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Effect of the addition of dried citrus pulp on qualitative characteristics, chemical composition and pH of Berseem clover silage

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This study was conducted to investigate the effect of addition of different levels of dried orange pulp and dried tangerine peel on quality, chemical composition and pH of Berseem clover silage in a completely randomized design. The treatments were 1. Control or clover silage without additives, 2. Clover silage supplemented with 40% dried pulp of orange, 3. Clover silage supplemented with 40% dried skin tangerine, 4. Clover silage supplemented with 35% dried skin tangerine and 5% barley, and 5. Clover silage supplemented with 35% dried orange peels and 5% barley. After 40 days, silos were opened and immediately the pH was measured and Fleight-point of silages was calculated. Sensory evaluation was conducted to test quality of silage. The chemical composition of silages was measured. The pH values for treatments 1 and 4 were 4.1 and 4.5, respectively. Addition of dried citrus pulp significantly increased the Fleight-point of silages, and the treatment 5 had the highest value (Fleight-point=97). According to sensory evaluation, treatment 5 had a score of 19.75 (very good quality) in comparison to the control that had score 17 (acceptable). Chemical composition of the treatments was significantly different. Using both dried tangerine peel and dried orange pulp decreased neutral detergent fiber and crude protein content, whereas significantly increased dry matter content.

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Lipid and fatty acid content in the mammary gland of Majorera and Palmera goats experiencing seasonal weight loss

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Goat milk production plays a very important role in both food securities in the Tropics. These regions are characterized by a long dry-season with poor pastures and animals go through periods of Seasonal Weight Loss (SWL) that impacts negatively on productivity. To limit the effects of SWL, we need to know how goat breeds tolerate feed restriction. Two goat breeds (Majorera-SWL tolerant and Palmera-non-SWL tolerant) were restricted fed. Majorera (n=9) and Palmera (n=10) goats in mid lactation were divided in 4 experimental groups (Majorera control, Palmera control, Majorera restricted, Palmera restricted) over a 23-day trial period. Animals were anesthetized and mammary gland biopsies obtained. Total lipids were extracted, and fatty acid composition determined and analyzed with ANOVA. Animals fed restricted diet lost 15% of their initial live weight during the trial. Feed restriction reduced the fatty acid content in both breeds. Additionally, a significant breed x feed restriction interaction was detected for 16:0 and 18:1c9. Fatty acid 16:0 decreased with feed restriction from 27 to 20 wt% in Palmera goats whilst in Majorera animals the reduction was from 24 to 21 wt%. Similarly, 18:1c9 decreased from 44 to 30 wt% in Palmera compared to a non-significant decrease from 41 to 36 wt% in Majorera. Finally and despite the total fatty acid content reduction in the secretory tissue registered in both breeds, the fatty acid profile of the mammary gland is more affected for the Palmera breed, coinciding with a lower level of adaptation to nutritional stress.

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