

Proposed Agenda Circulated in advance of the meeting.

Interbeef Working Group Meeting - Agenda

13:00 – 17:00 Tuesday 9th June 2015

Conference room Van Gogh (Level -1)

Holiday Inn, Krakow

Interbeef Working Group: Members (and observers at the invitation of the Chairperson)

1. Welcome & Introduction – **Andrew Cromie**
2. Agree Agenda
3. Minutes of Meeting 26th November Dublin.
4. Interbeef genetic evaluations – Weaning Weight.
 - Evaluation services – Progress report Interbull Centre.
 - Interbeef evaluation time-table for 2015 & 2016.
 - First official proof run, feedback and ways to improve: Technical committee report (Eric Venot) and general discussion.
5. Research reports.
 - Use of Interbeef EBV's in National evaluations – Kirsty Moore (GBR).
 - Use of foreign EBV's in National evaluations – Ross Evans (IRL).
 - Use of cross-bred data (& fake ancestors) in international evaluations – Thierry Pabiou (IRL).
 - Development of international beef genetic evaluations for calving traits – Zdenka Vesela (CZE).
 - Development of international beef genetic evaluations for carcass traits – Kirsty Moore (GBR).
 - Development of international beef genetic evaluations for female fertility – Friedrich Reinhardt (DEU).
6. Genotype Exchange (GenoEx) proposal.
7. Beef Conformation Traits – Proposal from the ICAR Conformation Working Group.
8. International collaboration.
 - Opportunities for future collaboration between Interbeef & ABRI/Breedplan.
9. Outcomes from ICAR/Interbeef workshop – Dublin 2014.
10. Finances
 - Fees for 2015 & 2016.
11. Future Meetings
 - Interbeef meeting end 2015 – beginning 2016 Fall in Austria?
 - Puerto Varas, Chile – 24th to 28th October 2016.
12. Guidelines
 - Use of international ID for imported animals and their ancestors – proposal from Denmark
13. AOB.

Minutes from the meeting based on the order in which the items were discussed.

1. Welcome and Introduction

Andrew Cromie welcomed everyone and asked for a round of introductions.

2. Agree the agenda.

Andrew announced that Eric Venot would update the WG on outcomes from the technical committee meeting, which had taken place the previous day. Andrew also indicated that he would like to update the group on a newly formed ICAR Feed and Gas Working Group, under AOB. Agenda was agreed.

3. Minutes of last meeting (Dublin, November 2014).

Minutes were adopted.

4. Interbeef genetic evaluations – weaning weight

- **Evaluation services – progress report from the Interbull centre.** Hossein Jorjani acknowledged that the Interbull centre had been under-staffed in the past 12 months (due to the departure of Joao Durr) and apologised for the knock-on consequences that this had for the services provided. However on a positive note, the first official run was realised in February and there was a general positive feedback on this evaluation run from the service users. Hossein expressed confidence that the evaluation time could be reduced in future runs. He also acknowledged that there had been a restructuring of the Interbull servers, resulting in some down time, but that these were now up and running and ready for work. Regarding the research traits, he indicated that the fertility data had been recoded and sent to VIT for the initial research phase.

- **Interbeef evaluation timetable for 2015 and 2016**

Hossein proposed a timetable with a data call in August, data re-coding and distribution to ICBF for genetic parameter estimation followed by an official EBV run towards end of 2015. For 2016, Hossein suggested 2 potential official runs in March and Sept/October. Andrew then asked for feedback on the proposed timetable. Eric Venot stated that, unlike dairy, new genetic parameters were not needed with every official run. There would be new weaning weight parameters though for the new DFS (Denmark-Finland-Sweden) joint trait. It was suggested that the data call in mid-August would include the new DFS trait and that the recoded data would be sent to ICBF at that stage. Eric asked if there would be time for validation with those new parameters. It was agreed that Thierry would perform a “test-run” on the recoded data to investigate the changes. Thierry stated that it would take 4 weeks for new parameters. Andrew asked if that run in August was going to be a test run or a routine run. Eric stated that test runs and routine runs needed to be clearly differentiated.

It was also suggested that, at the time of undertaking a data call for weaning weight, that there should also be one for calving performance. There was good agreement for

this suggestion. Pavel Bucek confirmed that CZK were planning to undertake a calving test run after the data call in August.

Thomas Schmidt also stated that there needed to be a clear differentiation between routine and test runs. Andrew indicated that he was not comfortable with the responsibility for the checking of results from the test run resting solely with ICBF. He suggested a test run which would be first distributed to participants, with participants given the opportunity to provide feedback. Assuming that service-users were happy with the results, then this would become an official run. This approach was quite similar to what happened in dairy breeding, whereby service-users had access to implementation runs, as being one step closer to an official run.

Eric stated that the inclusion of crossbred data would need a separate test run as more development was needed at the ITB centre to include this crossbred data. Emma Carlen asked about what the DFS countries should do in relation to the calving data call; submit as separate countries or as one DFS trait? Thierry stated that Zdenka Vesela mentioned in the Technical Group meeting the previous day that she would prefer to get the DFS data as separate countries for the moment. Andrew then pushed for clarification on what would be done for the August weaning weight evaluation in relation to both the DFS data and the crossbred data. Thierry suggested leaving the crossbred data until later in the year. As regards the DFS merger the August data call would be with the merged trait. It was agreed that we should approach it as a test run with official an option if people were happy with the outcomes. Ross Evans asked if there were going to be changes in the fixed effects with the merged trait. Emma Carlen replied that the fixed effects would be very similar to the current fixed effects for the 3 traits. Andrew requested that the ITB centre should allocate some extra time for this test run, with the option of making official. Hossein replied that sufficient time had been allocated to the proposed work plan and that it should not present a problem for the ITB centre.

Andrew suggested to now moving the discussion on to the proposed work plan for calving evaluations. Pavel stated that the target was February/March 2016 for an official run. Eric suggested that there should only be one data call for weaning and calving, so that the pedigree at the ITB centre was the same. He posed a question for Amandine Launay on whether there was any potential conflict with the dairy evaluation run around the suggested dates for the data call. Amandine replied that she didn't think there is a conflict.

Summary and key actions:

- ⇒ Data call for 13 August 2015 for weaning weight and calving ease (including a merging of data from DFS).
- ⇒ ICBF to re-estimate genetic parameters for weaning weight for DFS (+ re-check check CZE-FRA correlation).

- ⇒ Official Interbeef evaluation for weaning weight (for CH & LM). This would be presented initially as “test-run”, but with sufficient time for feedback from participating countries. Assuming that is was OK, this would then become official.
 - Pre-release date target of 5 October 2015.
 - Official release date target of 2 November 2015
- ⇒ CZK to re-estimate/re-confirm genetic parameters for calving ease based on new data (including DFS merged). Target completion of November 2015. Interbull centre to undertake a test run in January 2016. Proofs made available to member countries for feedback. Assuming positive feedback, then make official March 2016.
- ⇒ ICBF to re-estimate/re-confirm genetic parameters for weaning weight, based on cross-bred data. Target completion of November 2015. Interbull to undertake a test run in January 2016. Proofs made available to member countries for feedback. Assuming positive feedback, then make official March 2016.

At this stage of the meeting Andrew Cromie introduced Martin Burke as the new CEO of ICAR. Martin acknowledged the good work of the INTERBEEF group and the progress being made on international beef evaluations.

- **Feedback from the technical committee.**

Eric outlined the recommendations from the Technical committee around the official genetic run for weaning weight. These were;

- Maternal EBV’s publication rules.
 - A proposition had been presented based on; (i) Reliability and (ii) Number of progeny and grand-progeny. This proposition needed to be now tested at the Interbull Center. EV/TP to follow up.
- Validation report after evaluation from Interbull Centre.
 - Feedback had been received from service users regarding a need to have a simple summary report comparing runs. It was agreed that a proposition should be prepared by service users and shared with the Interbull Center. EV/TP to follow up.
- Reference contact list for Interbeef results.
 - It was agreed that this should up to date at all time, regarding relevant countries and contact points. It would be made available on the Interbeef web-page. EV/TP to follow up.
- Process for making Interbeef evaluations official.
 - It was agreed that there was a need to improve the process of making Interbeef result official. EV/RE to follow up.
- Animal status (e.g., AI sire) available in ITB results files.
 - There was a suggestion that this extra data could be carried as part of the animal info module? ITB center to follow up
- CHE results checks between TPA and CST (AWW vs Weight...). TP to follow up.

5. **Research reports.**

- **Development of international beef fertility evaluations for female fertility (Fritz Reinhardt VIT, please refer to power-point presentation for details of work).**

Five participating countries for Charolais and 6 for Limousin were involved in the analysis. Fritz indicated that traits preferred at this stage were age first calving, calving interval and longevity (or productive life). He acknowledged that some issues were found in data files and these would be rectified in next data call. Fritz went through the data received. There was some discussion on the editing of data and how to handle missing parities/calving data. The strong feedback from the group that these data fixes must be done at the national level. Fritz indicated that the first data preparation and analysis was now complete and that they were now at the stage of checking the plausibility of trait values. Parameter estimation would be done using PEST VCE and DMU, with EBVs using Mix99 on the ITB servers. Eric indicated that, in France, a lot of breeders chose to calve cows at 3 years as opposed to 2. There was a long discussion on the trait number of calving's/productive life/longevity and whether there was a need to correct for other traits. Andrew suggested that more work was needed from the technical committee on trait definition of this longevity trait. He recommended proceeding with the first two traits (age first calving and calving interval).

- **Development of international beef evaluations for carcass traits (Kirsty Moore SRUC, please refer to powerpoint presentation for details of work).**

Kirsty outlined the current national projects that SRUC were involved in. One of those (carcass EBV project) was nearing the end after which Kirsty would have time to work on the Interbeef carcass project. At this stage, SRUC were recommending carcass weight, conformation and fat as starting traits. She indicated that the data call was dependent on the ability of the IDEA database to load crossbred data as the majority of records from service-users would be on crossbred animals. Emma Carlen indicated that the Swedish carcass model adjusted for weaning weight and questioned whether weaning weight would be considered as a correlated trait. A similar view was expressed by Eric Venot, based on their experience in France. The view of the group was that additional weights traits should be included to account for selection. In addition, Laurent Griffon noted that carcass fat might be troublesome for France due to lack of variability in the trait. It was suggested that the data call would be May/June 2016.

- **Development of international beef evaluations for calving traits (Zdenka Vesela, CZE).**

In Zdenka's absence Pavel Bucek gave a short update. He indicated that the first genetic parameter set was now available for LIM and CHA. He indicated that a new data call was now needed and that a test run would proceed after the data call. Please refer to earlier section of minutes for more detail on calving traits.

- **Use of cross-bred data (and fake ancestors) in International evaluations. (Thierry Pabiou, ICBF).**

Thierry Pabiou gave an update on the work to include cross-bred data in international evaluations. He indicated that there were difficulties in genetic parameter estimation with crossbred data. However, the test run with current parameters had indicated large benefits for Irish the accuracy of Irish EBV's. In addition, he noted that the EBV's for other countries were generally not changing. The question was asked regarding the process for other countries to submit cross-bred data as part of Interbeef evaluations. It was acknowledged that this would be done as part a test run in early 2016.

- **Use of Interbeef ebvs in National evaluations**

A presentation was made to the Technical group by Kirsty Moore SRUC on integrating the Interbeef EBV into the UK national evaluation. This was very much “work in progress”, with double counting within the national evaluation being the main problem to be solved. Ross Evans also presented to the Technical group an outline of how the ICBF approach the incorporation of foreign EBV's into their evaluations.

Andrew Cromie noted that there were currently 4 active International research projects underway for weaning weight, calving, fertility and carcass. He asked as to where the priority should lie next, in terms of research? Eric indicated that fertility traits would not be easy traits to handle and that time would be needed to explore this research area. Andrew then suggested that we should leave more time for discussion on future research priorities at our next scheduled meeting.

Hans Wilmink, chairman of ICAR, then joined the meeting and introduced himself and his role with ICAR.

6. Genotype exchange (Genoex) proposal

Hossein Jorjani gave an update on the proposed genotype database development at the Interbull centre (GENOEX). The initial proposition was based on a module for parentage SNP exchange. Matthew Schaeffer and Brian Van Doormal were involved in the drafting of the proposal documentation. ICAR has given the Interbull centre the green light yesterday (as of meeting on 08/06/15) for commencement of implementation. The initial implementation would be based on parentage SNP exchange, but with functionality for other services, such as parentage discovery, imputation and genotype exchange (for genomic evaluations). It was anticipated that there would be a launch of the service later this year. Hossein stated that the centre was currently testing the functionality of the database with various formats using Brown Swiss data in preparation for the full implementation next year. He assured the group that file formats had been devised to cater for data coming in different formats i.e. variation in different SNP panels and tests that the labs were performing etc. Laurent Griffon welcomed the development and commented that it would be very important to have this service to exchange SNPs for AI bulls. Emma Carlen noted that they were currently exchanging genotypes between Nordic countries.

7. Discussion on International collaboration

Andrew Cromie gave an update on discussions underway between ICAR/Interbeef and AGBU/ABRI/MLA regarding greater collaboration between ICAR/Interbeef and Breedplan service

users in the future. This was a follow-on to Australian participation at the genomics workshop in Dublin and to Rob Banks (from AGBU) appointment onto the ICAR/Interbeef working group.

A meeting was held earlier in the day with a small representation from ICAR/ Interbeef and AGBU/ABRI/MLA respectively. As a consequence of the meeting, the following areas of collaboration were discussed and agreed. These were then presented to the ICAR/Interbeef working group.

Areas of collaboration included:

1. GenoEx. There was good agreement on the opportunity to share genotypes through the GenoEx database. This was in the following areas.
 - a. Sharing of SNPs for PSE (verification and discovery)
 - i. ID validation/Cross-reference
 - b. Listing of animals genotyped by country
 - c. Future sharing of genotypes for genomic evaluations
2. ICAR/Interbeef evaluations for CH and LM. Given that ICAR/Interbeef evaluations were now official for weaning weight (with more traits planned for 2015/2016), it was agreed that there was an opportunity for existing CH and LM users within the Breedplan service to benefit from also participating within the ICAR/Interbeef service. In many ways, this could be considered similar to how DFS (Denmark/Finland/Sweden) currently operate within ICAR/Interbeef. For this to happen, the required research would have to happen (parameter estimation and test run), and a discussion then undertaken regarding the outcomes. It was agreed that ICBF would follow up with AUS re: the next test run for weaning weight.
3. R & D collaboration for Angus and Hereford. In terms of priority breeds for ICAR/Interbeef, the priority breeds have been CH and LM. This will then be followed by SI in 2016. Given the very strong participation of AA and HE within the Breedplan evaluations system, the discussions with AGBU/ABRI/Breedplan have raised the possibility of also offering international evaluations for AA and HE (under the auspices of ICAR/Interbeef). Clearly for this to happen, required research would have to be taken with results then presented back to the ICAR/Interbeef working group. It was agreed that this work would be undertaken by AGBU, with initial results (for those countries interested in participating in the service) in late 2016 (in line with the ICAR conference in Chile).
4. Sire exchange program. Improving genetic linkages between countries is critical for more accurate international genetic evaluations. As a result it was suggested that ICAR/Interbeef and AUS/Breedplan should develop a panel of AI sires available to interested countries to improve accuracy of genetic/genomic evaluations. This was especially relevant in research herds where new traits (or difficult to measure/costly traits) were being collected, e.g., feed intake.
5. Sharing new phenotypes. There was strong support for the sharing of new phenotypes, e.g., feed intake and meat eating quality. Immediate actions included (i) support and

participation in the ICAR Feed and Gas working group (to be chaired by Roel Veerkamp) and (ii) to establish a protocol and means to share meat eating quality phenotypes.

6. Software knowledge exchange network. It was acknowledged that there was a lot of work happening internationally regarding models/software for genetic/genomic evaluation. Given potential duplicity of work, it would seem logical that we should look to create an environment (a software knowledge exchange network) where participants could share knowledge/ideas etc. Quality assurance (in terms of validation of models/software/results) should also be part of this network as well as the future use of genomic data.
7. Funding models. It was agreed that we (ICAR/Interbeef and AGBU/ABRI/Breedplan) should explore options for future funding models (including the leveraging of National and International funding opportunities). It was noted that the current Interbeef model relied heavily on 4 research partners undertaking the work at their own cost. As Interbeef gets bigger in the future, then the workload would increase also. On that basis, a new funding model for long term sustainability may be required.

Andrew outlined that there was no expectation of decisions on all of the areas outlined in the immediate future. He then opened the floor for questions, dialogue and reflection. Hans Wilmink asked as what were the priority areas for working on? Andrew replied that; item 1 was up and running (e.g., IRE and AUS are already sharing genotyped) whilst item 2 was dependent on a discussion in Australia when Rob and Sam returned to their colleagues. This could happen quite quickly if the go ahead was given from ABRI/MLA/AGBU. Item 3 was an opportunity to develop international evaluations for Angus and Hereford and in theory could happen quite quickly, provided there was interest on both sides. The others items (4-7) were generally longer term. Rob Banks reminded the group, to not forget about the International Wagyu project, for those interested. Ireland (ICBF) has agreed to contribute data for the 40 herds using Wagyu in Ireland. This will be a prototype for the smaller breeds. Eric welcomed the discussion on item 4 (Sire exchange program) and suggested that this should be discussed at the next Interbeef meeting. On item 1, Laurent Griffon noted that there was no point in sharing genotypes if we were not also sharing phenotypes. Thomas Schmidt questioned what was the status of Australia becoming a member of Interbeef and paying the appropriate fees? Andrew noted that Australia's involvement would be consistent with the current fee setup for new countries within ICAR/Interbeef. Andrew thanked Rob (Banks) and Sam (Gill) for travelling to Krakow and for all the dialogue over the last few weeks/months. Hans Wilmink welcomed the dialogue between ICAR/Interbeef and AGBU/ABRI/Breedplan and noted that it was a long road ahead and on that basis, gradual progression was the best way forward.

8. Beef conformation Traits: Proposal from the ICAR Working Group

Andrew Cromie indicated that a document regarding beef conformation traits had been forwarded from the ICAR conformation working group for recommendation to ICAR. Thomas Schmidt asked whether we should reduce the documents to a maximum number of traits, as there was no benefit in traits such as muzzle width and skin thickness (in his opinion). Andrew suggested that an action for this group might be to pick up a group of core traits to evaluate for countries involved in linear scoring. Japie Van Der Westhuizen noted that whilst this group could pick a group of core traits, if

countries wanted to record other traits than the guidelines were set out for them. Pavel Bucek raised a concern that some of these traits were not harmonised across countries and that different scales were in operation. Laurent Griffon noted that scale differences were not necessarily a problem, but that the primary objective was to promote more accurate recording of the trait. Japie suggested that we should circulate a survey to members and report feedback regarding current traits being recorded – and those planned to be recorded in the future, to the Conformation traits working group. Emma Carlin noted that a common Scandinavian scoring system had just been put in place in their respective countries based on the recommendations of the Working group. It was felt that this was a good case study for others to follow.

9. Outcomes from ICAR/INTERBEEF workshop Dublin 2014.

Andrew indicated that many outcomes from the workshop had already been discussed at the meeting. He asked if there was any feedback on the Simmental participation in INTERBEEF? Pavel noted that there was a different evaluation for dual purpose Fleckvieh/Simmental versus beef Simmental in the Czech Republic. Thomas didn't see this as an issue, as he merely wanted to be able to compare International breeding values for the Simmental breed, so this was no different to current Interbeef system for Charolais and Limousin. He noted that experience from these breeds was that there was no problem in including different populations in the same Interbeef evaluation. Andrew asked whether we should now talk directly to the World Simmental Association about commencing the Interbeef project for Simmental. Thierry asked as to who has been talking to the Simmental to date? Andrew noted that Brian Wickham talked at their World Congress last year and there was positive feedback regarding their potential participation. He asked as for advice regarding the best way to proceed the communication? Thomas advised that Interbeef members should lobby the Simmental organisations in their respective countries regarding this service. Andrew suggested that there should be a proposal for a data call for Simmental in Spring 2016, with a target of having genetic parameters for ICAR Chile October 2016. Andrew also noted that if everything progressed well with Australia (AGBU/MLA/ABRI) regarding Angus and Hereford, then we could have genetic parameters for those breeds for October 2016 also.

10. Finances.

Andrew advised that the current fee structure would remain. He also noted that ongoing Australia participation in ICAR/Interbeef would be discussed ahead of the next meeting.

11. Future meetings

There was a suggestion for a meeting in March 2016. Thomas Schmidt suggested that given the potential participation of Simmental in future ICAR/Interbeef services, it would seem like a good opportunity to host the meeting in Austria. He offered to make contact with relevant contacts within World Simmental to explore this possibility. Andrew advised the group that the subsequent ICAR meeting would be in Chile in October 2016.

12. Guidelines. Use of international ID for imported animals and their ancestors – proposal from Denmark that animals always keep their birth ID.

Andrew noted that this proposal had been on the agenda for a number of meetings at this stage. Fritz noted that Denmark had a practise of changing IDs on bulls. He suggested that feedback was needed from Valentina Palucci (Interbull centre) on how these animals were handled in the IDEA database. Based on that response it was proposed that Andrew should contact Anders Fogh for feedback and the ITB centre regarding their advice on the issue.

13. AOB.

Japie asked if there was potential to investigate greater engagement with US beef evaluation centres. Thierry asked to whom was the best contact point regarding the current status of evaluations in the US, i.e. who is running what and who to talk to. It was suggested that Dorian Garrick was a potential contact point for this. It was agreed that this was an action for Andrew Cromie in his capacity as Chairman of the ICAR/INTERBEEF Working Group.

Andrew advised the group that a new Feed & Gas Working group and been recently established by ICAR under the chairmanship of Roel Veerkamp. He noted that the group would cover both dairy and beef interests and he encouraged countries and WG members to get involved in this new group, as it would be an important area for beef cattle breeding in the future.