

**PRODUCTIVE PERFORMANCE,
PHYSIOLOGICAL AND IMMUNOLOGICAL
RESPONSES AS AFFECTED BY SOME PHYTO-
ADDITIVES AND PROBIOTICS IN RABBIT'S
DIETS**

By

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ABSTRACT

Present study was conducted to evaluate the effect of thyme oil and *Lactobacillus acidophilus* (supplement) as growth promoters in rabbit. Seventy-two weaned V-Line male rabbits were randomly allocated into 4 equal groups. The first group (G1) was considered as the control group without any additives. The second group (G2) treated was with the addition of *Lactobacillus acidophilus* in drinking water in a concentration of 10^8 cfu/ml. The third group (G3) treated was with the addition of thyme oil in drinking water in a concentration of 1 ml/ liter. The fourth group (G4) was treated with the addition of both *Lactobacillus acidophilus* and thyme oil in drinking water in a concentration of 10^8 cfu/ml plus 1ml/L, respectively. The obtained results showed that, all treatments had significant improvement effects on the measured parameters (performance characteristics, cecum characteristics, RBCs, WBCs, kidney function, triglycerides, total cholesterol, sheep RBC's titer, liver antioxidant markers and hormones markers) when compared to the control group. The live body weight values in G3 and G4 groups were higher (2116 and 2058 g) than those found in G2 and G1 groups (1958 and 1850 g) respectively. In addition, the body weight gain of G3 and G4 groups were higher (1364 and 1307 g) than those found in G2 and G1 groups (1207 and 1100 g). Moreover, the daily weight gain of G3 and G4 groups were higher (32.49 and 31.13 g/d) than those found in G2 and G1 groups (28.74 and 26.19 g/d). In addition, feed conversion ratio of G3 and G4 groups were higher (3.41 and 3.61) than those found in G2 and G1 groups (3.66 and 4.67). While G4, G2 and G3 groups had a significant enrichment effect on the intestinal beneficial bacteria.

In conclusion, in the present experiment, inclusion of thyme oil and / or *Lactobacillus acidophilus* in the drinking water stimulated body weight gain and increased feed conversion rate, and can be used as growth promoters in rabbit nutrition successfully without notable side effects on growing rabbits. Furthermore, it showed a significant positive effect on the physiological parameters in groups G3, G4 and G2 respectively compared to the control group.

Key words: Immunity, *Lactobacillus acidophilus*, Performance, Probiotic, Rabbit, Thyme oil.

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