

Carcass traits, meat yield and fatty acid composition of adipose tissues and Supraspinatus muscle in goats fed blend of canola oil and palm oil

ABSTRACT

Background: Dietary fats can alter the deposition and distribution of body fats in ruminants. The deposition and distribution of body fat play a vital role in the quality of ruminant carcasses and are of great commercial value since they influence the profitability and consumer acceptability of ruminant meat. The current study examined the effects of dietary blend of 80 % canola oil and 20 % palm oil (BCPO) on carcass characteristics, meat yield and accretion of fatty acid (FA) in subcutaneous, omental, perirenal, and mesentery adipose depots and *m. supraspinatus* (SS) in goats. **Methods:** Twenty four Boer crossbred bucks (BW 20.54 ± 0.47 kg) were randomly assigned to diets containing on DM basis 0, 4 and 8 % BCPO, fed for 100 d and harvested. **Results:** Diet had no effect ($P > 0.05$) on slaughter weight, dressing percentage, carcass and non-carcass components, meat yield, color, moisture and carotenoid contents and weight of adipose tissues in goats. The proportion of C18:1n-9 and *cis-9 trans-11* CLA in the omental, perirenal and SS was higher ($P < 0.05$) in goats fed 4 and 8 % BCPO compared with the control goats. Dietary BCPO reduced ($P < 0.05$) the proportion of C14:0 in the omental, perirenal and mesentery depots, C18:0 in the perirenal depot, C16:0 in the SS and C16:1n-7 in the SS, omental and perirenal tissues. Dietary BCPO enhanced the proportion of C18:1 *trans-11* Vaccenic and C18:3n-3 in SS and C20:5n-3 in SS and mesentery depot. No significant changes were found in the FA composition of subcutaneous depot. **Conclusions:** Results indicate that dietary BCPO can be utilized to alter the FA composition of adipose tissues without detrimental effects on carcass characteristics in goats. Nonetheless, dietary BCPO is not an effective repartitioning agent for body fats in goats.

Keyword: Fat color; Mesentery; Omental; Perirenal; Subcutaneous