

Influence of dietary palm kernel cake on growth performance, carcass composition, meat quality, volatile fatty acids, intestinal bacteria population and villi histology of Cherry Valley ducks

ABSTRACT

The effects of feeding palm kernel cake on growth performance, carcass composition, meat quality, volatile fatty acids, intestinal bacteria population and villi histology of Cherry Valley ducks were investigated. A total of 36 one-day old Cherry Valley ducklings were randomly allocated to 3 dietary groups, namely T1: basal diet (control); T2: basal diet + 15% palm kernel cake (PKC) and T3: basal diet + 35% PKC. After 56 d of experiment, results showed that dietary PKC had no significant effect on final body weight and weight gain of ducks. However, ducks fed T3 had higher feed intake and lower feed conversion ratio compared with other treatments. Dressing percentage and weight of liver and heart decreased as the level of PKC increased, while gizzard weight increased. Dietary PKC had no significant effect on the color coordinates, tenderness, drip and cooking losses and pH of muscle. Bacterial population varied significantly among gut sections, except for jejunum. Ducks fed T2 had highest villus height and crypt depth, while the ratio of villus height to crypt depth was the highest for control ducks. Our findings suggest that PKC can be incorporated in the diet of ducks up to 35% to improve their gut health without any adverse effect on growth performance or meat quality.

Keyword: Palm kernel cake; Cherry Valley ducks; Growth performance; Meat quality; Bacterial population; Volatile fatty acids