

### البحث الرابع

G.M. El-Garhy, <b>A.M. Abd El-Mola</b> , H.H. Azzaz and G.A. Mousa (2020). <b>Influence of using Pectinase Enzymes in the Ration on Nutrient Digestibility, Blood Chemistry, Milk Composition and Economics of Lactating Buffaloes. <i>J. Anim. Health Prod.</i> 8(4):158-167.</b>		البحث الرابع
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Title	<b>Influence of using Pectinase Enzymes in the Ration on Nutrient Digestibility, Blood Chemistry, Milk Composition and Economics of Lactating Buffaloes.</b>	
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### ABSTRACT

The present study was performed to evaluate the effects of pectinase enzymes inclusion in the ration on lactating buffaloes performance, nutrient digestibility, blood chemistry and yield and composition of milk. The experiment conducted twelve lactating Egyptian buffaloes having their 3rd to 5th lactation and weighed  $480 \pm 8$  kg in average. After 20 days of parturition, animals were randomly assigned into three groups, four animals per each group, the first group was fed on ration of 50% concentrates feed mixture, 20% Egyptian clover, 20 % sugar beet pulp and 10% dried orange by-products (Control ration). The second group (R1) was fed control ration supplemented with the locally produced pectinase enzyme at level of 3g /kg DM (dry matter), while the third group (R2) was fed control ration supplemented with commercial pectinase enzyme at level of 3g /kg DM. The result revealed that, R1 and R2 rations significantly ( $P \leq 0.05$ ) increased DM, OM (organic matter), CP (crude protein) and CF (crude fiber) digestibility compared to the control one. **TDN (total digestible nutrients), SV (starch value) and DCP (digestible crude protein) % compared to control one.** Also, actual milk yield and average 4% fat corrected milk yield were increased ( $P < 0.05$ ) by R1 and R2 rations compared to control one. There were insignificant ( $P > 0.05$ ) increase in milk composition percentages in treated groups. In addition, control ration significantly decreased ( $P < 0.05$ ) daily feed conversion of DM and DCP compared to R1 and R2 rations. Blood serum metabolites for enzymes treated animals showed higher glucose and total protein concentrations than those of the control with no side effects on animals health. Economic analysis revealed the R1 as a best ration for lactating buffaloes. From the results, it could be concluded that pectinase enzyme inclusion in ration is beneficial to improve the performance of lactating buffaloes.