Effect of phytase with or without multienzyme supplementation on performance and nutrient digestibility of young broiler chicks fed mash or crumble diets

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Abstract

A total of 210 unsexed 1-day old Arbor Acres broiler chicks were wing banded and randomly distributed among 30 cages of 7 birds per cage keeping equal initial BW during days 1-20 of age. A factorial design (2×3) was used in which there were two feed forms (mash vs crumble diet) and three enzyme treatments (unsupplemented, phytase, phytase plus multienzyme). Each treatment was replicated 5 times with 7 chicks per replicate. Body weight (BW), body weight gain (BWG) and feed conversion ratio (FCR) of fed chicks were significantly improved when the crumble diet was administered. However, feed intake of chicks fed on the crumble feeds was significantly lower than those fed the mash diet. Digestibility of ether extract and crude fiber was significantly greater in groups fed the crumble diet than those fed the mash diet.
Enzyme supplementation significantly and similarly increased growth and production index, and improved FCR. Also greater digestibility of crude protein and crude ash was observed but growth during days 8-14 of age and crude fibre digestibility were significantly greater in chicks receiving the multienzyme plus phytase supplement than those receiving phytase alone. Crumble feed supplemented with multienzyme resulted in the highest performance and nutrient digestibility of broilers during days 1-20 of age.

**Key words:** Broilers, Form of feeds, Enzymes, Phytase, Digestibility.

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