

## Effects Of Different Forage: Concentrate Ratios in Dairy Ewe Diets Supplemented With Sunflowers Oil on Animal Performance And Milk Fatty Acid Profile

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The aim of this study was to evaluate the effect of different forage: concentrate (FC) ratios in dairy ewe diets supplemented with sunflower oil (SO) on animal performance and milk fatty acid (FA) profile, particularly focusing on *trans* C18:1 FAs and conjugated linoleic acid (CLA). For that purpose, sixty lactating Assaf ewes were randomly assigned to 6 treatments in a 3 x 2 factorial arrangement: 3 FC ratios (30:70, 50:50 and 70:30) and 2 levels of SO addition (0 and 20 g/kg DM). Both the diet FC ratio and SO supplementation affected milk yield, although differences between treatments were fairly small. Although the proportion of concentrate induced limited changes in milk FA profile, dietary SO significantly reduced saturated FAs and enhanced total CLA. Furthermore, the incorporation of SO in ewe diets decreased the atherogenicity index value by about 25% and doubled potentially healthy FA contents such as *trans*-11 C18:1 and *cis*-9 *trans*-11 CLA. However, the inclusion of SO in a high concentrate diet (30:70) could switch linoleic acid biohydrogenation pathways, resulting in a significant increase in *trans*-10 C18:1, *trans*-9 *cis*-11 C18:2 and *trans*-10 *cis*-12 C18:2 milk fat percentages.

Keywords: conjugated linoleic acid, basal diet, sheep, trans fatty acid



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