

Effects of dietary combination of conjugated linoleic acid with fish oil or soybean oil on fatty acid composition of broiler meat

ABSTRACT

An experiment was conducted to investigate the effects of dietary conjugated linoleic acid (CLA), fish oil (n-3 rich), soybean oil (n-6 rich) or their respective mixtures as well as palm oil as a more saturated fat on the fatty acid profile of breast and thigh tissues in broiler chickens. The dietary fats were included in the experimental diets at 7% for single fats and 3.5% + 3.5% for dual mixed fats. Because of the lower metabolisable energy content of palm oil, its inclusion rate was about 12%. The results of the present study showed that the high CLA and fish oil dosage adversely affected the growth rate, carcass yield and general performance. However, the incorporation of dietary soybean oil as n-6 fatty acid source can moderate these adverse effects. The combinations of CLA + fish oil and CLA + soybean oil resulted in more effective enrichment of chicken meat with n-3 polyunsaturated fatty acids and CLA, respectively. Therefore, it seems that this kind of enrichment of chicken meat is not always in a dose-dependent manner and could be affected by the associated dietary fat composition.

Keyword: Broiler; CLA; Enrichment; Meat; PUFA