

## Summary

The present work was carried out to study the effect of probiotics (Biovet Y/C<sup>®</sup>) on some ruminal, blood parameters and fecal total colony counts and total coliform counts in addition to its effect on the body weight of buffalo calves. Fifteen buffalo calves of about 7 months were used in this study, the calves were divided into three equal groups with average weight of  $164 \pm 5.26$  kg live body weight as initial weight. These three groups were fed on rations as follows:

- 1- Control group: the animals in this group were fed on ration without any probiotic supplementation.
- 2- Group A: the animals in this group were fed on ration containing (Biovet Y/C<sup>®</sup>) as a daily oral supplementation of 15 gm/ animal.
- 3- Group B: the animals in this group were fed on ration containing (Biovet Y/C<sup>®</sup>) as a daily oral supplementation of 25 gm/ animal.

Rumen and blood samples were taken at 3, 7, 14, 30, 45, 60, 75 and 90 days after the beginning of feeding previous experimental ration.

The results could be summarized as follows:

A- Ruminal ecosystem:

- The results of rumen pH showed a highly significant reduction ( $p < 0.01$ ) in probiotic treated animals compared to the control group.

-- Sometimes the rumen ammonia nitrogen showed non significant reduction in the probiotic treated groups when compared with the control one.

-- The rumen protozoal count increased significantly ( $p < 0.01$ ) at both probiotic treated groups.

-- A highly significant increase was observed between probiotic treated groups compared to the control group, also a significant increase was observed between group A and group B.

#### B- Blood hematology:

The results of hemogram ( including PCV%, HB concentration, Neutrophils %, Lymphocyte %, Monocytes % and Eosinophils %) showed no significant difference. Whoever, their levels were remained within the accepted reference ranges in all groups. The total erythrocytic and the total leucocytic counts showed a non significant increase in the probiotic-treated calves.

#### C- Blood biochemistry:

- The activities of the AST and ALT were not affected in the treated and the control groups, while the activities of ALP were significantly increased in the probiotic treated groups in compared with the control group.

- The level of total proteins were highly significantly increased ( $p < 0.01$ ) in group A in compared with the control group, whoever a significant increase ( $p < 0.05$ ) was observed in group B in compared with the control group.

- The serum glucose levels were significantly increased in probiotic treated calves.

- The levels of serum cholesterol showed a highly significant reduction in probiotic treated calves.

- The levels of serum urea showed non significant difference between probiotic treated groups and the control one. Whoever, the blood serum creatinine showed a non significant increase in group B compared to the control one, the levels of serum urea and creatinine were within reference ranges.

- The levels of T3 and T4 were highly significantly increased in probiotic treated calves than the control group.

D- Fecal microbiology:

A non significant reduction was observed in the total colony counts and total coliform counts in the probiotic treated calves compared to the control group.

E- Body weight:

The body weights of the probiotic treated calves were gradually increased by the probiotic administration.