



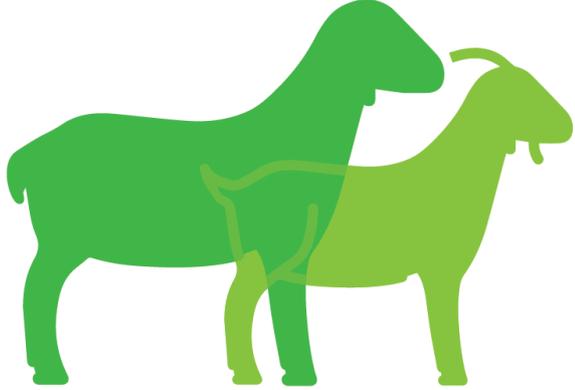
International Congress on the Breeding of Sheep and Goats

*Sheep and Goat Breeding and Husbandry:
Potentials under Socio-Economic Conditions*

World Conference Center Bonn, Germany 15-16 October 2020

Collection of Abstracts

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GenRes Bridge



This special issue has been produced with the support of the Federal Ministry of Food and Agriculture (BMEL), Germany and in the frame of [GenRes Bridge](#), a project which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817580



Vitamin E in the diet of lactating goats: bioavailability and influence on the passive immunity of kids

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Abstract:

A total of 30 male single-birth kids from the Payoya breed were used. During the trial, kids were only fed natural milk without any dietetic complement and remained stabled. Two batches of fifteen animals each were established according to the feeding systems of their dams: cultivated meadow (CM) and total mixed ration (TMR). The immunoregulatory potential of the different forms of vitamin E (natural/synthetic) provided to the kid through maternal diets (CM and TMR, respectively) was evaluated during lactation. Then, α -tocopherol was quantified in the plasma of goats and their kids using high-performance liquid chromatography (HPLC). Additionally, the kidney fat of the kids was weighed. Correlation analysis and ANOVA with maternal diet as the principal effect were performed using the SPSS statistical package.

The health of a new-born is influenced by its nutritional level and hence influences visceral fat (Gall 1982). Therefore, kidney fat can be a good indicator of a kid's health and immunity. Colostrum and milk provide vitamin E that stimulates the immune system and is essential for the health of the new-born (Przybylska et al. 2007).

Positive correlations are noted between the plasma concentrations of α -tocopherol in goats and their kids and between the plasma α -tocopherol in kids and the weight of kidney fat ($r=0.606$, $p<0.001$; $r=0.335$, $p=0.013$, respectively).

The increased bioavailability of natural vitamin E (Debier et al., 2005) from the diet of CM goats influences the health status of their kids [more kidney fat ($p<0.001$), and compared with TMR kids, results in a higher plasma tocopherol concentration ($p<0.001$)].

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