

Abstract Submission Form

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Preferred presentation

Oral

Preferred session

Session 7: Breeding for agroecological transition in sheep and goats

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Title of your paper

Conformation recording as auxiliary trait for functionality and fitness in dairy goats

Insert ABSTRACT text

One goal in dairy goat breeding is to breed healthy and long-living animals to achieve the desired performance. While many farm animal performances can be measured objectively, such as milk production and daily weight gain, conducting an objective conformation assessment is more complex. In 2016, the International Committee for Animal Recording (ICAR) published the first international standards for the linear appraisal of dairy goats. A working group to review and revise the standards was established in 2022. First, a literature and internet search was carried out on conformation assessment systems for dairy goats that existed worldwide. Ten organizations were identified that carried out a linear description of dairy goats (Austria, Canada, France, Germany, Mexico, Norway, Slovenia, Spain, United Kingdom and USA). All organizations were contacted and asked whether they would like to participate in a working group to revise the ICAR standards. Eight of them take part in the working group. The stakeholders include state institutions, universities and breeding organizations. In two countries, only male animals are described, in two countries males and females are described and in all other countries female animals are described as progeny check for goat bucks. Describing the goats is the responsibility of the goat breeders themselves, employees of the breeding associations or state employees.

The ICAR guidelines include 21 traits in three categories of udder (9), legs (5) and frame (7). The focus of all eight participating organizations is on udder traits. Eight of the ICAR traits are recorded in four countries, seven in two countries and two countries record only two of the ICAR udder traits. Some countries record additional traits such as udder profile/form, rear udder side view or deficiencies like teat thickness or surplus teats. Leg traits are recorded in three to four countries according to the ICAR standards. Further traits are front legs set front view, front legs set side view and feet angle opening. Splayed toes are recorded as a deficiency in one country. The ICAR frame traits are recorded by three to five countries; they are often measured and not described linearly. Additionally, body length and chest circumference are measured in two countries, other traits are chest depth, width of pelvis, withers height and cross height (all measured). One country describes dairyness, which considers length, cleanness and flatness of bone, length and leanness of neck, definition and sharpness of withers, degree of fleshing, femininity and refinement, and fineness and texture of skin (extremes are coarseness and sharpness). A loose shoulder is recorded as a defect in two countries.

A breeding value estimation for conformation traits was developed in five of the eight participating countries. Some of the ICAR traits, like body depth or loin strength show no to low heritability ($h^2 = 0 - 0.12$) while others like fore udder attachment show medium heritabilities in different breeds ($h^2 = 0.23 - 0.30$). In addition, relationships with other traits, in particular length of productive life (LPL), were examined. Udder traits like teat placement or fore udder attachment show genetic correlations from 0.12 to 0.37 to (functional) LPL. Findings from these genetic analyses will be incorporated into the revision of the ICAR traits. The traits recommended by ICAR will therefore provide even better information in the future as auxiliary traits for breeding healthy and long-living dairy goats.

Enter keywords

dairy goats; conformation; linear type traits