

Management of Meskit (*Prosopis juliflora*) Tree in Oman: The Case of Using Meskit (*Prosopis juliflora*) Pods for Feeding Omani Sheep

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Abstract : This study evaluated the use of raw or processed *Prosopis juliflora* (Meskit) pods as a major ingredient in a formulated ration to provide an alternative non-conventional concentrate for livestock feeding in Oman. Dry Meskit pods were reduced to lengths of 0.5- 1.0 cm to ensure thorough mixing into three diets. Meskit pods were subjected to two types of treatments; roasting and soaking. They were roasted at 150°C for 30 minutes using a locally-made roasting device (40 kg barrel container rotated by electric motor and heated by flame gas cooker). Chopped pods were soaked in tap water for 24 hours and dried for 2 days under the sun with frequent turning. The Meskit-pod-based diets (MPBD) were formulated and pelleted from 500 g/kg ground Meskit pods, 240 g/kg wheat bran, 200 g/kg barley grain, 50 g/kg local dried sardines and 10 g/kg of salt. Twenty four 10 months-old intact Omani male lambs with average body weight of 27.3 kg (\pm 0.5 kg) were used in a feeding trial for 84 days. They were divided (on body weight basis) and allocated to four diet combination groups. These were: Rhodes grass hay (RGH) plus a general ruminant concentrate (GRC); RGH plus raw Meskit pods (RMP) based concentrate; RGH plus roasted Meskit pods (ROMP) based concentrate; RGH plus soaked Meskit pods (SMP) based concentrate. Daily feed intakes and bi-weekly body weights were recorded. MPBD had higher contents of crude protein (CP), acid detergent fibre (ADF) and neutral detergent fibre (NDF) than the GRC. Animals fed various types of MPBD did not show signs of ill health. There was a significant effect of feeding ROMP on the performance of Omani sheep compared to RMP and SMP. The ROMP fed animals had similar performance to those fed the GRC in terms of feed intake, body weight gain and feed conversion ratio (FCR). This study indicated that roasted Meskit pods based diet may be used instead of the commercial concentrate for feeding Omani sheep without adverse effects on performance. It offers a cheap alternative source of protein and energy for feeding Omani sheep. Also, it might help in solving the spread impact of Meskit trees, maintain the ecosystem and helping in preserving the local tree species.

Keywords : growth, Meskit, Omani sheep, *Prosopis juliflora*

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