

Effects of sex on the meat quality traits, fatty acid and amino acid compositions in Lanyu pigs ⁽¹⁾

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Abstract

The current study evaluated the effects of sex on meat quality traits, fatty acid composition, and amino acid composition in Lanyu pigs. Eighteen healthy Lanyu pigs (averaged weight, 13 ± 0.9 kg) were classified into barrows (n = 9) and gilts (n = 9). During the 16-week experimental period, each pig received a daily diet comprising 1 kg of broken brown rice-corn-soybean meal access to water ad libitum. After the experiment, the pigs were slaughtered and various carcass characteristics were measured. The results showed that no differences were observed in meat quality scores for marbling, tenderness, juiciness, or flavor between sex. Meat color score was higher in gilts than in barrows ($P < 0.001$), whereas firmness score was higher in barrows than in gilts ($P < 0.05$). A between-sex comparison of fatty acid composition in muscles revealed that the contents of myristic acid (C14:0), palmitic acid (C16:0), stearic acid (C18:0), alpha-linolenic acid (C18:3), and total saturated fatty acids were higher in barrows than in gilts ($P < 0.01$). In contrast, the contents of oleic acid (C18:1), linoleic acid (C18:2), and behenic acid (C22:0) were higher in gilts than in barrows ($P < 0.01$). However, no difference was noted in the content of total amino acids in the longissimus dorsi muscle between the sex of Lanyu pigs.

Key words: Amino acid, Fatty acid, Lanyu Pig, Meat quality traits.

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