



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

Network. Guidelines. Certification.

ICAR member needs regarding use of robot and sensor data

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Introduction

- ICAR has a long history in providing certification of devices and guidelines for the recording of quality animal data
- For official milk recording, data is collected with ICAR certified milk meters and samplers
- The recording of animal data by all kind of devices is rapidly expanding
- Farmers have invested in robot or sensor devices and ask ICAR members to use data for services like milk recording
- Getting access to this data and being able to include this data in existing or new services is challenging



Outcome member survey



Survey among members

- Among 13 ICAR full members
- By video meetings
- During March through May 2022
- Participants from Europe, Northern America and Oceania



Questions of survey to members

1. Services offered?
2. Use of robot data?
3. Flagging and restriction on use of robot or sensor data?
4. Data they want to use as members?
5. Hurdles in using robot or sensor data?
6. What do you want from ICAR?



Response on use of robot and sensor data - 1

- All collect milk yields from robot devices
- Some collect other data like fat and protein percentage, somatic cell count, milking speed and teat coordinates
- Milk yields from robot are used by all to calculate yield at the day of milk recording and by some to calculate lactation yields
- Besides milk yield, no other data measured by robots or sensors are used for other official services like milk recording etc.

Response on use of robot and sensor data - 2

- Some investigate to include milking speed data from robots in the genetic evaluation
- Daily yields, heat alerts and other sensor alerts or data are used by some members for management reporting
- Many members consider implementation of ICAR ADE/iDDEN standards



Reasons for not using robot or sensor data

- lack of standardisation of output across manufacturers
- lack of access to data
- quality and accuracy of data
- lack of ICAR certification
- unknown source of data (device)



Robot/sensor data members would like to use

- components (fat and protein)
 - known accuracy of the components measured
 - frequent calibration of the device
 - for milk recording and also for the genetic evaluation
- milking time, milking speed, box time
- body weight
- body condition
- activity data
- rumination data

Member needs for use of robot and sensor data

- ICAR certification is important to maintain the quality of data, especially for use in the genetic evaluation
- Guidelines for use of the data, based on best practices
- Standardisation of definition and measurement of traits across manufacturers
- For devices that do not meet ICAR certification criteria, members are interested in some ICAR approval, provided that:
 1. accuracy level is known
 2. source of the data is known
 3. required accuracy of data for specific purposes is known
 4. manufacturers provide information about proper use, maintenance and calibration of the device
 5. definition/measurement of trait is standardized across manufacturers



Outcome manufacturer survey



Survey among manufacturers

- Among 4 manufacturers/ associate members
- By video meetings
- During April and May 2022



GEA Farm Technologies



Questions of survey to manufacturers

1. Services/products offered?
2. Devices they would like to be certified by ICAR?
3. What is value for your company of ICAR certification?
4. Value of certification of sensor devices or robot traits?



Response of manufacturers to survey

Value of current ICAR certification is high

- market access, use of data in milk recording or genetic evaluation, proven ability to generate quality data

Value of ICAR approval of sensor or robot devices

- not convinced there is value in it. What is value for farmers? For who is the benefit of ICAR approval?
- balance needed between costs and benefits
- generally designed and developed for herd management. Not targeted for ICAR certification
- approval of lower accurate devices would dilute value of current certification



Summary

ICAR member needs regarding use of robot and sensor data

- Guidelines for use of the data, based on best practices
- Standardisation of definition and measurement of traits across manufacturers
- Known data source (ADE standards), to take into account differences in accuracy between devices
- Value of ICAR certification is high for both full members and manufacturers.
- Value of ICAR approval of sensor or robot devices is dependent on value for farmer and cost-benefit balance



Thanks for your attention!

