>-</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Holstein</td>
<td>27</td>
<td>21</td>
<td>24</td>
<td>21</td>
<td>12</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>Jersey</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>-</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Red Dairy Cattle</td>
<td>12</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>3</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Simmental</td>
<td>11</td>
<td>-</td>
<td>9</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>49</td>
<td>62</td>
<td>51</td>
<td>17</td>
<td>41</td>
<td>17</td>
</tr>
</tbody>
</table>

New Schedule in place

- Routine evaluations are scheduled with the following release dates:
  - 2010 August 17
  - 2010 December 7
  - 2011 April 5
  - 2011 August 9
  - 2011 December 6

- Test evaluation take place as follows:
  - 2010 September
  - 2011 January
  - 2011 September
Research and Development MACE

- Female Pedigree in MACE
  - In combination with database implementation
- Variance components for reduced rank MACE

Genomic evaluation

- Joint session of Interbull and ICAR in Niagara Falls, June, 2008
  - Excellent overview on development in various parts of the world
  - Establishment of a genomic task force
    - Validation
    - GMACE
    - Preparation of genomics workshops
Interbull / ICAR meeting Jan. 2009

Interbull workshop (27. - 28.1.2009, 101 participants)
- Report Task Force (7 experts from genetic evaluation centres)
- Summary of the questionnaire
- Conclusions and recommendations from the discussion groups

Interbull Steering Committee (29.1.)

ICAR Ex. Board (30.1.)

Validation

Methodology developed by
- Esa Mäntysaari
- Zengting Liu
- Paul van Raden
Discussed with genomic task force / ITC

Methodology applied Feb 2010
- Some refinements made until April 2010

Again applied in May 2010

Ready for implementation in August 2010 for protein yield
results disseminated from ICAR → EC 427/2006
GMACE

- Methodology developed by
  - Pete Sullivan
  - Paul van Raden
  Discusses with genomic task force / ITC

- Methodology applied April / May 2010
  - Not ready yet
  - Plan to simplify it
    - Apply sometime in the summer / fall 2010

- Discussed in a workshop early 2011

Intergenomics

- Some countries seek implementation of genomic evaluation directly within Interbull centre
  - Increase size of reference sample
  - Decrease costs for technical implementation
    - IB hosts genomic SNP data
    - IB derives prediction formulas
    - Calculates DGV for these countries
    - Combination with conventional EBVs, incorporation into ‘products’ is done at the national level
  - Interest from
    - Brown Swiss breeders from several countries
    - InterGenomics Project

Countries involved currently: AUT, CHE, DEU, FRA, ITA, SLO, USA
Conclusions

- Very successful meeting in Riga
  - Interbull thanks the organisers

- Genomics puts a very heavy workload on
  - Interbull as an organisation
  - Interbull centre as a service organisation

  - Many political issues make things more complex
    • (Sharing of knowledge)
    • Sharing of data

So far very good spirit to solve these challenges

Thank you for your attention