

428 Fatty acid composition of the gestation and lactation diet affects the fatty acid composition of the backfat of the progeny.
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The aim of the study was to determine the effect of 2 dietary fats (coconut fat [CF] and soy oil [SO]), which differs in their SFA, MUFA, and PUFA content, supplemented to the gestation and lactation diet of 16 multiparous Swiss Large White sows on the fatty acid (FA) composition of the backfat of their progeny at 105 kg BW. At weaning 4 gilts from each CF and SO sow were selected and fed a standard starter and grower diet from 9 to 63 kg BW. In the finishing period (66 to 105 kg BW) 2 gilts were fed a finisher diet (A) with the same FA composition (expressed as % total FA; SFA: 25.8; MUFA: 26.6; PUFA: 47.6) as the growing diet, whereas 2 littermates were fed a more saturated finishing diet (B; SFA: 28.8%; MUFA: 25.1%; PUFA: 46.1%). Growth performance, carcass characteristics, and the FA composition of the backfat was assessed. Regardless of the diet fed in the finishing period, progeny from CF sows grew slower (0.65 vs. 0.68 g/d; $P = 0.08$) and were less efficient (0.38 vs. 0.39 kg/kg; $P = 0.06$) than gilts from SO sows. Gilts in treatment B had lower carcass yield (82.0 vs. 81.4%; $P = 0.02$), higher percentage lean meat (59.3 vs. 58.5%; $P = 0.09$), lower percentage backfat (11.2 vs. 11.7%; $P = 0.08$), lighter hearts (408 vs. 428 g; $P = 0.05$) and kidneys (285 vs. 300 g; $P = 0.05$) and heavier livers (1551 vs. 1483 g; $P = 0.02$) compared to A gilts. The backfat of gilts in treatment B had higher ($P < 0.01$) SFA (40.2 vs. 39.3%) and MUFA (42.6 vs. 41.1%) and lower PUFA (17.2 vs. 19.7%) concentrations than the backfat of A gilts. These differences were primarily due to higher levels of stearic (23.5 vs. 22.9%), palmitoleic (2.0 vs. 1.8%), oleic (39.3 vs. 38.1%), and lower linoleic acid (14.6 vs. 17.1%) levels ($P < 0.01$ for each). Feeding the more saturated finisher diet decreased the PUFA content to a greater extent in the backfat of gilts born from CF (16.6%) than SO (17.7%) sows (maternal feeding $\times$ finisher diet interaction; $P = 0.04$). These findings revealed that not only the FA composition of the growing finisher diet but also the FA of the maternal diet affects the FA composition of the backfat of slaughter pigs.

Key Words: Dietary Fat, Maternal Nutrition, Pig