

MACHINE MILKING PARAMETERS FOR AN EFFICIENT AND HEALTHY MILKING IN DAIRY CAMELS (*Camelus dromedarius*)

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ABSTRACT

The effect of vacuum level and pulsation rate on machine milking efficiency in lactating dromedary camels were studied in 2 separate experiments. In the first experiment, a total of 14 multiparous camels in early (n=7) and late (n=7) lactation were used to study the effects of vacuum level (45 and 50 kPa) and pulsation rate (52 and 60 pulsations/min) on milk fractionation and flows traits. At the morning milking, volumes of machine milk (MM), machine stripping milk (MSM) and residual milk (RM) were recorded at two different days. For the second experiment, another 10 multiparous dromedary camels at mid stage of lactation were used to evaluate teat condition and udder health during 10 weeks. Milk samples were collected weekly at each milking and analysed for major milk constituents and udder health. The 50 kPa vacuum level and 60 pulsations/min decreased ($P<0.05$) the MSM (from 15.2 to 5.9%) and RM (from 44.1 to 29.8%) compared to 45 kPa and 52 pulsation rate. Moreover, milking camels at high vacuum level resulted in significantly more milk in a shorter time with higher milk flows rate at early stage of lactation. No subclinical mastitis was detected in any of udders quarters as indicated by the CMT (<1), SCC ($387 \times 10^3 \pm 86$ cells/mL) and bacteriology (coliform=0 and total flora= 32097 ± 396 ufc/mL) test. There were no differences in teat diameters, texture and color before and after milking. In conclusion, dromedary camels are readily to milk efficiently at 50 kPa and 60 pulsations/min without affecting negatively teat condition or udder health.

Key words: Dromedary camel, machine milking, milk ejection kinetic, milk fraction, udder health