

Influence of Chelators, Zn Sulphate and Silicic Acid on Productivity and Meat Quality of Fattening Pigs

Authors : A. Raceviciute-Stupeliene, V. Sasyte, V. Viliene, V. Slausgalvis, J. Al-Saifi, R. Gruzauskas

Abstract : The objective of this study was to investigate the influence of special additives such as chelators, zinc sulphate and silicic acid on productivity parameters, carcass characteristics and meat quality of fattening pigs. The test started with 40 days old fattening pigs (mongrel (mother) and Yorkshire (father)) and lasted up to 156 days of age. During the fattening period, 32 pigs were divided into 2 groups (control and experimental) with 4 replicates (total of 8 pens). The pigs were fed for 16 weeks *ad libitum* with a standard wheat-barley-soybean meal compound (Control group) supplemented with chelators, zinc sulphate and silicic acid (dosage 2 kg/t of feed, Experimental group). Meat traits in live pigs were measured by ultrasonic equipment Piglog 105. The results obtained throughout the experimental period suggest that supplementation of chelators, zinc sulphate and silicic acid tend to positively affect average daily gain and feed conversion ratio of pigs for fattening ($p < 0.05$). Pigs' evaluation with Piglog 105 showed that thickness of fat in the first and second point was by 4% and 3% respectively higher in comparison to the control group ($p < 0.05$). Carcass weight, yield, and length, also thickness of fat showed no significant difference among the groups. The water holding capacity of meat in Experimental group was lower by 5.28%, and tenderness lower by 12% compared with that of the pigs in the Control group ($p < 0.05$). Regarding pigs' meat chemical composition of the experimental group, a statistically significant difference comparing with the data of the control group was not determined. Cholesterol concentration in muscles of pigs fed diets supplemented with chelators, zinc sulphate and silicic acid was lower by 7.93 mg/100 g of muscle in comparison to that of the control group. These results suggest that supplementation of chelators, zinc sulphate and silicic acid in the feed for fattening pigs had significant effect on pigs growing performance and meat quality.

Keywords : silicic acid, chelators, meat quality, pigs, zinc sulphate

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