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Effect of Supplementing Different Sources and Levels of Phytase Enzyme to Diets on Productive Performance for Broiler Chickens

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Abstract : The experiment was conducted to study the effect of supplement sources of Phytase enzyme (bacterial, fungal, enzymes mixture) using levels (250, 500, 750) FTY/ kg feed to diets compared with control on the performance for one thousand fifty broiler chicks (Ross 308) from 1day old with initial weight 39.78 gm till 42 days. The study involved 10 treatments, three replicates per treatment (35 chicks/replicate). Treatments were as follows: T1: control diet (without any addition). T2: added bacterial phytase enzyme 250FTY/ kg feed. T3: added bacterial phytase enzyme 500FTY/ kg feed. T4: added bacterial phytase enzyme 750FTY/ kg feed. T5: added fungal phytase enzyme 250FTY/ kg feed. T6: added fungal phytase enzyme 500FTY/ kg feed. T7: added fungal phytase enzyme 750FTY/ kg feed. T8 added enzymes mixture 250U/ kg feed. T9: added enzymes mixture 500U/ kg feed. T10: added enzymes mixture 750U/ kg feed. The results revealed that supplementing 750 U from enzymes mixture to broiler diet increased significantly ($p < 0.05$) body weight compared with (250 FTY bacterial phytase/Kgfeed), (750 FTY bacterial phytase/Kg feed), (750FTY fungal phytase/Kgfeed) at 6 weeks, also supplemented different sources and levels from phytase enzyme improved a cumulative weight gain for (500 FTY bacterial phytase/Kgfeed), (250FTY fungal phytase/Kgfeed), (500FTY fungal phytase/Kgfeed), (250 Uenzymes mixture/Kgfeed), (500 Uenzymes mixture/Kgfeed) and (750 U enzymes mixture/Kgfeed) treatments compared with (750 FTY fungal phytase/Kgfeed)treatment, about accumulative feed consumption (500 FTY fungal phytase/Kgfeed) and (250 Uenzymes mixture/Kgfeed) increased significantly compared with control group and (750FTY fungal phytase/Kgfeed) during 1-6 weeks. There were significantly improved in cumulative feed conversion for (500U enzymes mixture/Kgfeed) compared with the worse feed conversion ratio that recorded in (250 FTY bacterial phytase/Kgfeed). No significant differences between treatments in internal organs relative weights, carcass cuts, dressing percentage and production index. Mortality was increased in (750FTY fungal phytase/Kgfeed) compared with other treatments.

Keywords : phytase, phytic acid, broiler, productive performance
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