Effects of dietary oil sources, calcium and phosphorus levels on growth performance, carcass characteristics and bone quality of broiler chickens

ABSTRACT

The study investigated the effects of varying dietary calcium (Ca) level and oil sources on the growth performance and carcass quality of broiler chickens. A total of 378, 1-day-old birds (Cobb 500) were fed either 6% palm oil, soybean oil (SO) or linseed oil (LO) in combination with three dietary levels of calcium (1.00%, 1.25% and 1.50%) for 6 weeks. Birds fed SO had higher body weight (BW) compared with those fed LO (p < 0.05). However, feed efficiency, carcass and bone quality were similar among the oil treatments. Regardless of the oil source, chicken fed diets containing 1.50% of Ca had lower BW compared with those fed 1.00% and 1.25% of Ca. In contrast, birds fed 1.25% of Ca had significantly higher (p < 0.05) bone quality than those fed 1% of Ca. It can be concluded that increasing the level of calcium up to 1.25% improved bone quality regardless of the type of oil.

Keyword: Broiler chicken; Oil; Calcium level; Growth performance; Bone quality