

THE INFLUENCE OF MELATONIN ON THE FAECAL EGG COUNT OF GASTROINTESTINAL NEMATODES IN SHEEP

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INTRODUCTION. High levels of melatonin in sheep result in a positive signal which activates the hypothalamic-pituitary-gonadal axis and lead to the resumption of the reproductive activity. In order to improve fertility indices and concentrate the birth/parturition, we proceeded with the subcutaneous melatonin implants treatments (SMI). Given the influence of melatonin also on the pathogenic trend of several bacterial and protozoal infections, and fluke infections (es. *Schistosoma* spp.) (Aline do Carmo França-Botelho, 2020 Clin Microbiol Infect Dis. 5: 1-2; El-Sokkary et al., 2002 Free Radic Biol Med. 32: 319 – 332), we aimed to evaluate the possible effects of this hormone on the Faecal Egg Count (FEC) of gastrointestinal nematodes (GIN) in sheep.



KEYWORDS: SHEEP, MELATONIN, GASTROINTESTINAL NEMATODES, FECAL EGG COUNT

MATERIALS AND METHODS. In June 2020, 240 Sarda breed sheep, between 7 and 9 months of age and belonging to four different flocks of northern Sardinia, were divided into two groups (consisting of 120 animals each) uniform for EPG levels: at D1 the first group was treated (SMI) with 18 mg of melatonin (Melovine®, Ceva Salute Animale) while the other one represented the control group (NSMI). Faecal samples were collected from each sheep at D0, D30 and D60 and a qualitative-quantitative copromicroscopic exam (McMaster) was performed using a saturated NaCl solution (specific gravity = 1.2) in order to evaluate the FECs of the GIN.



RESULTS AND CONCLUSIONS. Data analysis revealed no significant difference between EPG means observed in the two groups of sheep at D 30 (377.5 ± 330.2 SMI e 334.6 ± 335.8 NSMI – Mann-Whitney=15213; $P=0.162$) and D60 (362.1 ± 390.2 SMI e 303.1 ± 339.8 NSMI – Mann-Whitney=15120.5; $P=0.220$). Data stratification for each farm did not show any significant difference at D30 and D60 among EPG means in three farms ($P>0.05$), whereas a significantly higher EPG mean was detected in one farm in sheep of the treated group at D30 ($P=0.004$) and D60 ($P=0.007$). In conclusion, the SMI did not result in any significant reduction of EPG means of GIN in Sarda breed sheep.