

## **THE EFFECT OF DIFFERENT INCREMENTAL LEVELS OF RAPESEED MEAL AND ORGANIC ACIDS ON THYROID HORMONES IN BROILER CHICKS**

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### **Introduction**

In comparison to about 44% crude protein in soybean meal (SBM), the protein content of rapeseed meal (RSM) is about 35% and has a physiologically suitable amino acid combination in animal nutrition. Adding levels of rapeseed meal were also significantly increased the concentration of serum T3 at 42 days of age ( $P<0.002$ ) than control diets (kermanshahi and abbasi pour, 2006).

### **Material and Methods**

Three hundred and eighty four one-day old broiler chicks (Ross 308) were used in this study in a factorial arrangement as 4 x 2 with 8 treatments and 4 replicates for each treatment. The treatments included: 4 incremental levels of rapeseed meal (0, 5, 10 and 15% for starter, 0, 10, 15 and 20% for grower, 0, 15, 20 and 25% for finisher), and 2 levels of organic acid (0 and 0.06% of diet). For measuring serum T3 and T4 concentration at 42d sampled from 2 birds per each replicates.

### **Results and Discussion**

The results shown that serum T3 and T4 concentration and T3 to T4 ratio no affected by adding organic acids ( $P>0.05$ ). however, using rapeseed meal in broiler diets decreased serum T3 concentration and T3 to T4 ratio and increased serum T4 concentration than control diet ( $P<0.05$ ). T3 Hormone is produced by enzymatic deiodination of T4 in peripheral organs, mainly liver (Decuyper et al., 2005) it seems that feeding high levels of Canola meal hinder this deiodination perhaps through the inhibition of hepatic deiodinase enzyme in presence of glucosinolate products. consequently, circulatory T4 level remained a little higher whereas T3 level dropped in birds received high canola meal. The same results observed in study of khajali et al. (2007) that reported with used high levels of Canola meal plasma T3 decreased and T4 increased. But kermanshahi and abbasi pour (2006) in contrast with this result shown that with using rapeseed meal increased serum T3 concentration. This variety to results may due to Glucosinolate concentration of rapeseed meal.

**Key words:** Rapeseed meal, Organic Acid, Thyroid Hormones, Broilers

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The 1st International Conference on New Ideas in Agriculture  
Islamic Azad University Khorasgan Branch  
26-27 Jan. 2014, Isfahan, Iran

