

# Impacts of substituting soybean meal with cold extraction sesame meal on growth accomplishment and health in growing Awassi lambs

Belal S. Obeidat, Mysaa Ata, Hadil S. Subih

## Abstract

Blood metabolites and growing performance were evaluated in lambs ( $15.7 \pm 0.33$  kg; initial body weight) fed diets containing either soybean meal or cold extraction sesame meal (SM). The design of the study was a complete randomized design. Twenty-two lambs were divided into two diets, 0% SM (CON) or 12.5% SM (SM12.5) of dietary dry matter (DM), raised for 84 days (7 and 77 days for adaptation and data collection, respectively) and fed ad libitum diets (crude protein (CP) content 15.6% DM). Parameters that were measured included nutrient intake, average daily gain (ADG), digestibility, N balance, and blood parameters. Excluding ether extract (EE) and metabolizable energy intake which were greater ( $P \leq 0.05$ ) in the SM12.5 group versus the CON group, no differences in other nutrient intakes were detected ( $P \geq 0.05$ ) between the two diets. Lambs fed the SM12.5 diet had more digestibility for DM, CP, neutral detergent fiber, and EE. Nitrogen in feces was lower ( $P \leq 0.05$ ) in the SM12.5 group versus the CON group. However, retained N (g/day) increased ( $P \leq 0.05$ ) in the SM12.5 group versus the CON group. Final body weight and ADG improved ( $P \leq 0.05$ ) in the SM12.5 diet. Cost per kilogram of gain diminished ( $P \leq 0.05$ ) in the SM12.5 than the CON diet. Blood glucose increased while creatinine decreased ( $P \leq 0.05$ ) in lambs that consumed SM12.5. Results obtained herein proved that replacing soybean meal with sesame meal improved growth performance while reducing the cost of gain in addition to not affecting health negatively.

Keywords Awassi lambs · Blood parameters · Growth performance · Sesame meal