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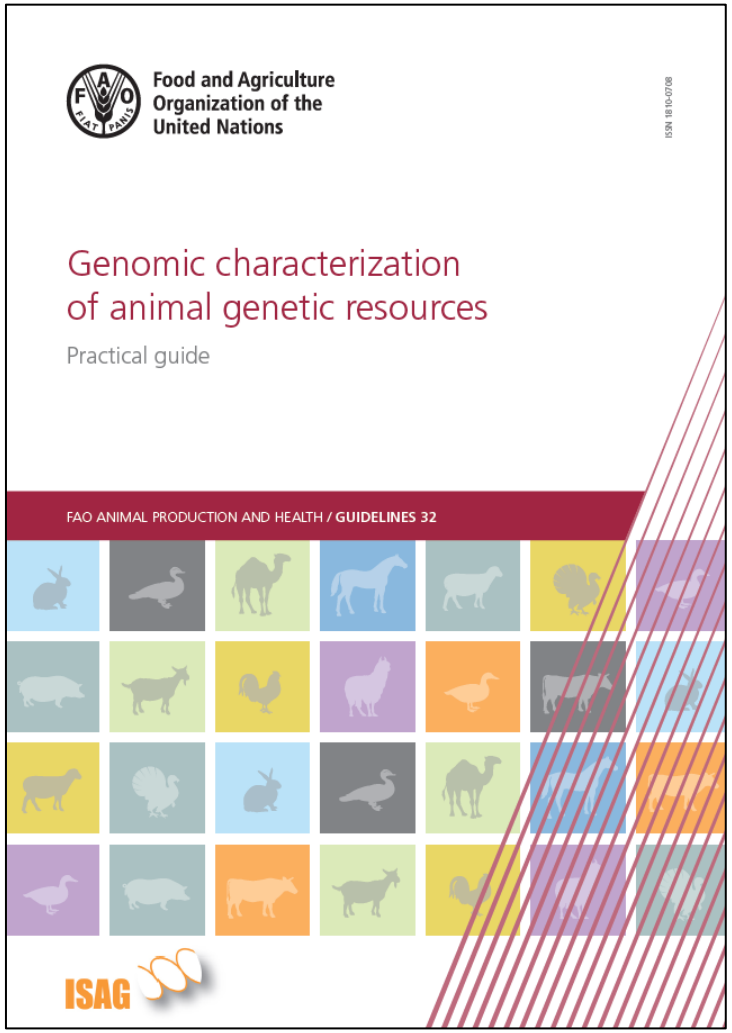
SUSTAINABLE DEVELOPMENT GOALS

Genomic characterization of animal genetic resources

Background

- In 2020 and 2021, FAO prepared the practical guide on *Genomic characterization of animal genetic resources*
  - In close cooperation with members of ISAG
    - editors, authors and reviewers
    - builds on years of cooperation
- Guide was reviewed by ITWG-AnGR and CGRFA
  - Commission requested FAO to build capacity
- This webinar provides an overview of the content
  - Webinars on specialized topics are planned for 2023



Genomic characterization of animal genetic resources

- Management of animal genetic resources (C Looft)
- The basics of genomic diversity studies (P Boettcher)
- Genomic tools and methods (P Ajmone-Marsan)
- Applications: assessment of genetic variation (C Ginja)
- Applications: identification of genomic regions subject to selection (J Kantanen)
- The “Golden trio” and overall recommendations (H Lenstra)
- Questions and answers
  - First priority are questions written in the “chat”, followed by live questions (raise your hand)

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Thank you

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The basics of genomic diversity studies

Prerequisites

Plan ahead:

- Consider the national context for AnGR management
- Know your breeds
- Define clear objectives
- Design the sampling
- Choose the genetic marker technology
- Know the rules

In the field

- Collecting samples
  - material to ensure sufficient quality and quantity
  - sample vials clearly and correctly labelled
- Gathering data
  - sufficient information to fully describe sample
  - complementary data for future analyses and interpretation
    - phenotypes
    - digital photo
    - pedigree

    } animal
    - production system
    - history of animal movement

    } herd



In the laboratory

- DNA extraction
  - key step within lab and for sharing of DNA
  - test-run for any new protocol
- DNA assay
  - quality control
  - duplicate samples
- Data analysis
  - understand theory behind the software

Afterwards

- Publish it
  - let the world know
  - share the credit
  - share the data
- Translate the results
  - apply the data for management of diversity
- International cooperation
  - most livestock species are found in all countries

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Thank you