

Development of a biomedical diet for Lanyu pigs ⁽¹⁾

Yi-Long Chen⁽²⁾⁽⁵⁾ Han-Sheng Wang⁽³⁾ Yu-Ling Huang⁽⁴⁾ Shi-Hsin Li⁽²⁾ and Chia-Chieh Chang⁽²⁾

Received: Jul. 24, 2023; Accepted: Oct. 2, 2023

Abstract

This study was conducted to replace the Laboratory Mini-Pig Grower Diet 5081 (Labdiet 5081) with a home-made test diet and to evaluate its effect on the growth performance, feed efficiency, blood hematological and biochemical parameters in weaned Lanyu pigs. Sixteen weaned Lanyu pigs (eight barrows and eight gilts) were divided into two groups with Labdiet 5081 and test diet. The experimental period lasted for 42 weeks from 3 to 12 months of age. The results showed that during the 0 to 18-week period, there were no significant differences in the growth performance between the two groups. However, from 18 to 42 weeks, the test diet group exhibited significantly higher average daily gain (ADG) and feed efficiency (FE) when compared to the Labdiet 5081 group. Overall, from 0 to 42 weeks, using the test diet resulted in significantly higher FE. In the blood physiological study, the test diet group showed significantly lower red blood cell count (RBC) at 9 and 12 months of age, but it still fell within the normal range. In the blood biochemical study, the test diet group showed significantly lower total protein (TP) at 6 months of age and lower creatine kinase (CK) at 9 months of age, but these variations were attributed to environmental influences. In conclusion, this home-made Lanyu pig diet can effectively replace the Laboratory Mini-Pig Grower Diet 5081. Furthermore, the test diet reduces the cost per kilogram of feed by approximately three times. Feeding both types of diets to Lanyu pigs resulted in similar body weight, growth rate, and backfat thickness, and showed no impact on blood physiological and biochemical characteristics. Additionally, the test diet demonstrated better feed efficiency, making it a cost-effective alternative.

Key words: Lanyu Pig, Growth performance, Physiological value.

(1) Contribution No. 2766 from Taiwan Livestock Research Institute (TLRI), Ministry of Agriculture (MOA).

(2) Eastern Region Branch, MOA-TLRI, Ilan 268, Taiwan, R. O. C.

(3) Guanxi Township office, Hsinchu county.

(4) Kaohsiung Branch, Animal and Plant Health Inspection Agency, Ministry of Agriculture.

(5) Corresponding author, E-mail : 18077606@mail.tlri.gov.tw.