

Effects of adding sodium butyrate and citric acid in feed on growth performances of the weaned piglets ⁽¹⁾

Chih-Yin Chen ⁽²⁾ and Chin-Meng Wang ⁽²⁾⁽³⁾

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Abstract

The purpose of this study was to evaluate the effect of adding sodium butyrate and citric acid in the diet on the growth performances of weaned piglets. A total of 48 hd weaning piglets (Landrace × Duroc), 4 weeks of age, were randomly divided into 4 groups. The amount of organic acid added in the groups were 0.00% organic acid (A), 0.10% sodium butyrate (B), 0.70% citric acid (C) and 0.05% sodium butyrate plus 0.35% citric acid (D), respectively. They were 3 pens in each group, and 4 piglets (half comprised of male and female) per pen. The crude protein and metabolizable energy content of the diet were 18.6% and 3,212 kcal/kg, respectively. During the 4 weeks study period (5 - 8 weeks of age), the body weight and feed intake of the piglets were measured weekly. The results showed that the average feed intake of A, B, C and D groups were 0.692, 0.699, 0.623, and 0.783 kg//day/head, respectively. The feed intake in group D was significantly ($P < 0.05$) higher than group C, but not significantly higher than the control group. The body weight gain was also the highest in group D (0.417 kg/day/head), and had a tendency higher than group C (0.321 kg/day/head) ($P = 0.10$), but nor significantly higher than the control group. At the 6th week of age, the IgA concentration in the serum of group A was 694.4 mg/dL, which was significantly higher than the other groups. There was no difference between the IgG concentration in each group at the 6th and 12th week of age. In conclusion, piglets fed with diet added with 0.05% sodium butyrate and 0.35% citric acid, had the feed intake higher than adding citric acid alone, which tended to show larger body weight gain.

Key words: Weaned piglet, Organic acid, Growth performance.

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(2) Animal Industry Division, COA-LRI, Tainan 71246, Taiwan, R. O. C.

(3) Corresponding author, E-mail: cmwang@mail.tlri.gov.tw.