

The relationships among milk yield, milk composition, Insulin- like growth factor-1 and prolactin in lactating Egyptian buffaloes heifers

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ABSTRACT

Twenty Egyptian buffaloes were housed in shaded open yards and maintained under the same managerial and environmental conditions. Buffaloes were divided into two groups at the end of the first lactation season according to their lactation period (LP). The first group (G1) was lactated more than seven months (225 days on average) and the second group (G2) was lactated less than seven months (175 days on average).

Milk samples were collected once weekly for each lactating buffalo at 6:00 AM and 6:00 PM and then mixed. Prolactin (PRL) and Insulin- like growth factor-1 (IGF-1) were determined during lactation period. There was a significant difference between G1 and G2 but there was non-significant difference between the stage average and the same trend was recorded in milk fat (F%). On the other hand there was a significant different in sold not fat (SNF%) in stage average.

There was a high positive and significant correlation among milk yield and total solids (T.S %), F % and water (%). There was positive and significant correlation among milk yield, S.N.F (%) and Lactose (%).in the two lactating groups (G1 and G2). It was noticed that the concentration of IGF-1 was higher in G1 than that in G2 during the three stages of lactation by 40.21, 22.35 and 12.86 (%), respectively. PRL concentration in G1 was slightly higher in early and mid-lactation than that in the late lactation. There was a positive and significant correlation among PRL and T.S, Fat and water. There was high positive significant correlation among IGF-1, T.S, SNF, Ash, lactose and water.

Key words: Egyptian buffaloes, insulin like growth factor-1, prolactin, milk production and composition, lactation stages.

