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**Effect of peripartum dietary supplementation with different oils on ewes and their lambs**

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**Background/Objective:**   
This study aimed to investigate the effects of dietary supplementation on ewes and their lambs during the peripartum period, focusing on selected physiological and biochemical blood parameters. Given the unique structure of the ovine placenta, which limits substance transfer from mother to lambs, it was hypothesised that increased supplementation prior to parturition would have a beneficial effect on their health outcomes.

**Methods:**   
32 ewes were randomly assigned to four equal dietary groups: linseed oil, insect oil, composition of linseed and insect oil and a control group. The supplements were integrated into the concentrate feed for three weeks prior to lambing. Blood samples were taken from the mothers before the experiment and after lambing. Lambs were sampled for blood on days 2 and 21 of life and their body weights were recorded on the day of birth and on days 7 and 21.

**Results:**   
The results indicated that the experimental groups supplemented with linseed oil and insect oil had higher mean birth weights of lambs than the control group. Despite the higher birth weights, the mean relative weight gains observed in the supplemented groups were significantly lower than in the control group. Blood analyses showed no negative influence on biochemical and hematological parameters.

**Conclusion:**   
The results suggest that dietary supplementation with linseed oil, insect oil or a combination of both may influence certain physiological parameters in ewes and their offspring. These results increase our understanding of the potential effects of dietary supplements on the health of ewes and lambs during the perinatal period, including multiple pregnancies. The research could help develop future feeding practices to optimise animal welfare and productivity. This work was supported by the Wrocław University of Environmental and Life Sciences (Poland) as part of the research project no N070/0009/23.

**Keywords:** insect oil, linseed oil, multiple pregnancies