



ANNUAL CONFERENCE

WARSAW
2019

Faculty of Veterinary Medicine
Warsaw University of Life Sciences – SGGW
Warsaw, 11.05.2019

Conference organizers



European College of Small Ruminant Health Management



Faculty of Veterinary Medicine
Warsaw University of Life Sciences – SGGW



Polish Society of Veterinary Sciences – PTNW



International Goat Association



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11:20 – 12:50 SESSION II

moderator – Dr. Katja Voigt

11:20	INCIDENCE, POSSIBLE RISK FACTORS AND THERAPIES FOR PSEUDOPREGNANCY ON DUTCH DAIRY GOAT FARMS: A CROSS-SECTIONAL STUDY	René Van den Brom
11:30	REPRODUCTIVE MANAGEMENT OF INTENSIVELY REARED DAIRY EWES IN GREECE	Sofia Termatzidou
11:40	SOMATIC CELL COUNT AS A TOOL TO CONTROL SUBCLINICAL MASTITIS IN SERRANA GOATS	Hélder Quintas
11:50	MILK AMYLOID A AS A TOOL TO MONITORING UDDER HEALTH IN SERRANA GOATS	Hélder Quintas
12:00	IMPACT OF HARD TICKS (<i>IXODIDAE</i>) INFESTATION ON MILK PRODUCTION AND UDDER HEALTH OF DAIRY GOATS IN LOW-INPUT PASTORAL FARMING SYSTEMS IN GREECE	Sotiria Vouraki
12:10	FACTORS AFFECTING XYLAZINE-KETAMINE FIELD ANAESTHESIA OF GOAT KIDS FOR DISBUDDING	James Patrick Crilly
12:20	THERMAL DISBUDDING IN GOAT KIDS: CURRENT PRACTICE, COMPLICATIONS AND CONSIDERATIONS	Mark van der Heijden
12:30	FOREIGN BODY IN THE RUMEN OF A GOAT – A CLINICAL CASE REPORT	Lucie Marie Grimm
12:40	OCULAR DISEASES IN SHEEP – AN OVERVIEW	Johanna Maria Meilwes

12:50 – 13:30 LUNCH

MILK AMYLOID A AS A TOOL TO MONITORING UDDER HEALTH IN SERRANA GOATS

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Introduction

Acute phase proteins (APPs) may increase in concentration in the absence of macroscopic changes in the milk, or may precede the onset of clinical signs. APPs have been investigated as markers of milk quality and subclinical mastitis in cows and sheep. Milk amyloid A (MAA) is a APPs and a highly specific biomarker for subclinical mastitis identification and one of the first proteins generated in milk following mammary glands infection. Serum Amyloid A is indicated as the most sensitive APP in sheep but few studies are available in goats. The aim of this study was to evaluate the concentration of MAA as a tool to monitoring udder health in goats.

Materials and methods

Samples of each mammary half were collected in 12 mid-lactation Serrana goats for 6 consecutive weeks in the morning before milking during two consecutive lactations (n = 288). The methodology used to collect milk samples was based on the one described by Corrales et al. [1]. The MAA concentration of the milk was determined using a commercial immunoenzymatic assay (Milk Amyloid A Assay Kit-Tridelta Development Limited, Maymooth, Ireland) according to manufacturer's instructions. Absorbance's were read by spectrophotometry at 450 nm with 630 nm as reference (Gene 5® Data Analysis Software). Based on the microbiological results and somatic cell counts (Fossomatic®) the mammary halves were divided into 4 groups: healthy mammary halves (Hh), mammary glands with subclinical mastitis (SMh) and dubious subclinical mastitis: latent (Lh) and non-specific (NSh) as described by Miglio et al. [2].

Results and discussion

MAA appears to be associated with the amount of bacterial DNA in the sample ($\chi^2=58.3$; $p<0.001$). Geometric mean MAA group values was affected by the health status of the goat mammary halves. Lowest MAA values were found in Hh (n=83; 6.2 ± 1.1 µg/ml) and the highest in SMh (n=57; 11.5 ± 1.1 µg/ml) and NSh (n=131; 14.3 ± 1.1 µg/ml) groups. We found few cases of Lh (n=17; 8.46 ± 1.25 µg/ml). Significant differences ($p<0.05$) were found between Hh and NSh, between Hh and SMh and between Lh and NST. No statistical differences ($p>0.05$) were found between: Lh and Hh, Lh and SMh or NSh and SMh groups.

Conclusions

The results of this study point MAA as a useful technique to distinguish healthy mammary halves from those with subclinical mastitis. However, this distinction is highly conditioned by “nonspecific subclinical” halves. Thus, further studies are needed to confirm the utility of this technique in goats and to understand that noninfectious factors may affect MAA concentrations.

Keywords: goat, mastitis, milk amyloid A

References

1. Corrales J, Contreras A, Sanchez A, Luengo C, Marco J. 1997. Etiologia y diagnostico microbiologico de las mamites caprinas. *Ovis* 53, 33-65.
2. Miglio A, Moscati L, Fruganti G, Pela M, Scoccia E, Valiani A, Maresca C. 2013. Use of milk amyloid A in the diagnosis of subclinical mastitis in dairy ewes. *J Dairy Res.* 80, 496-502.
3. Souza FN, Blagitz MG, Penna CF, Della Libera A, Heinemann MB, Cerqueira MM. 2012. Somatic cell count in small ruminants: Friend or foe? *Small Rumin Res.* 107, 65-75.