Animal Science Papers and Reports

The influence of dietary source of fatty acids on chemical composition of the body and utilization of linoleic and linolenic acids by pigs*

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Abstarc :

The study was carried out on 36 gilts (?Polish Large White x ?Danish Landrace) grown from 60 to 105 kg body weight (BW). Experimental diets were composed on the basis of the control diet (C), replacing 13% of its energy by energy from linseed oil (group/diet L), rapeseed oil (group/diet R), beef tallow (group/diet T) or fish oil (group/diet F). All diets contained similar amount of metabolizable energy and apparent ileal digestible lysine, but had different ratio of PUFA to SFA and of C18:2n-6 to C18:3n-3. Pigs were slaughtered at 105 kg BW. Protein, fat and fatty acids (FA) content of the pigs' empty body was determined by slaughter method. Final empty body of pigs (at 103.6 kg) of individual groups contained similar amount of protein, fat and total FA, but different content of individual FA. Increasing the daily consumption of C18:2n-6 and C18:3n-3 acids enhanced their deposition in the body (from 16.18 to 27.70 and from 1.16 to 33.82 g/day, respectively). Linear correlations were identified between the intake of linoleic and linolenic acids and their deposition in the empty body (r = 0.96 and r = 0.99, respectively). Efficiency of utilization
of C18:2n-6 was lower than that of C18:3n-3 (coefficient 0.67 vs. 0.79, respectively).

Key Word :
body, fat, linoleic acid, linolenic acid, pigs, protein

Volume 28, Number 4, - 2010