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EFFECTS OF MANUAL UDDER STIMULATION ON MILK PARTITIONING AND FLOW TRAITS DURING THE MACHINE MILKING IN DAIRY CAMELS (*Camelus dromedarius*)

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ABSTRACT

A total of 9 multiparous dromedary camels in late stage of lactation (287±8 DIM; 3.8±0.8 kg/d) were used to study the effect of manual udder stimulation on machine milking efficiency of dairy camels under intensive management condition. Experimental design consisted of 3x3 Latin square with 9 animals allocated randomly and equally to 3 treatment (T_1=60 s, T_2=90 s and T_3=120 s). All camels were machine milked twice daily. Milk yield and milk flow parameters were recorded by Lactocorder® milk meters. Udder health was evaluated by California mastitis test (CMT) and somatic cell counts (SCC). Cisternal milk was determined 14 h after milking using Atosiban®. Volumes of machine milk (MM), machine stripping milk (MSM) and residual milk (RM) were recorded in duplicate. No subclinical mastitis was detected during the experimental period as indicated by the CMT (<1) and SCC (279×10^3±58 cells/mL). Camels were characterised by relatively small cistern (8.84±3.10%). There was a large variation in the proportion of RM (average= 25.1± 10.2%; max: 83.4%, min: 2.1%) between camels due to the duration of udder preparation. Consequently, camels were classified into easy milked camels (G_1: RM<25%) and hard milked camels (G_2=RM>25%). The increase of udder stimulation from T_1 to T_3 decreased ($p<0.05$) the lag time (LT) (3.83 to 2.24 sec) in camels of G_1 and the MSM (26.6 to 14.8%) as well as RM (46.1 to 31.4%) in camels of G_2. Bimodal curves tended ($P=0.08$) to decrease from 43.6% to 28.1% when duration of udder stimulation increased from T_1 to T_3 in camels of G_2. In conclusion, increase duration of manual udder stimulation to 90-120 s ameliorate the machine milking efficiency in harder milked camels at late stage of lactation.

Key words: Camels, cistern, machine milking, milk partitioning, udder stimulation