Effects of animal fat and vegetable oil feeding on meat quality of black pig carcasses

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Dietary fat or oil influences the fatty acid (FA) composition and physico-chemical properties of pork meat and may have implications on our health. The purpose of the experiment was to investigate FA partitioning and the effect of feed fat or oil source on local black swine tissue FA composition. Approximate composition (moisture, crude protein, crude fat and ash), shear value, pH value, drip loss, cooking loss, meat color (L, a, b value), thiobarbituric acid value (TBA value), total plate count, fatty acid composition and sensory evaluation were evaluated in this experiment. Thirty local black pigs (about 80 kg BW average), each sex 15 pigs were fed one of five treatments: a diet containing 3% tallow (3% TW) and four oil-supplement diets namely 3% and 6% camellia oil (3% CO and 6% CO), 3% and 6% sunflower oil (3% SO and 6% SO). All pigs continue raise to body weight of nearly 125 kg for slaughtering, and determining the carcass quality. The result showed that there no significant different in the crude protein content between the treatments, and the content was about 22.6~23.4%；The crude fat content was up to 3.0% with 3% CO and 2.9% of the 3% SO group. The fatty acid composition in pork fed with various fats showed that oleic acid with the highest content, followed by palmitic acid, steric acid, etc. Among them, linolenic acid and arachidic acid were only found in muscle samples fed with SO and CO. The difference among all fat treatments sowed that the myristic acid of the 3% TW was significantly higher than that of the other vegetable oils added group. In black pork with vegetable oil diet, the content of total unsaturated fatty acid was significantly higher than that of tallow. The results of flavor evaluation showed that the 3% CO had a higher flavor preference, but there no significant difference between the treatments.

Key words: Black pig, tallow, sunflower oil, camellia oil