Effects of increasing dietary selenium and vitamin E concentration on growth performance and blood cell profile of TLRI Black Pig No.1 piglets [1]

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Abstract

The purpose of this study was to evaluate the effect of dietary selenium and vitamin E on growth performance of piglets. A total of 32 piglets (5-wk-old, TLRI Black Pig No.1) were divided into control and treatment groups by the body weight. In the treatment group, selenium and vitamin E concentration in the diet was 6 times of NRC (2012) recommendation. The selenium values of the control and treatment groups were 0.33 and 1.81 mg/kg, respectively, and the vitamin E were 51.4 and 103.2 IU/kg, respectively. The data of study period was divided into 1st-stage, between 5 and 7 weeks of age, 2nd-stage, between 7 and 9 weeks of age, and whole period, between 5 and 9 weeks of age, according to vaccination time. The results showed that there was no difference in growth performance between the two groups at the 1st-stage, and the FCR (feed conversion rate) of the treatment group was significantly ($P < 0.05$) better than the control group at the 2nd-stage. In whole period, the piglets fed higher selenium and vitamin E concentration diet had a tendency to reduce feed intake ($P = 0.09$). In the blood cells count, neutrophil/lymphocytes value (N/L = 0.59) of the piglets, fed higher selenium and vitamin E concentration diet, was significantly ($P < 0.05$) lower than the control group (N/L = 0.67). The result showed that increasing dietary selenium and vitamin E concentration can relieve the stress response of the piglets. In conclusion, increasing dietary selenium and vitamin E concentration could lower the suppression effect of feed intake and growth of piglets, and relieve the stress response of the piglets after vaccination.

Key words: TLRI Black Pig No.1, Selenium, Vitamin E, Growth performance.

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