ICAR Certificate of Quality:

Auditor(s)' Report for the ICAR Executive Board (following the Executive Board's deliberations the report will be forwarded to the applicant).

Name(s) of Auditor(s) and areas audited

Pierre-Louis GASTINEL

1. The identification system of dairy cattle
2. The identification system of beef cattle
3. The recording of production of dairy cattle (included conformation recording)
4. The genetic evaluation of dairy cattle

Date of audit: 31st March , 1st -2nd April 2015

Type of audit: (non-visited or visited): visited

Applicant:

Association wallonne de l'élevage a.s.b.l. (abstract: awé asbl)

Rue des Champs Elysées, 4

B-5590 Ciney

Belgium

Activities for which the ICAR Certificate of Quality are requested:

1. The identification system of dairy cattle
2. The identification system of beef cattle
3. The recording of production of dairy cattle
4. The genetic evaluation of dairy cattle

Auditor's recommendation for the granting or refusal of the ICAR Certificate of Quality

I recommend the granting of the ICAR Certificate of Quality, for the 4 activities of the application.

In the event of a negative recommendation, for the whole or part of the application, list the areas requiring attention and give a résumé as to reasons for non-acceptance and or non-compliance. Please list in order of priority.
This section has to refer to any breach of national law or ICAR Guidelines, quoting references.

N.A.

Other recommendations, please list any areas which, in the opinion of the auditor(s) would improve performance or service to the applicants farmers/customers.

Should be carried out before next before the next audit *(Please list in order of priority quoting Guidelines)*

Updating of GE forms and GENO forms published on the Interbull website.

Desirable improvements but not obligatory *(Please list)*

1. To expand the data recording on health traits, not only for udder health, but also for:
    a. Locomotory diseases
    b. Metabolic disorders
    c. Reproduction events (heats, pregnancy diagnosis, hormonal treatments, reproductive disorders)
    d. Respiratory diseases
2. To improve the percentage of recorded birth data (calving ease)
3. To include clinical mastitis data in the Genetic Evaluation, combined with SCC.
4. To continue the development of the data exchanges with farm automatic sensors and recording devices, and with the others actors of animal production, in consistency with international standards under definition between ICAR and the main manufacturers .

Review

Auditors to give a résumé of each of the areas for which the applicant requested audit and how in the auditors' opinion the applicant was providing service. Include a list of the sites visited where appropriate and the responsible person at each site (if known).

Identification and registration
Visited sites: awé asbl Ciney + 1 dairy farm near Herve (Mr Jonas André – at WALHORN)
Responsible persons: Patrick Mayeres (Services Manager), Jean-François Stockart (Dairy cattle), Sophie Marchal (Beef cattle)

Résumé:

- The farmers receive the ear-tags from ARSIA asbl (Public agency mandated by AFSCA (Federal Agency for Safety of Food Chain) for identification and health in Wallonia); they put the ear-tag just after the birth and send the birth information to the data base of ARSIA by web or paper.
- An exchange by web-service is done every night between the data-bases of ARSIA

and awé

- The model of the ear-tags is Allflex- ULTRA and Allflex-ULTRA TST (with biopsy, for BVD test), models with an ICAR agreement. No RIFD ear-tag.
- For the registred animals, an hair sample is taken off ;
- One random DNA test is done for 250 calves to check pedigree, by Progenus s.a. (ICAR accredited lab, and certified ISO 17025) –STR based parentage testing.
- The average error percentage of sire is 6.5%, only 3.5% if the insemination is registered in the data base
- In the near future, the parentage testing will use SNP data, analysed by another lab (ULG GIGA-Genomics with ICAR accreditation).

Transport:
Visited sites: Comité du Lait (Battice), awé asbl (Herve site), and a dairy farm near Herve.
Responsible persons: Didier Veselko (Comité du Lait), Patrick Mayeres & Jean-François Stockart (awé asbl)

Résumé:
The milk samples are stocked into racks, inside refrigerated box (< 15°C) between the farm and the house of the agent, then into a refrigerator (4°C);
Refrigerated vehicles (4°C) pick up the racks twice a week to be delivered to the laboratory.

Production recording (on-farm processes)
Visited sites: awé asbl (Herve site) and a dairy farm near Herve. (Jonas André – at WALHORN)
Responsible persons: Patrick Mayeres and Jean-François Stockart (awé asbl)

Résumé:

Milk production recording:
72 000 cows in milk recording (for 200 000 dairy cows in Wallonie). The methods are A4 (42,6%), A6 (34,7%), AT4 (7,3%), AT6 (7,2%), R4 (2%), R6 (4,8%) and B4 (1,4%). The methods in development are AT6 and R.

The devices are:

- 1 116 Tru-tests model HI, with ICAR agreement
- 1 654 electronic milk meters in farm, different models with ICAR agreement (in 142 farms)
- 16 shuttles Delaval or Lelly
- 95 AMS

With AMS, the file of production recording is sent by the farmer via "My@wenet" (HomePage of awé); with TT or EMM, the production is recorded on the picking paper document by the technician.
Tru-Tests are checked once a year.
EMM are tested at the setting-up and once a year.
AMS are checked twice a year.
Shuttles are verified at every change of farm.

Milk samples collect is done according the ICAR Guidelines "Hints for taker and farmer" (January 2013).

The production is taken in account if the recording of the milking is > 3 kg.

Conformation:

Currently, the system 8 of classification uses 25 traits with linear notation.
13 000 females are classified per year (9 000 heifers) by 6 or 7 technicians.
The reference technician participates in the annual meeting of the Holstein world association.
An annual meeting allows harmonization of the classifiers.
Every 3 years, an agreement is established, defined with the repeatability (30 cows are judged twice in the same day) and homogeneity of the classifications of each technician towards a reference.

Other traits:

for health traits (udder, reproduction, locomotion, metabolic or digestive….), the data can be recorded by the farmers, the advisors or the milk recording technicians. They can send the data via "My@wenet" (Homepage of awé), "Cerise" (Homepage of ARSIA) or paper. But these recordings are voluntary and not complete, detailed nor standardized.

LAECEA project: In 100 farms, the udder health data are recorded with a more detailed protocol since 2-3 years, and the farmers receive a special report "Document Santé Mamelle" (Udder Health Document). This method will be soon opened for all voluntary farmers, and will produce useful data for the improvement of Genetic Evaluation.

Laboratory
Visited site: Comité du Lait (Battice)
Responsible persons: Emile Piraux and Didier Veselko (Comité du Lait)

Résumé:
The lab is the "Comité du Lait", inter-professional organisation (50% milk producers / 50% milk buyers). The Comité du Lait analyses milk tank samples for the payment and milk individual samples for milk recording.
The samples are identified by their places into the rack, with the order of the picking document. There are no RFID on the samples, unlike the samples for payment analysis.
The instruments are :

- 2 CombiFoss FT 6500 (MilkoScan FT-6500 + Fossomatic 5500).
- 1 CombiFoss FT 6500 FC (MilkoScan FT-6500 + Fossomatic FC).

The laboratory follows scientific guidelines of the Agronomic Research Centre of Gembloux (Belgium) and ILVO from Melle (Belgium) (ring-tests every month).

- Recalibration of the whole analyse range every two months, check samples into each rack, implementation of the FIL 141 C guidelines (about deviations detection and correction) regular check of the laboratory devices (volumes, carry-over, zero Check,

blank samples, ...), maintenance by the devices supplier (2 times each year).

The Comité du Lait is certified by BELAC according to ISO 17025. The last audit by BELAC was on 16th and 17th june 2014.

The MIR spectra files are send to awé, every night by a web-service. Every month, these spectra are standardised between the different labs of the OPTIMIR project.

In 2014, the period between the reception of the sample and the sending of the results into the data-base of awé is 1 day for 89 % of the samples (82,8% % in 2013), and 2 days for 98,1% of samples (98,5% in 2013).

Data processing (off-farm processes)
Visited site: awé asbl Ciney
Responsible persons: Philippe Piron

Résumé:

Since 2007, awé uses the "Modified Best Prediction" method, to estimate the past and the future production.

For AT method, awé uses the LIU method with factors estimated on wallone data.

For the farms with AMS, today awé uses a sample for each milking, but soon they will adopt Galesloot and Peteers method, with 1 or 2 samples . For Fat%, the reliability is 0,892 with 1 sample, and 0,969 with 2 samples. The choice will be open for the farmers.

A lactation is "non-official" if:

- The 1st test is >70 d. after the calving (the realised tests before the 4 days after calving are not taken in charge for the lactation calculation)
- Or the interval between 2 tests is >70 d.
- Or the duration of lactation is <205 d.
- Or the number of tests is <5

Then, the lactation is out of the total production of the animal. But the valid tests are used for the Genetic Evaluation (Test Day Model).

The database exchanges data with, and is consulted by:

- Farmers (via Homepage "My@wenet", Homepage of ARSIA "Cerise" or a file from a farm software, less and less via paper)
- ARSIA DB (webservive every night)
- Technicians (milk recording, classification, ….)
- Vets
- Advisors
- GxABT (Gembloux University) for Genetic Evaluations

The exchanges of data with a third part need the agreement of the farmer.

Standard files are defined to exchange data with the AMS of different manufacturers or with farm software from different editors.

Since the last years, the database receives new types of data: MIR spectra (from the milk analysis) and SNP (from genotyping). The technical means for the storage of these data have been adapted.

Comments of the auditor:

To date, the tools of data exchange are out of the field of the ICAR Certificate of Quality. But, the "ICAR Animal Data Exchange Working Group" is working with the major manufacturers to define standardized messages for the exchanges between the farm devices (AMS, EMM, feeding station systems, or different sensors) and the database. It is important to keep in touch with these future recommendations.

Genetic evaluations
Visited site: awé scrlfs Chemin du Tersoit 32 - Ciney
Responsible persons: Nicolas Gengler (GxABT), Sylvie Vanderick (GxABT) and Alain Gillon (awé)

Résumé:

For production traits, the genetic evaluation model is a multilactation (3 first parities)-multitraits – test-day Model – Animal Model. All dairy and dual-purpose breeds are evaluated simultaneously.

For type classification, 25 traits are evaluated; the model is a multi-traits Animal Model, using canonical transformation and allowing missing values.

For udder health, the trait is SCS; the model is a weighted Multi-lactation Test-Day Model Animal Model. The record weights are proportional to mastitis infection likelihood.

For longevity, the model is Random Regression lactation survival animal model.
For calving traits, it's an Animal Model Single Traits, without co-variance between direct and maternal effects.

For female fertility, the model is a Single trait animal model; the trait is a pregnancy rate estimated with the Days open. So, the fertility of heifers is not evaluated.

The Wallone data participate in the international genetic evaluation of Interbull (MACE) for all these groups of traits. The last biennial validation (September 2014) confirmed the consistency of Wallone National Genetic Evaluation. Because of the modifications introduced in January 2015, a new validation was done, with good results. For these validation, awé et GxABT use the test method III of Interbull.

awé and GxABT participate in the GMACE of Interbull, for production and conformation traits, with the validation of the national Genomic Evaluation System.

Comments of the auditor:

a) The details of polygenic and genomic methods are described on the Interbull website, but these descriptions are not up-dated. (Perhaps, some up-dating sent by GxABT were not taken in account by Interbull Center ?).

b) Several evaluations could be improved with the in-put of other recorded traits: clinical mastitis for udder health index, reproductive events (heifers, pregnancy diagnosis, ….) for fertility evaluation. The new Udder Health Document, and the future common platform between awé and ARSIA for health data and treatments will be beneficial factors for the quality and quantity of data.

Other comments/remarks/opinions not covered above

The strengths of awé are:

- His narrowed governance
- The multifunctionality of his database, with flowing exchanges with the government data-base, farmer software, farm devices, vets and different advisors, labs, universities and research centers.
- The multifunctionality of the operational organisation (genetic improvement, advices and services to farmers, research and development…)

awé asbl is setting up a **quality management system**; this will be a very good tool for the improvement of the service to the farmers, and the quality of collected data: to clarify the quality objectives, to up-date the reference sources, to produce indicators.

Otherwise, the auditor noted the following remarks from the representatives of awé, concerning **their expectations from ICAR**:

- Production of standardized format for data exchange between the data-base and farmer devices (sensors, recording devices, farm software….)
- A data-base for the exchange of snp genotypings of young bulls (required for the small importing countries as Belgium).
- To remove the capacity of some countries to prevent the publication of some GMACE values produced by the data of the other countries.

The President and Board of ICAR thank you for all your work in auditing and compiling this report.