

The effect of dietary substitution of corn with sweet potato on mule duck's growth performances and carcass traits ⁽¹⁾

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Abstract

This experiment was designed to investigate the effect of dietary substitution of corn with sweet potato on mule duck's growth performances and carcass traits. Two hundred and forty mule ducks were used in this experiment, which were raised in the brooding house from hatched to three weeks of age. After three weeks of age, the ducks were randomly allocated into four treatments. The first treatment was given a corn-soybean meal basal diet as control group, in second to fourth treatments sweet potato were used to substitute for 15%, 30% and 45% corn of basal diet and all treatments were isocaloric and isonitrogenous. All treatments had three replicates. Feather growth condition, body weight, and feed consumption were determined at 3, 7, 10 and 12 weeks of age to calculate the feed conversion ratio, body weight gain and individual feed intake. Two ducks were chosen randomly in each pen and were sacrificed for carcass traits determination. The results indicated that at 12 weeks of age, the 15% substituted group had body weight of 2,772 g which was significantly heavier than that of other three groups ($P < 0.05$). In body weight gain, the 15% substituted group had body weight gain of 2,254 g, significantly higher than control group and 45% substituted group during the 3 to 12 weeks of age ($P < 0.05$). In feed conversion ratio, all groups showed results within a range of 4.78-5.02 and there were no significant differences among groups from 3 to 12 weeks of age. In length of primary feathers, the control group had significantly shorter primary feather than other three groups at 12 weeks of age ($P < 0.05$). In dressing percentage, the 30% substituted group had 83.9% dressing percentage which was significantly higher than control group and 45% substituted group ($P < 0.05$). In breast meat weight, 501 g breast meat weight was observed in the 15% substituted group, which was significantly higher than the control group and 45% substituted group ($P < 0.05$). From this experiment, the diet which 15% corn replaced by sweet potato could improve mule duck's body weight, body weight gain and breast meat weight.

Key words: Growth performance, Mule duck, Sweet potato.

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