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1.0 ICAR 2018 – ICAR AND INTERBULL ANNUAL CONFERENCE, FEBRUARY 2018, AUCKLAND, NEW ZEALAND

ICAR and Interbull held its Annual Conference in Auckland in February 2018. It was jointly organised with the World Congress WCGALP and had a global attendance of 1,400 delegates from 70 countries. Some 900 papers in total were presented at the combined ICAR-WCGALP meeting, of which 120 papers were presented at the ICAR and Interbull Conference.

The Conference provided the ideal stage to showcase the work of ICAR’s sixteen Sub-Committees and Working Groups whose work supports best practices in livestock production systems namely in the fields of animal identification, performance recording, milk/tissue analysis and genetic evaluation. ICAR also has a role as an aggregator of farm service providers for the creation of a communal single approach. ICAR works with its members and its international partners and has a key role as a ‘third space’, neutral body, that acts as facilitator at international level among the different parties.

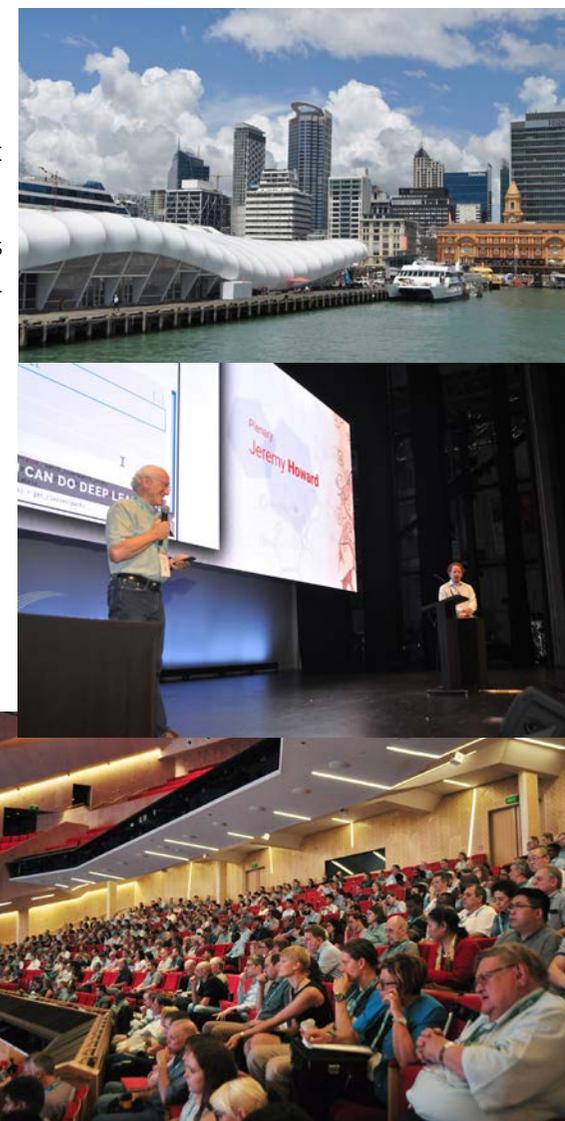
In this ICAR Newsletter you will find further detail on the work carried out by these and the other ICAR Sub-Committees and Working Groups. ICAR would like to thank all its members’ scientists and practitioners for their dedication and hard work in making ICAR the global standard for livestock data.



Jay Mattison the ICAR President, during his speech at the General Assembly held in Auckland (New Zealand) in February 2018

Some highlights of the ICAR work as presented at ICAR2018 Conference included progress on animal welfare aspects, through the tight cooperation with the International Dairy Federation (IDF) and the activities initiated by the ICAR Sensor Device task Force and ICAR Functional Traits Working Group. Agreements are in place and the groups are collaborating on projects that look at producing practical guidelines in the animal welfare recording field.

Another highlight is the focus and work presented by ICAR's 'Feed and Gas' Working Group that is currently developing guidelines for recording individual methane emissions with an ultimate goal of breeding a more efficient animal with lower emissions. Likewise, innovations in the field of parentage verification and parentage discovery based on SNP genotypes are being championed by ICAR's DNA Working Group. The innovative collaboration by ICAR with Canadian Dairy Network (CDN) has developed a specific software, named 'Cuckoo', to generate unique data files aimed to help DNA Data Interpretation Centre gain ICAR Accreditation (which is a prerequisite of GenoEx-PSE entry). The expansion of InterBeef with ABRI/Breedplan now becoming a member is an important milestone as ICAR's beef international genetic evaluations becomes more global.



ICAR Board

2.0 ICAR BOARD MEMBERS

Bianca Lind, Laurent Journaux and Niels H. Nielsen are renewed for their second mandate as proposed. According with the new Statutes, Jay Mattison and Kaivo Ilves are extended for two years, until 2020, as proposed.

The President informed that two applications were received as new Board member:, the first one from Frido Hamoen (CRV, The Netherlands) and the second from Antonio Martins (ANABLE, Portugal). Both were elected as new Members of the Board by the General Assembly

New Members

3.0 NEW ICAR MEMBERS

The General assembly approved the membership of two new ICAR Members, namely:

- ABRI Breedplan (Australia)
- Latvian Holstein Association (Latvia)



The logos of the two new ICAR Member Organisations



Pictures taken during the ICAR General Assembly held in Auckland (NZ)



The new ICAR Board Members: Frido Hamoen (above) from CRV (The Netherlands) and Antonio Martins (below) from ANABLE (Portugal)

President Award

4.0 PRESIDENT AWARD TO STEVEN SIEVERT

For the President Award, Jay Mattison and the Committee proposed Steven J. Sievert, Chair of the Recording and Sampling Devices Sub-Committee as a recognition for his outstanding contribution to ICAR and its objectives.



Steven Sievert receiving the ICAR President Award from Jay Mattison

CoQ

5.0 PRESENTATION OF CERTIFICATES OF QUALITY

Two ICAR members whose recording activities were successfully reviewed as part of the ICAR Certificate of Quality program were formally acknowledged during the ICAR General Assembly by Charl Hunlun, coordinator and Technical Advisor of the Program. Congratulations to members Växa (Sweden) and Association Wallone de l'Elevage (Belgium).

Main achievements

6.0 MAIN POINTS OF ICAR ACTIVITIES SINCE EDINBURGH 2017

Since the last Conference in Edinburgh, ICAR's strategy has been focused on providing better services to its members. Efforts have been focused on the strategic activities identified in the ICAR Action Plan for the Testing/Certification/Validation of identification devices have been made more efficient as have those for Testing/Certification of milk meters.

In Milk Analysis the Proficiency Test (PT), carried out twice a year in March and September, has been further streamlined. This year around 70 Reference and Routine laboratories world-wide participated in the ICAR PT, a clear indication of the interest among ICAR Members. The Report produced as part of the PT is an efficient tool for the managers of the milk analysis laboratories to identify how they can improve their accuracy. In parallel, the Milk Analysis Sub-Committee produced new Guidelines for the certification of milk analyzers to facilitate recognition of the quality of the instruments.

Certification of DNA interpretation centres have been developed and the first accreditations to genetic laboratories have been granted. The strategy of creating an uninterrupted certified chain in the animal production sector, particularly for the molecular approaches, is the reason for the creation of the GenoEx PSE Service provided by the Interbull Centre



Charl Hunlun introducing the Certificate of Quality

which is currently under test and expected to be released in summer 2018. The main function of GenoEx-PSE is to provide a service for exchanging standardized sets of SNP for genotyped animals to facilitate parentage analysis activities carried out by authorized service users of the GenoEx-PSE service. At the same time, the routine provision of international genetic evaluations for dairy and beef cattle has continued as the core focus, respectively of Interbull and Interbeef groups.

Two Consultative Reviews of the recording activities of ICAR members were completed since the ICAR meetings in Edinburgh. The Certificate of Quality program enters a busy period with 14 Audits and 6 Consultative Reviews that are scheduled for 2018, while the Program is also entering a phase of renewal with the evaluatory processes being adapted to follow a “process approach” based on the risks that are affecting the relevant recording activities practised by ICAR members.

ICAR'S strategy and focus for the year ahead include the “Phase II of the ICAR Guidelines Project”, “bedding-in” of new services, an updated approach to the ID Field Test, a rationalized Milk Analysis Equipment Certification, the enlarged participation of the DNA Data Interpretation Centre Accreditation, and finalization of the IT Upgrade according to the General Data Protection Regulation (GDPR) from the EU legislation.



A picture from the ICAR Board in Auckland



Moments from the ICAR Auckland Conference

The Sub-Committees

Animal Identification SC

7.0 ACTIVITIES IN DETAILS: THE SUB-COMMITTEES

7.1 ANIMAL IDENTIFICATION SUB-COMMITTEE (ID SC)

The ID SC undertook a significant reorganization with the selection of the new Chair (Jo Quigley) and a new member join the ID SC (Othón Reynoso Campos, SINIIGA, Mexico). Also the Group concentrated on a completed revision of Section 10 of the ICAR Guidelines, and the Secretariat approached National Competent Authorities (CAs) in animal ID through an online survey and direct contacts, in order to improve awareness of ICAR'S activities and services in animal identification.

A video to promote the Validation Service to CAs has been produced. In collaboration with manufacturers and French/Australian partners, a project to develop an ICAR field testing protocol for CAs has been initiated.

The need of a better communication with ISO WG3 (misuse cases, manufacturer codes, companion animals, role of RA) has been identified and the Secretariat has invested time in achieving this.

In the months to come, the Sub-Committee aims to finalize the field testing protocol and promote a new service to CAs', while further revisions to Section 10 of the ICAR Guidelines (conventional tags test protocol) are in the pipeline. Closer collaboration with the CAs is expected to broaden the community of organizations that benefit from ICAR's identification activities.



Interbull SC

7.2 INTERBULL SUB-COMMITTEE

Activity in 2018 of the Interbull Sub-Committee will be focused on the dissemination of the GenoEx-PSE service, and growth of other services, while maintaining the validation and the International genetic evaluation services and implementation of SNP-Mace feasibility project. More information about the GenoEx-PSE can be found on the [Interbull Bulletin here](#).



Milk Analysis SC

7.3 MILK ANALYSIS SUB-COMMITTEE (MA SC)

The MA SC has continued with the development of the ICAR certification process for milk analysers. First steps have been the revision of the current protocols and adaptation of the certification process, including a “grandfather exception” route for milk analysers. Contacts with potential experts for validation studies have been made.

The MA SC is playing a key role in the development of the SCC reference system, an action initiated some years ago in collaboration with IDF. Progress on development of SCC CRM (Certified Reference Material) continued in consultation with regulatory stakeholders in several geographic regions (Europe, North America, New Zealand). The next step is the fostering of a suitable structure to control the process.

Future attention will be focused on the finalization of Guideline revisions to accommodate new technologies. Attention will cover challenges and opportunities for udder health monitoring and quality assurance tools for laboratories.



ICAR PT

7.3.1 ICAR PROFICIENCY TEST FOR MILK ANALYSIS LABORATORIES

Similarly to the previous editions, the call for the 2018 ICAR PT met the interest of the ICAR Members: 46 laboratories join the initiative and confirmed their participation, Two round test are scheduled (in March and September) and at the time of the printing of this Newsletter the first round has been completed and the production of the single reports for each participant is in progress.

For the first time a laboratory from South Korea (Center for Green Dairy Technology, Han Kyong University) join the ICAR PT. We are expecting that in 2018 each country will deliver data for all the DHI parameter (protein, fat lactose, urea, SSC) for routine and reference methods. Moreover, a survey will be soon circulated among the participating laboratories to collect more details to improve methods precision.



Recording and Sampling
Devices SC

7.4 RECORDING AND SAMPLING DEVICES SUB-COMMITTEE (RSD SC)

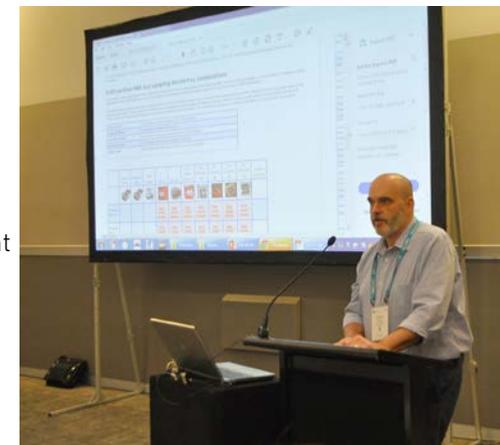
The RSD SC in the last months had face-to-face meetings with numerous manufacturers and tightly supervised the development of the revised website for ICAR-certified combinations of AMS (automatic milking systems) and sampling shuttles.

Streamlined protocols for device testing and approval are under development along with the development and testing of a universal carry-over measurement protocol for ICAR Test Centers which has been finalized and presented at the ICAR NZ Conference.

Phase I testing the effect of air admission (outside ISO specifications) on accuracy of milk recording and sampling devices has been completed. A streamlined approach for member and manufacturer annual reporting to ICAR RSD SC has been finalised.

Contact has been made with all manufacturers about the purchase and application of ICAR labels for devices as outlined in the ICAR guidelines.

Priorities for the future includes finding a new RSD SC member from the Alpine region and the updating of the Periodic Checking of Meters documents with each routine procedure being part of the new website. Full support will be given to the work of the Sensor Devices Task Force. The Section 11 Guidelines are being revised to include flow charts and procedures.



New web page for meters

7.4.1 NEW WEB PAGE FOR ICAR CERTIFIED MILK METERS

Under the supervision of Steven Sievert, Chair of the Recording and Sampling Devices Sub-Committee, the Secretariat has produced a new web page listing all the ICAR certified milk meters. The page is MySQL based database making its content searchable according to personal queries. For each meter the periodic checking instructions and the installation procedures have been made available for our users, together with other details that accurately define each device. The new page is available on [ICAR web site here](#).



THE GLOBAL STANDARD FOR LIVESTOCK DATA

Network. Guidelines. Certifications.

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Certified milk meters

- All ICAR certified devices must be tagged with a non-removable label issued by ICAR. The label contains the name of the manufacturer, name of the device, year of approval, species identification, mounting position and ICAR logo.
- The instructions on how to perform the "Periodic checking of certified meters. Hints for the sample taker and farmer" can be downloaded here

Filter by product: Filter reset filters

N.	Brand	Device	Meter	Species	Mounting position	Picture	Year of approval	Notes	Routine check	User manual
192	Crysta Flo (Fullwood/...)		Alf Lite	Cattle	Low Line		2004		open	
406	Afimilk		Alf Lite Essential (Germania)	Cattle	Low Line				open	open
818	Afimilk		Alf Lite Pro	Cattle			TBC		open	open
136	Dataflo (.../...)		Afiflo 2000	Cattle	Low Line		2000	Also available as CrystaFlo+ (Fullwood)	open	open
221	CrystalFlo+ (Fullwood/...)		Afiflo 2000	Cattle	Low Line		2000	Also available as "Dataflo".	open	open
159	Afimilk		Afiflo 9000	Cattle			2001		open	open

The Working Groups

Animal Data Exchange WG

8.0 ACTIVITIES IN DETAILS THE WORKING GROUPS

8.1 ANIMAL DATA EXCHANGE WORKING GROUP (ADE WG)

Since Edinburgh 2017, the WG received valuable feedback regarding the challenges we have faced in terms of interest and adoption of the ADE standards. It was agreed that the WG should focus its attention on three specific areas, namely: Data Dictionary, REST/SOAP and Outreach.

For the Data Dictionary area, several potential additions to the ADE standards document have been identified while the Outreach area has recommended greater involvement of manufacturers.

For all of the three areas of interest, the ADE WG has identified key organizations that would be early adopters and the WG will contact these organisations in order to get information about their specific concerns and recommendations.

At the same time, a process to implement tools to support a flexible collaboration on expanding the data dictionary to include items that have been requested will be initiated.



Artificial Insemination & R.T. WG

8.2 ARTIFICIAL INSEMINATION AND R.T WORKING GROUP (AI & RT WG)

The priority of the AI & RT WG has been the recruiting of new members and the definition of the Terms of Reference of the WG. A survey on semen straw labeling, including bar coding, has been undertaken. A proposal for a database with information on straw identification is one of the priorities for the WG along with updating of the Guidelines (Section 6).

The WG will also address new topics such as the RFID for embryo straws and the tools for reporting fertility.



Conformation Recording
WG

8.3 CONFORMATION RECORDING WORKING GROUP

During the last year, the WG finalized new sections of the Guidelines on conformation defects and conformation traits in dual purpose cattle breeds.

Future priorities are focused on how to approach the new technologies such as: images to score BCS, scanned images to describe body traits, and udder trait measurements based on teat positions from milk robots.



DCMR WG

8.4 DAIRY CATTLE MILK RECORDING WORKING GROUP (DCMR WG)

The WG focused its attention on the finalization of the ICAR Guidelines – Section 2. It has monitored global developments in the procedures for calculation of 24-hour yields.

Priority for 2018 is finalization of the 24-hour calculations project and resulting improvements in the Guidelines.

Attention is also being given to incorporating results from the plausibility checks projects and exploring connections between milk yields and health traits and the new technologies.



DNA WG

8.5 DNA WORKING GROUP

In these last months, the DNA WG has finalized a draft revision of the ICAR Guidelines for Parentage Verification and Parentage Discovery Based on SNP Genotypes. In collaboration with CDN, it has been developed a software, named Cuckoo, to generate unique data files for each applicant to process in order to receive ICAR accreditation as a DNA Data Interpretation Centre. It also prepared a comprehensive applicant's guide for obtaining ICAR Parentage Analysis Accreditation and facilitate the soft launch of the accreditation service, for which the first official certificate was issued on January 15, 2018.

In collaboration with Interbull SC, the DNA WG participated in discussions and planning for a proposed new service of the Interbull Centre for the exchange of Genetic Trait results and reviewed the Genetic Disease and Traits Definitions booklet (42 pages) prepared by Irish Cattle Breeding Federation (ICBF) and supported it being posted widely by ICAR.

In 2017, the group conducted the 2017 annual ICAR accreditation of genotyping laboratories (14 applicants) which includes reporting their activities related to SNP- and microsatellite-based parentage verification services. For the Guidelines a comprehensive review and update of Section 4 of the ICAR Guidelines on DNA Technology have been prepared. In doing so, the most significant change was to separate and distinctly outline the ICAR accreditation of genotyping laboratories versus the new ICAR accreditation of DNA Data Interpretation Centres for providing parentage analysis services.

The activities planned for 2018 include assisting the Interbull Centre, as needed, in the official introduction of the GenoEx-PSE service and assessing the requirements for expansion of services using the GenoEx platform. The Cuckoo software will be extended to generate unique data files for parentage discovery and in association with completion of this work the accreditation service to DNA Data Interpretation Centres will be extended to SNP-based parentage discovery.



Feed and GAS WG

8.6 FEED AND GAS WORKING GROUP

Methagene Cost Action has been concluded and it delivered inputs to write guidelines for recording individual methane emissions and this is one of the main actions of the WG since Edinburgh. Also, protocols from partners to develop guidelines for recording individual feed intake were collected and presented. In collaboration with a small group of partners using a virtual computing centre, the



WG also developed a business plan to calculate genomic EBVs for feed intake using shared data. A database developed in Canadian feed efficiency project was supported.

The priority of the WG is to progress the development of guidelines, participate in research initiatives and finalise plans for EBV computations using shared research data.

FT WG

8.7 FUNCTIONAL TRAITS WORKING GROUP (FT WG)

The main achievements in 2017 of the WG have been: the production of a review paper on claw health, the preparation of draft ICAR Guidelines on Claw health and Udder health.

These activities will be finalized in 2018 and others to be added will include cooperation with IDF on welfare, updating of the existing Guidelines, and the monitoring of recent developments and screening of material related to functional traits in the context of automation and advanced laboratory analyses (sensor, milk MIR spectral data,...). Guidelines on metabolic disorders are also to be finalized during the 2018.



Interbeef WG

8.8 INTERBEEF WORKING GROUP

The implementation of new calving evaluations (calving & birth weight, direct & maternal) has been one of the major achievements of the WG in 2017. The research, successfully undertaken, by research partner (CZK) and implemented at the Interbull Centre is also a major task of the WG in 2017 while the implementation of new rules for maternal weaning weight and maternal calving are part of the activities initiated in 2017.

The Interbeef international genetic evaluation processes update to ISO 9001:2015 was undertaken and a survey to establish interest and readiness to expand Interbeef service were completed. The survey was proposing Interbeef to monitor more breeds (i.e., Angus and Hereford), sharing of genotypes for international evaluations through IDEA and GenoEx and the recording of genetic defects (through IDEA).

The aims for 2018 include new routine evaluations for female fertility. For this reason, current research work in female fertility evaluations (being



Sheep, Goats, Camelids
WG

undertaken by DEU) will be moved from research environment to routine evaluations. Test proofs will be achieved later this year while official implementation is targeted for Jan 2019. Interbeef will also complete the activity on the use of cross-bred data in the Interbeef evaluations and test proofs are planned by the end of this year while official implementation is targeted for Jan 2019.

Data call and genetic parameter estimation for new breeds (Angus and Hereford) will be undertaken together with the building of a system for routine parameter estimation as new countries/breeds start to participate within Interbeef. The procedures to facilitate the optimal integration of Interbeef EBV's within National evaluations are expected to be produced soon and a pilot project to share information on genotypes through IDEA and potentially genotypes through GenoEx are in the pipeline in order to expand Interbeef service to new members.

8.9 SHEEP, GOATS AND SMALL CAMELIDS WORKING GROUP

The WG finalized the updating of the goat Guidelines with inclusion of new recording methods and validated the new-style Guidelines. A survey on meat and reproduction recording in sheep and goat was launched and results discussed among the members of the WG.

In the light of the survey, the replies will be analyzed and form the basis of guidelines, dealing with meat production and maternal traits. The first version of the guidelines on meat, reproduction and maternal traits will be drafted and a first text of the Guidelines for non-merino wool will be provided.



ICAR and SMARTER EU Project

8.9.1 ICAR AMONG THE PARTNER IN THE EU FUNDED PROJECT "SMARTER"

ICAR is among the partners of the EU funded project called SMARTER whose kick-off meeting is expected to be in November 2018. The supervision of the package in which ICAR is involved will be managed by **Jean-Michel Astruc**, Chair of the Sheep, Goats and small Camelids Working Group.

SMARTER will use new and collaborative strategies to improve resilience and efficiency (R&E) of the sheep and goat sectors at the animal (A), population/breed (P) and system/farm (S) levels. The overall goal of SMARTER is

- to phenotypically and genetically characterise and understand novel R&E related traits;
- to improve and develop new genomic prediction techniques, and
- to establish new breeding and management strategies that include those novel R&E related traits according to their importance and relevance to various systems, breeds and environments.

ICAR will be among the partners responsible for the dissemination and in the WP6 ICAR will contribute to faster genetic gain for R&E through improved international cooperation by:

- formalising the harmonised recording of phenotypes and genotypes and an international pedigree file;
- generating international genetic and genomic evaluations for a selection of R&E related traits;
- establish the necessary structures and procedures to facilitate cooperation in international evaluations;
- analyse the cost-benefit of international genetic/genomic evaluations and cooperation including sensitivity analyses.

A first informal meeting has been held in Auckland (NZ) last February during the ICAR/WCGULP Conference



Pictures of the informal meeting held in Auckland of the SMARTER Project

PPT, Abstracts and pics from Auckland

9. PRESENTATIONS, ABSTRACTS AND PICTURES FROM ICAR 2018 AUCKLAND CONFERENCE

The Secretariat reminds that all the PPT files and abstracts of the presentations held in the 2018 Conference in Auckland are freely available for downloading in the [ICAR web site here](#). The Proceedings of the Conference are expected to be finalised by June 2018.

Hans Wilmink retirement

10.0 RETIREMENT OF HANS WILMINK CELEBRATED IN WAGENINGEN

March 29th has been the last working day for Hans Wilmink who celebrated his retirement in Wageningen. Hans, the previous ICAR President from 2014 to 2017 and also Board member since 2011 to 2018, celebrated the event also with some of ICAR Board Members who represented the ICAR community. To Hans go all the acknowledgments and respect of the whole ICAR members and staff !!

A new ICAR accreditation

11.0 A NEW ICAR ACCREDITATION: THE PARENTAGE VERIFICATION AND PARENTAGE DISCOVERY BASED ON SNP GENOTYPES

ICAR is pleased to announce and officially release its new "Accreditation service for DNA Data Interpretation Centres", whose web page is available [here](#). This new accreditation service allows organisations wishing to carry out SNP-based parentage analysis services to be accredited by an independent third party (ICAR). Organisations wishing to be a service user of GenoEx-PSE (due for release in June 2018), must first receive the ICAR Accreditation for DNA Data Interpretation Centres. To now, four laboratories have already granted this accreditation

- Qualitas AG, Switzerland
- ANARB, Associazione Nazionale Allevatori Razza Bruna, Italy
- ANAFI, Associazione Nazionale Allevatori Frisone Italiana, Italy
- VIT, Vereinigte Informationssysteme Tierhaltung w.V., Germany

The page collects the files and the abstracts of the presentations at the ICAR Conference held in Auckland on 7-11 February 2018

ICAR Plenary: ICAR Global Guidelines
Feb 10, 2018 (11:00 AM-12:30 PM)

The importance of farm systems thinking in animal recording Bruce Thorold	PPT	Abstract
Increasing dairy farm profitability in a changing world of herd demographics Robert Fourdraine	PPT	Abstract
International beef breeding: Challenges and Opportunities Andrew Cromie	PPT	Abstract
France Génétique Elevage management quality system: an example of multi companies system, to serve a community of organizations, based on ISO 9001 standard Laurent Journeau	PPT	Abstract
ICAR and sensor devices – a progress report on the development of ICAR guidelines for certification, routine maintenance/calibration and data usability standards for sensor devices for livestock Steven Sievert	PPT	Abstract



Hans Wilmink receiving the congratulations for his retirement from the ICAR community represented by Bianca Lind (extreme left), Niels Henning Nielsen, Frido Hamoen, Jay Mattison and Martin Burke (extreme right)

ICAR in 2019

12.0 ICAR CONFERENCE IN 2019

The ICAR 2019 Annual Conference will be organised in Prague by the Českomoravská Společnost Chovatelů, a.s. (Czech Moravian Breeder's Corporation Inc), one of the three ICAR Member in the Czech Republic. The conference will be organised jointly with IDF on 19-21 June 2019, while the IDF will be organised from 21 to 25 June.

The web site has been already launched (www.icar2019.cz) and more information will be distributed by specific email alerts and specific informative Newsletters.

ICAR & IDF/ISO
CONFERENCE ANALYTICAL WEEK
2019 PRAGUE
CZECH REPUBLIC

ICAR 2019 17 - 21 June
IDF/ISO 2019 21 - 25 June

D H M S
423 : 17 : 16 : 16

SCIENTIFIC PROGRAMME ABSTRACTS REGISTRATION ACCOMMODATION SPONSORSHIP GENERAL INFORMATION

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ABSTRACTS MORE

REGISTRATION MORE

SPONSORSHIP AND EXHIBITION MORE

Welcome at the ICAR & IDF/ISO 2019 website!

PRAGUE

