Use of local plant residues (PRs) as the substitutes for imported alfalfa hay and straws in total mixed rations (TMRs) of livestock: 2 Growth performance of Naeemi lambs fed TMRs containing Conocarpus PRs, DPLs, and date fruits as partial substitutes for conventional roughages and feed grade grains

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The study considered the impacts of without and with intervention measures of TMRs on lambs and dairy heifers. The main variable studies were: TMRs composition, effects of feeding TMRs containing plant residues (PRs) at 10% to 30% of the total and 100% of the roughages (imported) as substitutes for alfalfa hay/straw, costs of TMRs, TMR intake, live weight gains (LWG), and net income from KISR tested new feed formula. Daily feed intake (DFI) of lamb did not vary significantly and were 0.850 KG to 1.07 KG/h of 6 dietary treatments without and with PRs in the TMRs. Daily LWG ranged from 165 to 210g/h and FCR (Kg TMR/Kg LWG) 4.27 to 9.72. The differences of above parameters were not significant due to a large individual variation of lamb responses.

Most visible impact was the steady growth performance all lambs fed of 6 TMRs. The significant differences in the costs of rations between the controls and Ts. T1 control TMRs costs were KD 86.600/t, T2 74.400/t, T3 KD 66.100/t, T4 KD 61.300/t, T5 KD 79.800/t and T6 KD 66.40/t respectively. These variations of cost were due to addition of cheap date palm leaves (DPLs KD 22/t and substitution of alfalfa hay KD 135/t and straw KD 50/t). The net profit from feed sales ranged KD 20,000 to KD 105,000/y high ROI. Similar high DLWG or R ranging from 0.860 to 1.14 Kg/h/d and FCR were observed. The costs of feeds were significantly reduced by using PRs in TMRs with high ROI. Additional micro-minerals supplementation (Zinc, Copper, Cobalt and Manganese) did not improve the performance of Naeemi lamb and dairy heifers significantly.

Key words: Plant residues, feed conversion ratio, live weight gain, economic benefits