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Effects of Salbutamol in Swine Diets on Quality and Salbutamol Residues in Pork after its Withdrawal of from the Diet for Seven Days before Slaughter

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Abstract

The objective of this investigation was to determine the effect of salbutamol supplementation for finishing swine which is sometimes illegally applied in Thailand to reduce carcass fatness. *Longissimus dorsi* muscles were obtained from crossbred swine (Duroc × (Large White × Landrace)) fed a diet containing 0 (control), 4, 8 and 12 ppm of salbutamol from 70–100 kg of live weight. Salbutamol was withdrawn from the diet 7 days before slaughter. Meat pH at 45 min and 24 hr p. m. was not different ($p > 0.05$) among groups. However, meat conductivity at 45 min p. m. was lower ($p < 0.05$) in all salbutamol treated groups than in control. Meat colour had a higher redness with salbutamol supplementation, and water holding capacity (WHC) was higher ($p < 0.05$) in the salbutamol-treated groups than in the control group. Swine fed diets with low salbutamol levels tended to have meat with high maximum shear force and energy ($p > 0.05$). *Longissimus dorsi* protein content was highest ($p < 0.05$) with 12 ppm salbutamol in the diet, and intramuscular fat content was lowest ($p < 0.05$) with 4 ppm salbutamol. No systematic variation with respect to salbutamol level was found with cholesterol and fat content of pork while shelf life as estimated by the thiobarbituric acid reactive substances (TBA) number, was prolonged with salbutamol ($p < 0.05$ with 12 vs 0 ppm salbutamol). Salbutamol residues in meat, liver and kidney clearly increased ($p < 0.05$) with increasing dietary level of salbutamol. In conclusion, the use of salbutamol has to be considered as a mal-practice in the tropics in the sense of a natural production systems approach.

Keywords: Beta-Agonist, Pork Quality, Residue, salbutamol