

Effect of dietary supplementation of *Artemisia argyi* and *Plectranthus amboinicus* on the growth performance, hematology values and carcass characteristics of male black velvet silky chicken ⁽¹⁾

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Abstract

The purpose of this experiment was to investigate dietary supplementation of *Artemisia argyi* (AA) and *Plectranthus amboinicus* (PA) on the effects of growth performance, blood chemistry, immune, antioxidant and carcass characteristics of male black silky chickens for non-antibiotic feeding mode for the reference of farmers. Two hundred and forty days old black male silky chickens were divided into five groups with similar group body weight. The five groups were control group (basal diet without any antibiotics or drugs), and dietary supplementation of 2% AA, 2% PA, 1% AA + 1% PA and 50 ppm Tylosin. The results indicated that feed intake of 2% PA group was significantly higher than that of the other groups ($P < 0.05$) during 0 - 16 weeks of age. There was no significant difference among the groups in body weight gain, feed conversion ratio, body weight and survivability. Regarding economic benefit, 2% AA group was the best other than 50 ppm Tylosin. There was no significant difference among the groups in ND, IBD, IB, IgA, IgG, IL- β , IL-6, GSH, CAT and SOD at 16 weeks of age. In serum biochemistry, TG of the control group was significantly higher than that of 50 ppm Tylosin group ($P < 0.05$). It indicated that addition of AA and PA had no negative effect on black silky chicken. In WBC, 2% AA group was significantly higher than 1% AA + 1% PA and 50 ppm Tylosin group ($P < 0.05$). In heterophils, 2% PA group was significantly higher than 1% AA + 1% PA and control group ($P < 0.05$). In monocytes, control group was significantly higher than 50 ppm Tylosin group ($P < 0.05$). There was no significant difference among the group in the other blood values. In slaughter rate, control group was significantly higher than 2% AA, 2% PA and 50 ppm Tylosin group ($P < 0.05$). However, 1% AA + 1% PA group was significantly higher than 2% PA and 50 ppm Tylosin group ($P < 0.05$). There was no significant difference among the groups in abdominal fat and edible internal organs. In conclusion, supplementation of 2% AA had the best economic benefit for feeding without antibiotics. In consideration of growth performance, body weight, survivability, serum antibody titer, immune globulin, pro-inflammatory cytokine, serum biochemistry, hematology, serum antioxidant and carcass characteristics, feeds added with 2% AA can replace antibiotics to preclude drug residue of silky chicken.

Key words: *Artemisia argyi*, *Plectranthus amboinicus*, Black velvet silky chicken.

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