



THE GLOBAL STANDARD  
FOR LIVESTOCK DATA

Network. Guidelines. Certification.

# ICAR SUSTAINABILITY RECORDING TRAITS



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CDCB Industry Meeting, October 4, 2023



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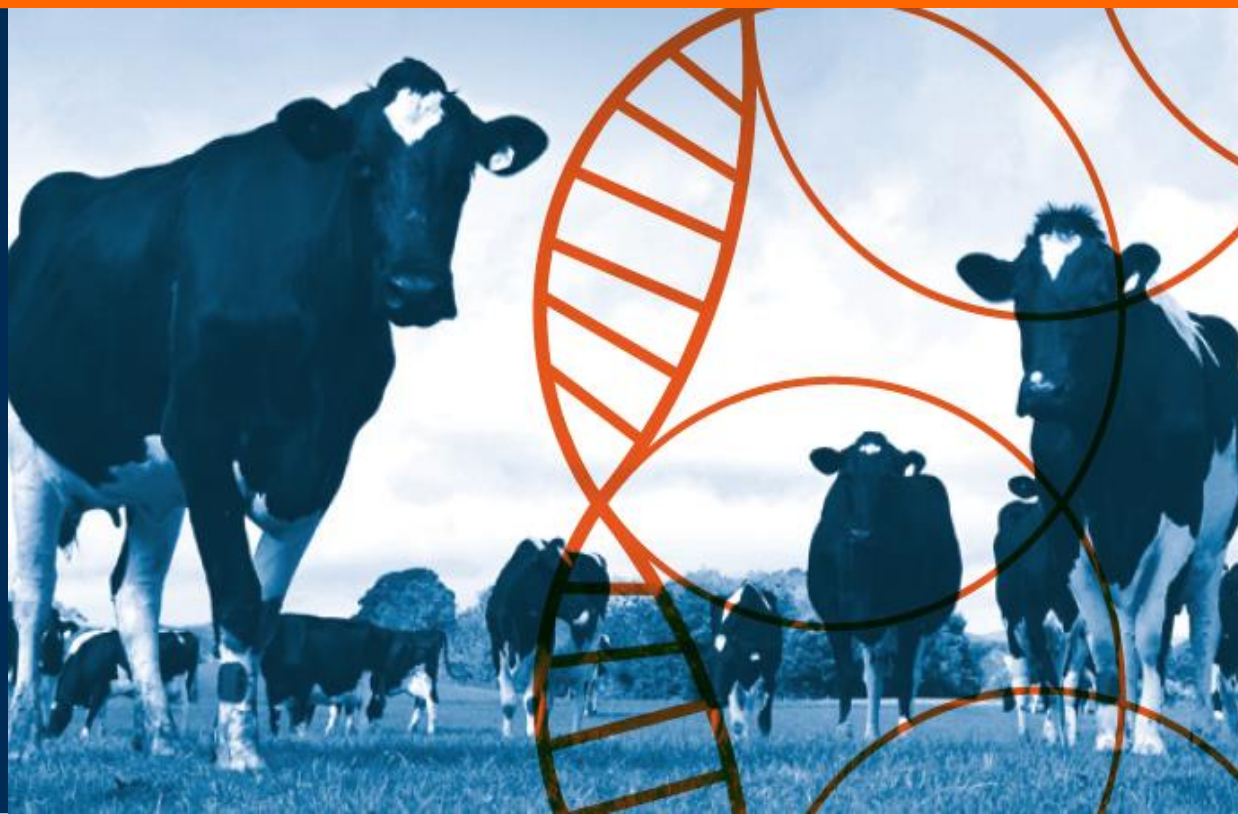
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# CONTENT

ICAR Values

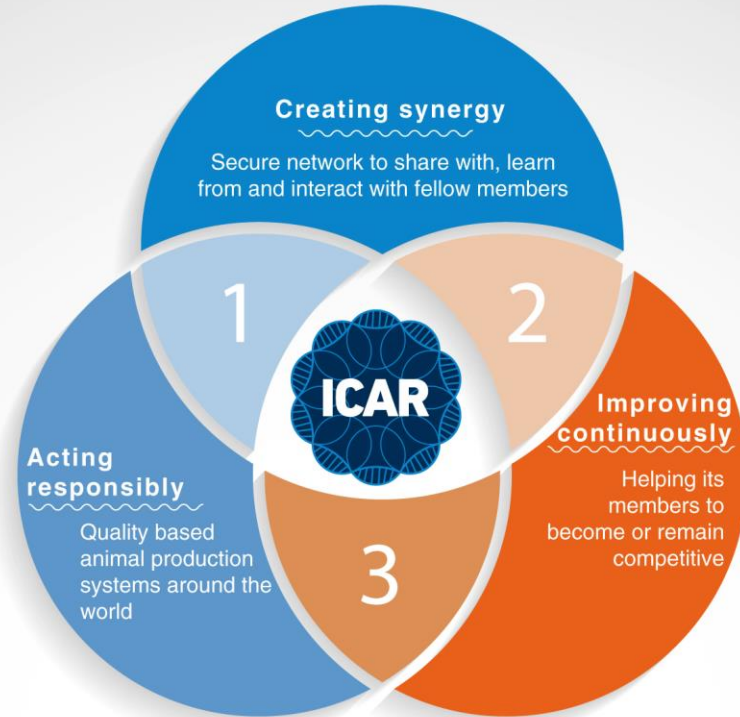
ICAR in Facts

Sustainability traits



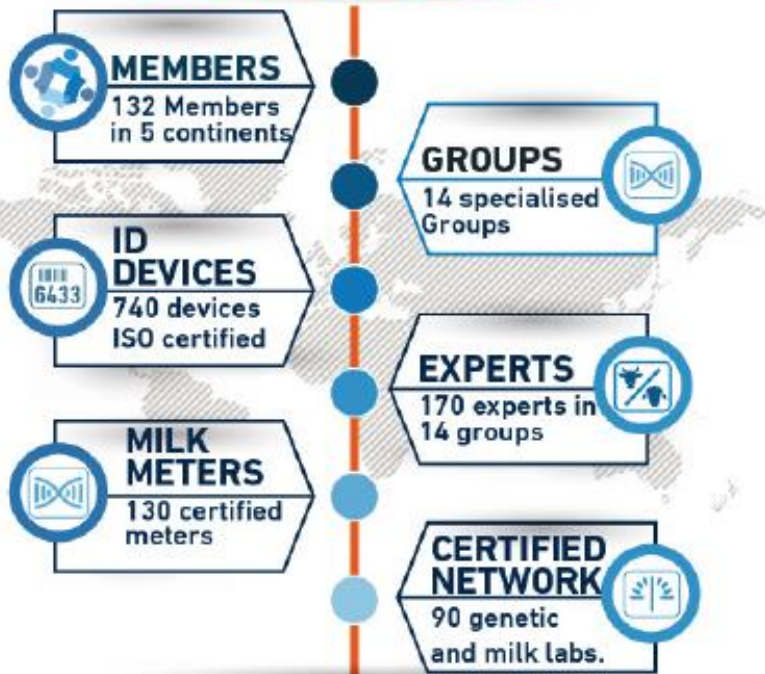
# ICAR's Beliefs and Values

The keys to the success of ICAR



Mission of ICAR is to be the leading global Provider of Guidelines, Standards and Certification for Animal Identification, Animal Recording and Animal Evaluation.

## ICAR in facts



### ICAR | HISTORY

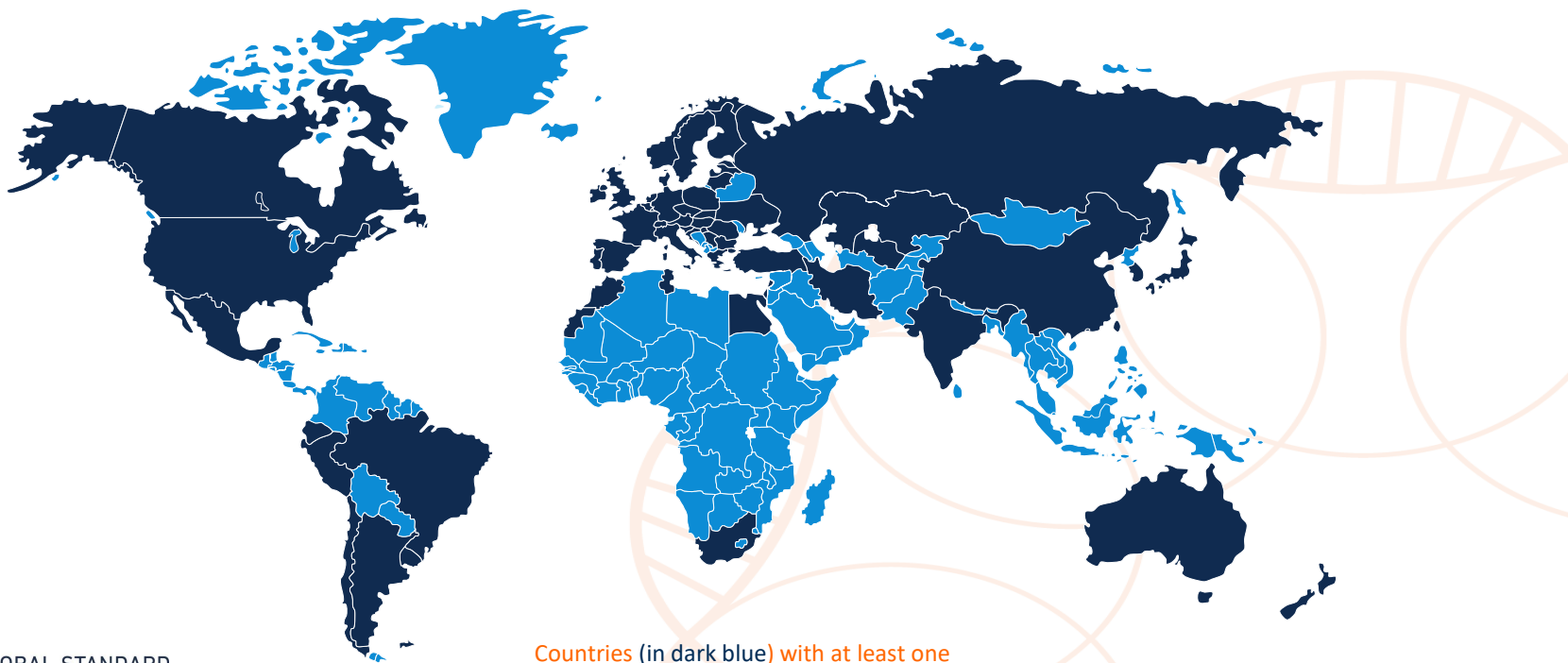
- The International Committee for Animal Recording
- An International Non-Governmental Organisation
- Formed on March 09<sup>th</sup>, 1951 – Rome – Italy
- Since 2007, ICAR is the Registration Authority for ISO in respect to ID devices conforming to ISO Standards 11784 / 11785.

### ICAR | ACTING RESPONSIBLE

- ICAR wants to contribute to a sustainable food chain, while keeping in mind what is beneficial to the open markets long term.
- ICAR believes that an unbiased scientific approach provides the right fundamental framework for these common systems.

# ICAR'S MEMBERS AROUND THE WORLD

ICAR has 132 members (85 Full members + 47 Associate members) in 55 countries



Countries (in dark blue) with at least one organisation as ICAR Member | as of June 2023



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# ICAR'S CORE PRODUCTS AND SERVICES

- Guidelines
- Certification Services
- Evaluation Services
- Seminars and workshops



ANIMAL  
IDENTIFICATION



ANIMAL  
RECORDING



ANIMAL  
EVALUATION



ANIMAL DATA  
MANAGEMENT



# DEFINITION OF SUSTAINABLE AGRICULTURE

“Sustainable agriculture is the efficient, long-term production of safe, high-quality agricultural product, in a way that protects and improves the natural environment, the social and economic conditions of the farmers, their employees and local communities, and safeguards the health and welfare of all farmed species.”

Definition Reference: <https://saiplatform.org/>

SAI Platform – Sustainable Agriculture Initiative Platform

SAI Platform is an organisation created by the food industry to communicate and to actively support the development of sustainable agriculture involving stakeholders of the food chain.



# FOCUS FOR THE ICAR SUSTAINABILITY LIST

## RECORDING TRAITS THAT MAKE UP SUSTAINABILITY INDICES

- ICAR's role is not to standardise the make-up of Sustainability Indices.
- The weight of the various traits is a matter for the members/countries themselves to decide.

## ICAR'S ROLE

- Identify the key traits in recording that effect sustainability
- Provide definitions of these key traits
- Harmonize measurement methods of these key traits



# DEFINITION OF TRAITS BASICS

## REFLECTS DATA COLLECTED OVER A 365-DAY PERIOD IN ONE HERD

- Geography
- Seasonal calving
- Environmental impact as it relates to weather
- Herd size fluctuations

## CONSIDERATIONS FOR:

- Snapshot data (for example test day average days in milk) vs.
- 365 day counts and percentages (for example % cows culled less than 60 days in milk)



# APPROACH

## FOR TEST DAY SNAPSHOT DATA

- Use weighted test day averages to calculate an annual number
- Use all test days in the past 365 days

## 365 DAY COUNTS AND PERCENTAGES

- Address 365-day window population to consider counting
- Cows died within first 60 days in milk
  - Calving dates  $<$  last test date - 60 days
  - Calving dates  $\geq$  last test date - (365+60) days



# ICAR LIST OF SUSTAINABILITY TRAITS

## LIST OF ABOUT 40 TRAITS RELATED TO ANIMAL RECORDING

- Domains with some examples

FEEDING AND PRODUCTION	FERTILITY	HEALTH	LONGEVITY	YOUNG STOCK
Dry Matter Intake	Average Days Open	Average Somatic cell count	Age at culling	Age at first calving
Energy Corrected Milk	Pregnancy Rate	% Cows with lameness	Average Daily Production	% Calves born dead
Methane Emissions	% Cows with fertility disorders	% Cows with mastitis	Average Lifetime Production	% Female young stock involuntary culled



# AVERAGE SOMATIC CELL COUNT EXAMPLE

$$\overline{SCC} = \frac{\sum_{i=1}^n \sum_{j=1}^m ((SCC * \text{milk yield (kg)})_{ij})}{\sum_{i=1}^n \sum_{j=1}^m (\text{milk yield (kg)}_{ij})}$$

- N = number of test days in the past 365 days.
- M = number of cows in the milking herd each test day.

## THE AVERAGE SOMATIC CELL COUNT (SCC) IS CALCULATED IN TWO STEPS:

- Step 1: calculate per test day the average SCC and the number of cows with SCC available.
- Step 2: take the total of all test days of number of cows \* average SCC on each test day and divide this by the sum of all cows on all test days in the past 365 days.



# % COWS CULLED DUE TO LAMENESS EXAMPLE

$$\% \text{ cows culled}_{\text{lameness}} = \frac{\sum_{i=1}^n \text{cows culled}_{\text{lameness}}}{\sum_{i=1}^{365} \sum_{j=1}^m (\text{cows present (dry + producing)}_{ij})} * 100$$

## THE % OF COWS CULLED BECAUSE OF LAMENESS IS CALCULATED AS:

- The number of cows culled in the past 365 days with main culling reason lameness (or other claw health reasons) divided by the average number of cows with at least one calving (dry and producing) present in the past 365 days.
- In case of more than one culling reason, lameness should be at least one of the reasons.



# IMPLEMENTATION

## IMPLEMENTATION OF LIST OF TRAITS IN ICAR GUIDELINES

- Sustainability chapter with definitions and formulas on herd level (continuous review, feedback appreciated)

## LINK WITH INTERNATIONAL PARTNERS AND OTHER ICAR GROUPS

- Engage with international partners like International Dairy Federation (IDF) on sustainability programs
- ICAR group member(s) act as “sustainability” representative

## LIST OF SUSTAINABILITY TRAITS ARE ON ICAR WEBSITE (USE QR-CODE) OR

[HTTPS://WWW.ICAR.ORG/INDEX.PHP/TECHNICAL-BODIES/TASK-FORCES/SUSTAINABILITY-TASK-FORCE/](https://www.icar.org/index.php/technical-bodies/task-forces/sustainability-task-force/)





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# Thank you for your attention!

We acknowledge the contribution of the ICAR sustainability Task Force members:

- Tone Roalkvam (Tine, Norway)
- Robert Fourdraine (Dairy Records Management Systems, USA)
- Birgit Gredler-Grandl (Wageningen University, The Netherlands)
- Christa Egger-Danner (Zuchtdata, Austria)
- Débora Santschi (Lactanet, Canada)
- Fabian Bernal (DeLaval, Sweden)
- Martin Burke and René van der Linde (ICAR)