

# **Book of Abstracts**

**of the 76th Annual Meeting  
of the European Federation of Animal Science**



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# EAAP

## European Federation of Animal Science

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# Book of Abstracts of the 76<sup>th</sup> Annual Meeting of The European Federation of Animal Science

Innsbruck, Austria, 25<sup>st</sup> – 29<sup>th</sup> August , 2025



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## Prepartum high-starch diet enhances colostrum IgG concentration in dairy goats

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This study hypothesizes that feeding a high-starch (HS) diet during the last month of gestation can enhance colostrum yield and composition as well as dam and goat kid metabolism and immune status. Thirty multiparous pregnant Majorera dairy goats were randomly assigned to a prepartum dietary treatment at wk -4 relative to expected parturition. Goats were fed either a control (n=15; 100% DM of starch requirements) or HS (n=15; 134% DM of starch requirements) diet during the last month of gestation. Blood samples were collected on wk -4, -3, -2, and -1 relative to expected parturition, immediately after parturition and on d 1, 2, 3, 5, 10, 15, 30 postpartum. Colostrum yield, chemical composition and IgG concentration and serum metabolites and plasma IgG concentration were determined. Data were analysed using MIXED and ANOVA procedure of SAS (SAS 9.4). The model included the prepartum diet, time, and the interaction between both as fixed effects. The statistical significance was set as  $P \leq 0.05$ . No differences were obtained for colostrum yield and chemical composition, whereas the HS group showed higher colostrum IgG concentration than the control group (i.e.,  $85.4 \pm 8.39$  and  $60.5 \pm 8.30$  mg/mL, respectively). Serum BHB concentration in the HS group increased progressively until parturition, whereas the control group showed a sharply increased from wk -1 to parturition (i.e.,  $0.24 \pm 0.02$  and  $0.29 \pm 0.02$  mmol/L at parturition, respectively). In goat kids, no differences were observed for plasma IgG concentration although the HS group showed an increased serum total protein concentration. The present study indicates that feeding a high-starch diet prepartum does not affect either colostrum yield or chemical composition but increases colostrum IgG concentration and promotes a smoother transition from late pregnancy to early lactation without affecting the metabolic and immune status of goat kids.

## Session 22

## Theatre 3

## Induced lactation in dairy goat

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In a context where kid meat is undervalued, French dairy goat farmers face significant economic, logistical, and ethical challenges. An innovative solution, induced lactation (IL), allows goats to produce milk without gestation, following a dry period. This study identifies the success factors of IL for the first time. An experiment was conducted in South-Eastern France with 162 dairy goats selected from 10 farms. The goats were divided into 2 balanced groups (n=81) based on breed (Alpine, Saanen), parity (primiparous, multiparous), and productivity (low, high): a gestating group (G) and a non-gestating group (NG). NG goats were excluded from reproduction and kept in the same flock as G goats. All goats were dried off in late autumn. After kidding of G goats, farmers manually stimulated the teats of NG goats following a standard protocol for 3 weeks. No hormone treatment was applied. Serum prolactin level, udder thermal and standard images, udder hairiness, udder consistency, and body condition score (BCS) were recorded at five time points: 30 d and 10 d before kidding, 1 d before stimulation, and after 10 d and 21 d of stimulation. The number of NG goats that induced lactation and their milk yield during the 3-week stimulation were recorded. The effect of farm-level and animal-level parameters on the success of IL was tested through logistic regression. The effect of IL on udder parameters and prolactin levels was assessed using mixed ANOVA for repeated measures. After 3 weeks of stimulation, 51% of NG goats began to induce lactation. Breed, parity, productivity, daytime, and prolactin levels had no significant effect ( $P > 0.05$ ) on IL success. On the contrary, NG goats with  $BCS \geq 3$  at the end of the dry period had a higher chance of induction (odds ratio=4.7,  $P=0.003$ ). A similar result was observed in goats with outdoor access during the stimulation period (odds ratio=3.3,  $P=0.023$ ). NG goats that induced lactation had higher teat temperature ( $P < 0.001$ ) and udder width ( $P=0.013$ ) during the dry period. These parameters could be used to identify goats with a higher chance of inducing lactation. The physiological determinants of IL remain to be studied, probably later in lactation when milk production is better induced.