

Abstract Submission Form

Title (Mr./Mrs/Dr./Prof.)

Dr.

Presenting author

Pera Herold

Institute

Institute/company: Landesamt für Geoinformation und Landentwicklung Baden-Württemberg

Adress: Stuttgarter Straße 161

ZIP/Postal code: 70806

City: Kornwestheim

Country: Germany

Insert all authors and institutions

P. Herold (1), A. Lange (2), M.-R. Wolber (3), G.M. Seyfang (1) and H. Hamann (1)

(1) Landesamt für Geoinformation und Landentwicklung Baden-Württemberg, Stuttgarter Str. 161, 70806 Kornwestheim, Germany;

(2) Bildungs- und Wissenszentrum Boxberg, Seehöfer Straße 50, 97944 Boxberg, Germany;

(3) University of Hohenheim, Institute of Animal Science (460), 70593 Stuttgart, Germany

Preferred presentation

Oral

Preferred session

Session 7: Breeding for agroecological transition in sheep and goats

Email of corresponding author

pera.herold@lgl.bwl.de

Title of your paper

Breeding dairy goats for organic farming – sustainable and animal-friendly

Insert ABSTRACT text

In Southern Germany, over 80% of agricultural dairy goat farming takes place on organic farms. Professional agricultural dairy goat farming with populations of over 80 to 500 milked goats has increased significantly in recent years. The structures in goat breeding are distinctly less developed than in other livestock species. Reproduction usually takes place seasonally and through natural mating. The economic viability of dairy goat farms is primarily determined by milk production and, in particular, the milk ingredients. Therefore, the breeding goal is lifetime dairy performance (milk, fat and protein yield and fat and protein percentage). An increase in milk yield on organic farms is linked to good forage utilization as well as tolerance to parasites. This places new demands on the breeding goals of dairy goat breeding and is highly consistent with the conceptual breeding goals of an organic breeding program.

In order to address the issue of lifetime performance, continuous milking first had to be examined in more detail. For several years now, an increasing number of goat farms have been milking part of their herd over several years without any lambing in between. An influence of continuous milking on lifetime performance

has been confirmed by various studies of our working group. Based on this, genetic parameters for various traits of lifetime performance (length of productive life (LPL), lifetime efficiency (LEF), milk yield efficiency (EDM)) as well as indirect health traits (fat:protein ratio and urea content in the milk) were estimated. LEF (defined as lifetime milk production (kg)/days of life) with a heritability of 29% appears to be particularly suitable for depicting an animal's lifetime performance. It combines the economically important performance with the adaptation performance and LPL ($r_G = 0.65$). Additionally, a system for linear description of dairy goats was developed in 2013 and since 2018, breeding values for conformation traits are estimated. A breeding value estimation for LPL based on a section model is currently being developed. The next step is to develop a breeding value estimation for LEF.

As a performance test for health traits, a monitoring system for goats (GMON goat) was established in the goat herd manager (ZDV) of the performance testing organisations (LKV) in Bavaria and Baden-Württemberg. It is based on a central health key for dairy goats. The GMON goat is based solely on the observations of goat farmers about animal health and measures taken such as vaccinations, deworming or hoof trimming and not on diagnoses by veterinarians. This is because there are only a few goat farms and the veterinarians usually only look after one or very few goat farms and therefore would not come up with the required number of diagnoses for data validation. Even if the GMON goat is now well accepted, it must be taken into account that the number of farms that use the ZDV is small. By the end of 2023, 716 observations from 11 farms had been entered in Baden-Württemberg and 6,471 observations from 49 farms in Bavaria. The GMON goat is important as information for farmers when it comes to herd management or individual animal selection. The database is currently not sufficient to estimate breeding values.

Goat farming in Germany is a small but growing niche. The work of the breeding value estimation team and the various goat breeding projects support the goat farmers. They also benefit from LKV's services in the areas of milk performance testing and from the ZDV. This helps to ensure that in the area of breeding the goat farmers are well positioned for the future and that genetic gain in the sense of sustainable and animal-friendly breeding is possible.

Enter keywords

dairy goats; breeding; lifetime effectiveness; longevity; health