Effect of the inclusion rate and form of manganese in broiler diets

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The aim of the present study was to evaluate the effects of manganese (Mn) in broiler diets on chick growth and development. Eight groups of day-old chicks with 35 birds in each group were fed commercial diets balanced for nutrients and containing either inorganic Mn (manganese sulphate) or organic (Bioplex Mn (Alltech Inc., USA)) at different levels of inclusion: groups 1-4 were supplemented with manganese in the sulphate form at 120, 90, 60 and 30 mg/kg and groups 3-8 were supplemented with manganese in the organic form (Bioplex Mn) with the same rate of inclusion.

At 35 days, female body weights were (g): 1773.2±26.5; 1758.8±28.0; 1686.1±32.0; 1581.5±31.9 (groups 1-4) and 1811.9±33.7; 1820.4±34.8; 1737.2±24.5; 1645.5±27.3 (groups 5-8) respectively. Similar trends were found for the body weights of males: 1995.4±52.3; 1939.5±52.8; 1845.0±40.4 and 1874.5±60.1 (groups 1-4) respectively and 2029.3±60.1; 2042.5±47.1; 1933.4±47.5 and 1871.4±32.8 in groups 5-8 respectively. Average daily gains in groups 1-4 were 52.8; 51.8; 49.4 and 48.3 g in groups 1-4 respectively and 53.8; 54.1; 51.4 and 49.2 g in groups 5-8 respectively. FCR was also affected by Mn supplementation being 1.75; 1.77; 1.80 and 1.95 in groups 1-4 respectively and 1.71; 1.70; 1.71 and 1.92 in groups 5-8 respectively.