



# **ICAR activities for Animal ID standardization**

**Key Principles of Creation of National  
Systems of Identification and Traceability of  
Farm Livestock**

**Kaivo Ilves, Hans Wilmink**



# What is ICAR?

- ▶ **ICAR (International Committee for Animal Recording) is the World-Wide Organization for the Standardization of Animal Identification, Recording and Genetic Evaluation.**





# Field ICAR is working

## Activities:

- ▶ Identification
- ▶ Performanc recording (quantity and quality)
- ▶ Genetic Evaluation (Interbull)

## Species:

- ▶ Dairy cattle
- ▶ Beef cattle
- ▶ Sheep
- ▶ Goats
- ▶ Buffalo
- ▶ Alpaca



# Who are ICAR members

- ▶ Associations and cooperatives.
  - ▶ Government institutions serving farmers.
  - ▶ Institutes.
  - ▶ Breeders' Associations.
  - ▶ Manufacturers.
  - ▶ How to apply:
    - [http://www.icar.org/pages/how\\_to\\_apply.htm](http://www.icar.org/pages/how_to_apply.htm)
- ICAR activities for Animal ID standardization



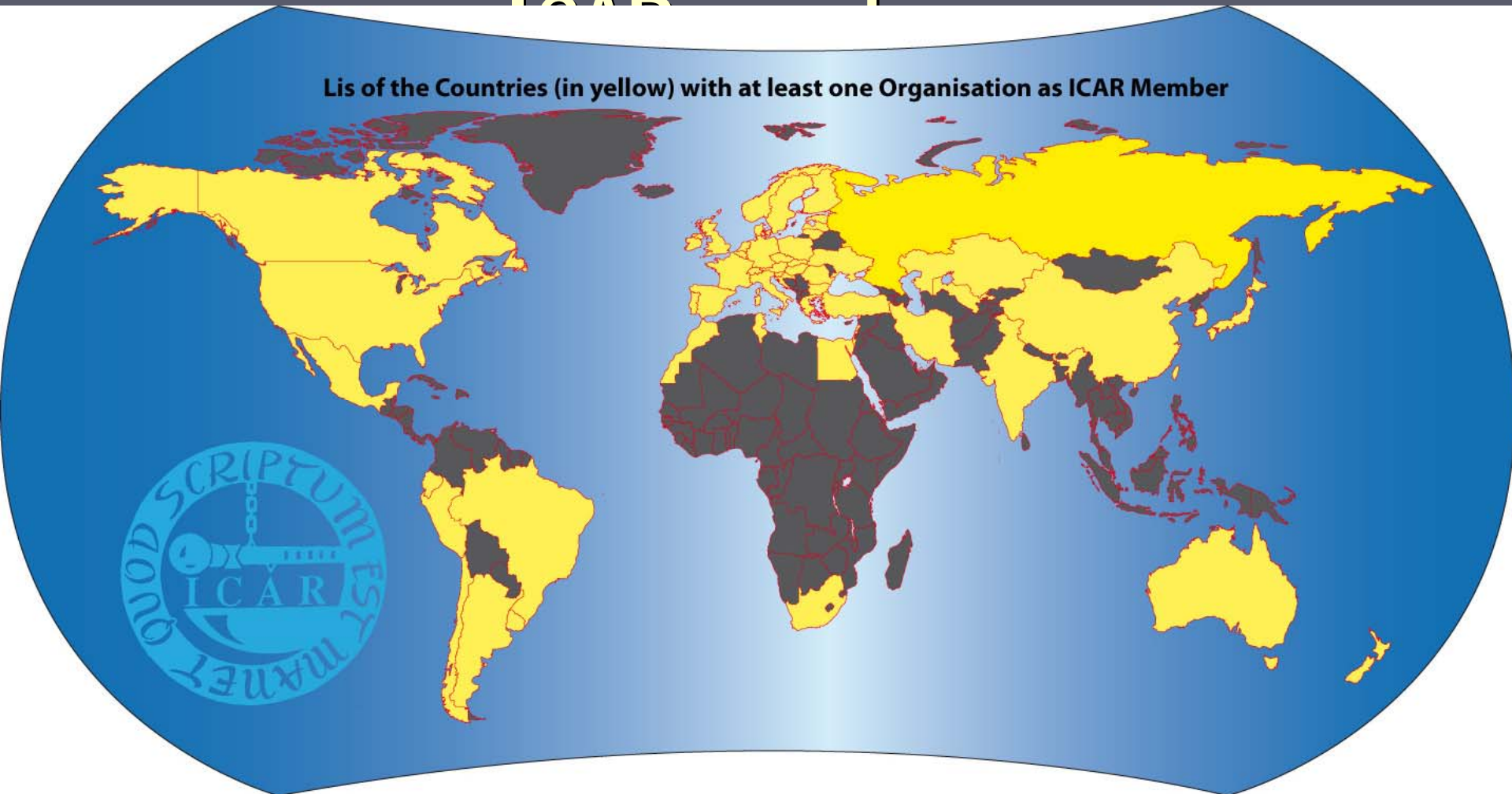
# ICAR today

- ✓ 57 countries
- ✓ 106 members: 75 full members and 31 associated members
- ✓ 4 ICAR Sub-Committees
- ✓ 12 Working groups
- ✓ More than 100 technicians work voluntarily for ICAR
- ✓ ICAR office located in Rome, 7 persons working in office.



# ICAR

**List of the Countries (in yellow) with at least one Organisation as ICAR Member**





# Different levels of regulations on ID

- ▶ **International (minimum requirements)**
  - ICAR Guidelines
  - ISO standards if relevant
- ▶ **Local (specific)**
  - Regional (EU member)
  - Local (country specific)



# International organizations

- ICAR (International Committee for Animal Identification)
- ISO (International Organization for Standardization)
- FAO (Food and Agriculture Organization of the United Nations)
- OIE (World Organisation for Animal Health)
- ...





# ISO

- ▶ **International Organization for Standardization.**
- ▶ **More than 150 members.**
- ▶ **More than 19 500 international standards.**
- ▶ **Standards for electronic animal identification.**





# ISO standards ...

- ▶ **For electronic identification ISO:**
  - 11784: code structure
  - 11785: technical concept
  - 24631: testing of animal identification devices
  - 15639: injections sites
  - 14223: advanced transponders
  
- ▶ **Standards are not free!**



# ICAR

- ▶ Developing international guidelines for livestock industry (incl. animal identification).
- ▶ Registration authority of ISO for electronic identification devices.
- ▶ Certifies animal identification devices.





# The aim of ICAR

- ▶ Provide tests and certify ID-devices to benefit users (farmers, service providers and authorities).
- ▶ To standardize requirements internationally.
- ▶ Save costs for developing local standards.
- ▶ Save costs for testing products (authority/manufacturers).



# ICAR Guidelines

- ▶ Principles of animal identification.
- ▶ Testing of conventional tags.
- ▶ Testing of RFID devices (dublication of 24631).
- ▶ Tag composition and enviromental testing of RFID devices (2015).
- ▶ ICAR Guidelines are free: [www.icar.org](http://www.icar.org)



# ICAR basic rules

- ▶ **Animal ID official if possible and unique.**
- ▶ **Must not be reused.**
- ▶ **Visible.**
- ▶ **Device should be attached to the animal.**
- ▶ **In case of ID loss re-identification with original number or cross reference.**
- ▶ **In case of export/import – if possible keep the origin identity or link.**



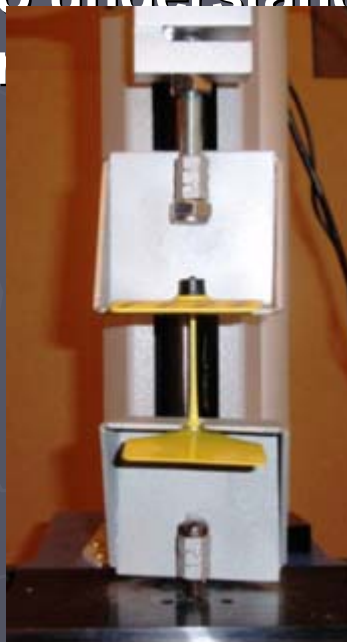
# Test laboratories

- ICAR has cooperation with 4 test centres:
- Conventional tags by ICAR Guidelines:
- RYK (Denmark) – preliminary assesment
- CETIM (France) – laboratory test
- DLG (Germany) – laboratory test
- RFID tags by ISO 24631-1 and ISO24631-3:
- DLG (Germany)
- IMA-Wageningen (Netherland)



# Preliminary test of conventional tags

- ▶ Quick and cheap test to understand if procedure is suitable for animal identification, tagging, and branding.







# Laboratory test of conventional tags

- More specific, time-consuming and more expensive test to certify the product.
- Tests:
- Chemical analyses of plastic composition
- Artificial ageing (simulation of 7-10 years outdoor use in continental climate).
- Breaking force (tensile test at  $-25^{\circ}$  C,  $+21^{\circ}$  C and  $+55^{\circ}$  C).
- Visual and machine readability.

## Welcome to the ICAR web site

- Homepage
- ICAR Facts >>
- Technical Bodies >>
- Services >>
- ICAR Approvals >>
- Publications & Technical Materials >>
- ICAR Meetings & News >>
- What's new
- Search within the site
- ICAR discussion Forum

DNA Accredited Labs

Recording Devices &gt;&gt;

Animal Identification &gt;&gt;

Milk Analysis &gt;&gt;

Sub-Committee

Manufacturers' Codes

Manufacturer addresses

Code of conduct

Application for testing

Synchronising transceivers

Non-Synchronising transceivers

Permanent Plastic Eartags

Prevention of misuse of ID device

- International Committee for Animal Recording
- Comité International pour le Contrôle des Performances en Élevage
- Internationales Komitee für Leistungsprüfungen in der Tierproduktion
- 國際畜政聯盟

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## Highlights

- Interbeef 2014 - How to join Interbeef
- ICAR News - Application for testing
- Santiago 2014 - Synchronising transceivers
- Santiago 2014 - Non-Synchronising transceivers
- IDF/ICAR - Permanent Plastic Eartags
- IDF/ICAR - Prevention of misuse of ID device

## Future Meetings

- [ICAR 39th Biennial Session 2014](#). Berlin, Germany 19-23 May 2014.
- [ICAR Technical Meeting 2015](#). Krakow, Poland 10-12 June 2015

## Previous Meetings

- ICAR Technical Workshop 2013 and Health Data Conference Aarhus, Denmark (29-31 May 2013)
  - [Presentations as PDF](#)
  - [Pictures](#)
- 38<sup>th</sup> ICAR Session. Cork, Ireland (28 May-1 June 2012)
  - [Manuscripts, Videos and Presentations of the 38th Session](#)
  - [Pictures taken during Cork 38th ICAR Session](#)

e on-line databases

- "The yearly cow milk production and milk quality in the EU"
- "The yearly sheep milk production and milk quality in the EU"

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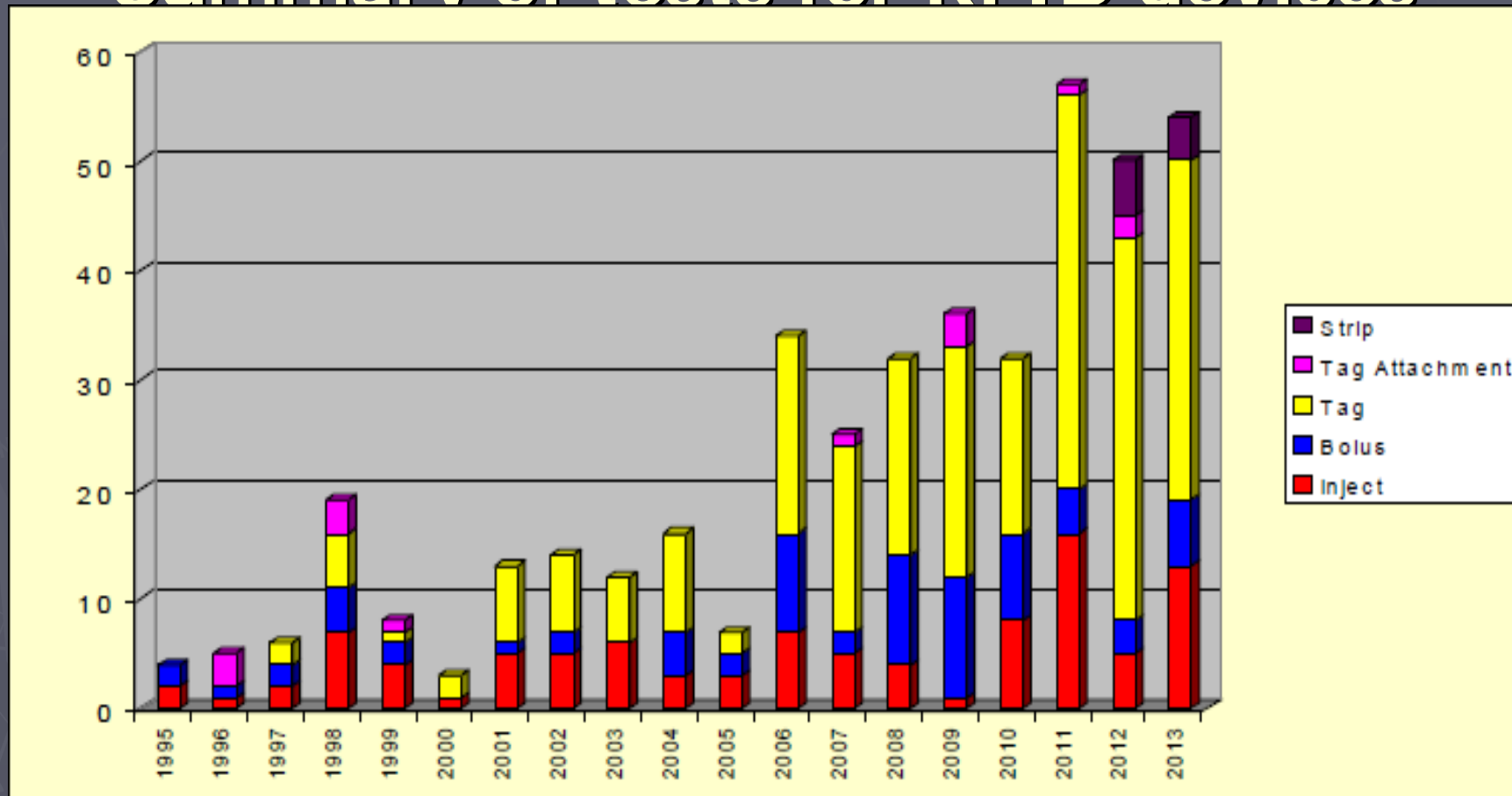


# Test of RFID devices

- ▶ Only LF (low frequencies) devices and only electronics is tested today:
- ▶ Conformance test by ISO 24631-1.
  - Readability, code structure is correct
- ▶ Performance test by ISO 24631-3.
  - Transponder minimum activating field strength (energy needed).
  - Transponder modulation amplitude (strength of the transponder signal).
  - FDX – bit length stability, HDX – frequency stability.



# Summary of tests for RFID devices





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Form to report misuse of ID device

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ICAR

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- ICAR News - [ICAR News](#)
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- soon) - [soon\)](#)
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The on-line databases on:

- "The yearly cow milk enquiry" and
- "The yearly sheep milk enquiry" are now available.

ICAR is an International Non Governmental non-profit Organisation (INGO) originally registered in Paris, France, according to the French Association Law of 1 July 1901. Actually ICAR is registered in Italy on 26/11/2008 (Ufficio Entrate di Roma 5, numero 17597, serie 1T) with Italian Fiscal Code 97237980582



## Future (2015)

- ▶ **Device composition and environmental performance tests for RFID tags:**
  - To test if the tag is suitable for animal identification (similar to the test of conventional tags).
  - To test if electronic part of the tag is suitable for specific applications in different environmental conditions.

► Б л а г о д а р ю з а  
в н и м а н и е !

[www.jkkeskus.ee](http://www.jkkeskus.ee)



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