

Influence of different sources of oil on performance, meat quality, gut morphology, ileal digestibility and serum lipid profile in broilers

ABSTRACT

This study examined the effect of palm oil (PO), sunflower oil (SO) and their combinations on the growth performance, meat quality, intestinal morphology, ileal digestibility and blood plasma lipid profile of broilers. A total of 144-day-old broiler chicks (Cobb-500) were randomly assigned to basal diets supplemented with either T1, 6% PO (control); T2, 4% PO + 2% SO; T3, 2% PO + 4% SO or T4, 6% SO fed for six weeks. Birds fed SO and the combination of SO and PO had greater ($p < .05$) body weight gain and feed efficiency compared to control (PO) birds at 1621 days, and no differences were found among T2-T4 treatments. Fat type had no significant effect on birds' performance at 22642 days and meat quality. Birds fed SO and the combination of SO and PO had greater ($p < .05$) duodenum and ileum length as well as higher fat digestibility than the control birds. The control diet raised blood plasma cholesterol, triglycerides, low density lipoprotein and very low density lipoprotein than other treatments. It is concluded that feeding a combination of saturated (PO) and unsaturated (SO) oil sources altered the blood lipid profile, and increased nutrient digestibility and performance without conceding the meat quality in broilers.

Keyword: Broilers; Oils; Performance; Intestinal morphology; Lipid profile