



# **ICAR's Accuracy Task Force – the reason for its establishment**

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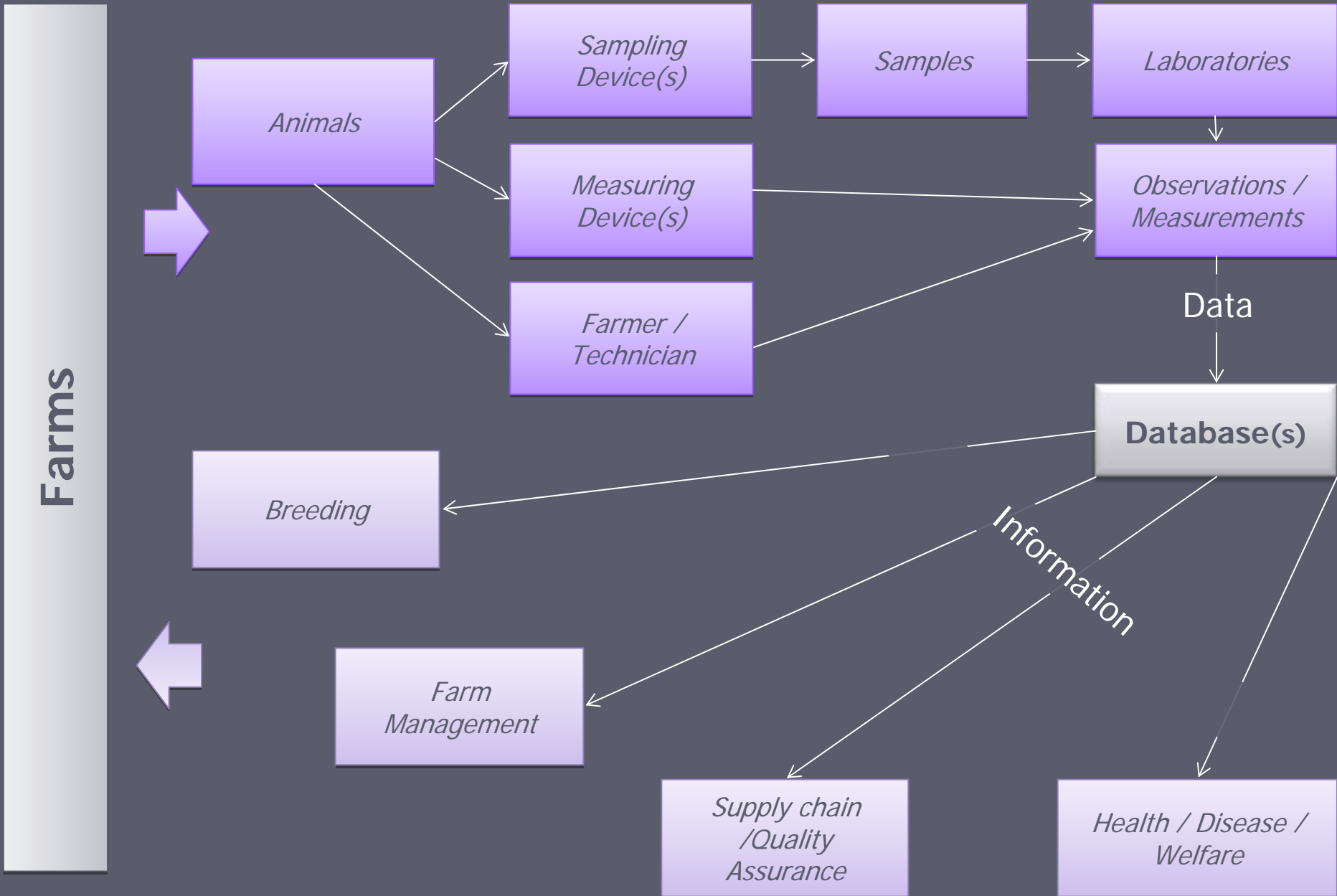
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# Content

- ▶ **What is Accuracy?**
- ▶ **How important is Accuracy to ICAR's Members?**
- ▶ **How important is Accuracy to ICAR's Groups?**
- ▶ **What is expected of the Accuracy Task Force?**





# accuracy

/ˈækjʊərəsi/ 

*noun*

1. the quality or state of being correct or precise.

"we have confidence in the accuracy of the statistics"

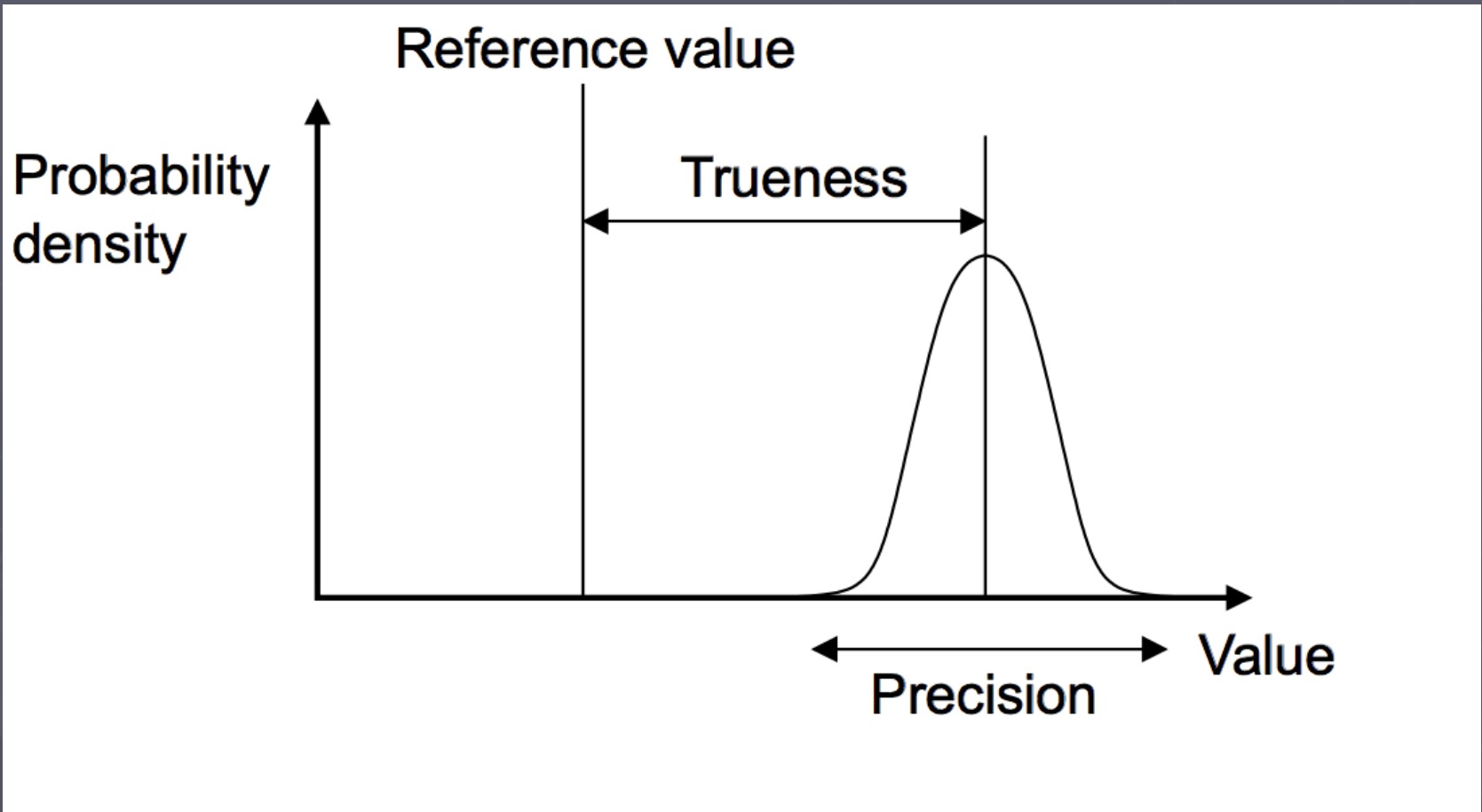
*synonyms:* correctness, **precision**, **exactness**, rightness, **perfection**, **validity**, unambiguousness, **authority**, reliability

"we have confidence in the accuracy of the statistics"

- factuality, literalness, correctness, **fidelity**, **faithfulness**, **exactness**, closeness, **truth**, **truthfulness**, **veracity**, **authenticity**, **realism**, **verisimilitude**, fairness;  
carefulness, **strictness**, conscientiousness, punctiliousness, thoroughness, scrupulousness, **rigour**;  
*rare* veridicality, scrupulosity
  - **precision**, carefulness, meticulousness
- "the accuracy of his description was remarkable"
- "she hit the ball with great accuracy"

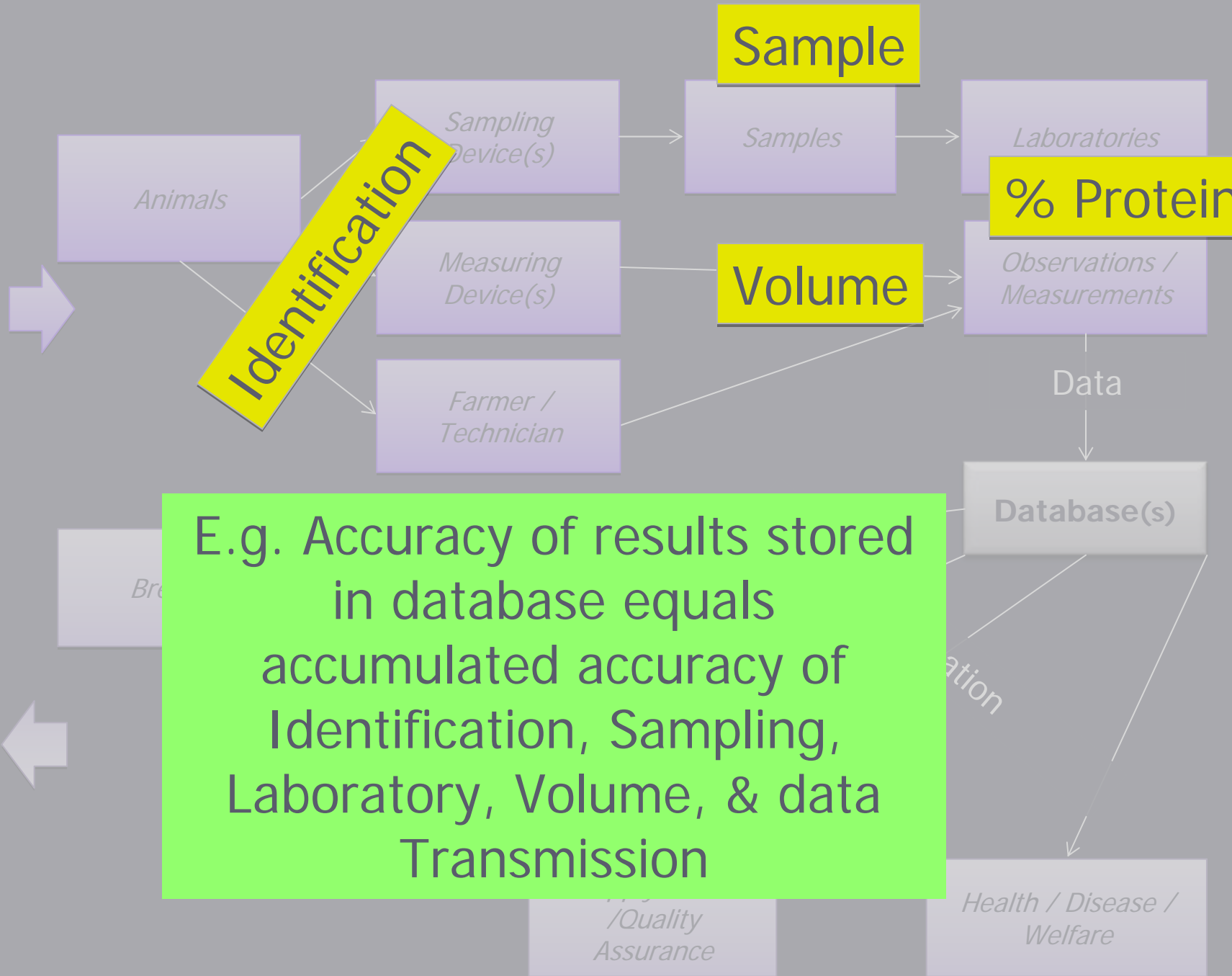


# What is Accuracy?



Accuracy covers "trueness" and "precision"

Farms



Identification

Sample

% Protein

Volume

E.g. Accuracy of results stored in database equals accumulated accuracy of Identification, Sampling, Laboratory, Volume, & data Transmission

Observations / Measurements

Data

Database(s)

Health / Disease / Welfare

/Quality Assurance

Accuracy of Breeding Decision (e.g. selecting sire to breed replacements) equals accumulation of:

1. Accuracy of selection criteria – do they reflect physical and financial environment in which offspring will produce.

2. Accuracy in sources and information used in genetic evaluations of candidates – genomic information, foreign information, old information, ...

3. Accuracy in genetic evaluations – model, missing data, selected data, genetic parameters, ...

4. Accuracy of data in local database.

*Sampling*

*Samples*

*Laboratories*

*ns /  
ents*

*e(s)*

*Supply chain  
/Quality  
Assurance*

*Health / Disease /  
Welfare*



# Accuracy in ICAR Guidelines

No.	Name	Description
1	Measurement precision	A combination of trueness & precision applied to a recording device or testing device.
2	Carryover	Influence of the previous animal on the sample collected, or test result, for the current sample.
3	Official record	A designation given to data, usually milk records, collected in accordance with ICAR guidelines. All other records being "unofficial" by definition.
4	Supervision	A letter designation to indicate the extent of external supervision of data collection - A, B, C.
5	Intervals	A coding system to indicate the interval in weeks between recordings and number per day - 3, 4, 6, 8 ... and 1x, 2x, 3x ..
6	Completeness	The extent to which all animals in a herd or contemporary group have data recorded and available for use in genetic analysis or other statistical summaries.
7	Timeliness	The delay that occurs between an event occurring and data being recorded into a database for later use.
8	Reliability	A measure of the accuracy of a genetic evaluation.





# Accuracy in ICAR Guidelines

No.	Name	Description
9	Availability	The extent to which data is incorporated information that is provided to help in a decision.
10	Evidence data	Data that provides evidence for the accuracy of recorded data.
11	Quality control	Systems, procedures and evidence to ensure accurate data is gathered and included in useful information services to customers.
12	Standardisation	Shared protocols for ensuring comparability of data collected, and information provided, by different organisations in different countries.
13	Transparency	Ready availability of information and statistics which enable outside observers to gain an accurate understanding of all the key factors giving rise to presented information.
14	Certificate of Quality	Evidence that a member adheres the ICAR standards and guidelines.
15	Averaging	Repeated sampling to achieve greater accuracy.
16	Predictive value	Use of easily (cheaply) recorded data to predict data which is hard (expensive) to record.



# Accuracy in ICAR Guidelines

No.	Name	Description
16	Predictive value	Use of easily (cheaply) recorded data to predict data which is hard (expensive) to record.
17	Data editing	Selective use of data to improve accuracy of information, or to reduce the cost of providing information.
18	Use of data	The ways in which the data will be used and the decisions which will be taken based on information which includes the recorded data.



**HOW IMPORTANT IS ACCURACY  
TO ICAR MEMBERS?**



# Importance of Accuracy to ICAR Members

- ▶ Most ICAR members are providing information services for farmer decision making.
- ▶ Farmers want information services that enable accurate decisions.
- ▶ Accuracy is **very very important** to ICAR members.



# Uses of Data by ICAR Members

No.	Name	Use
1	Farm Management	Information services to herd owners which help them made a range of day-to-day management decisions.
2	Genetic Evaluation	Identification, ancestry, performance and genomic data provided for use in genetic evaluations.
3	Breeding Advice	Identification, genetic evaluations, trait data and ancestry used in combination with lists of bulls available through AI to provide individual animal mating advice.
4	Data Collection & Validation	Identification, location, age, sex data used to facilitate data collection and data validation.
5	Industry Statistics	Wide range of summaries for comparative, planning and information purposes.
6	Animal Health	Milk, blood and tissue sample collection facilitated for lab testing and health information provided to herd owner and veterinary advisors to reduce disease risks and costs.
7	Quality Assurance	Movement, calving, disease and other data used to provide milk and meat quality assurance.
8	Research & Development	Wide range of data provided to researchers for wide range of purposes and to support development, calibration and validation of new products.



**HOW IMPORTANT IS ACCURACY  
TO ICAR'S GROUPS?**



# Importance of Accuracy to ICAR'S Groups

1. All Groups involved in standards and guidelines.
2. Accuracy is the main reason for developing standards and guidelines.
3. Groups make decisions that affect both the **accuracy** and **cost** of data collection.
4. Groups make decisions that affect the accuracy of the information used in farmer decisions.
5. Accuracy is **very very important** to ICAR's Groups.



# **WHAT IS EXPECTED OF THE ACCURACY TASK FORCE?**





# EXPECTATION OF ACCURACY TASK FORCE

- 1. Provide a philosophical basis for ICAR and its Groups to use in addressing accuracy considerations.**
- 2. Provide tools which ICAR Groups can use in making accuracy related decisions.**
- 3. Report in June 2015.**



# Conclusions

- ▶ Accuracy is very important to ICAR members.
- ▶ Accuracy is a major consideration for ICAR Groups.
- ▶ ICAR does not currently have a coherent philosophy, and associated tools, for dealing with accuracy considerations.
- ▶ The ICAR Accuracy Task Force is being established to address this deficiency.
- ▶ Please help identify suitable persons for this important strategic issue.