

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

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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 pigs for fattening. 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 pigs were divided into 2 groups (control and experimental) after 4 replicates (total of 8 pens). Each group was followed by 16 fattening pigs. 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 samples for the analysis of physical and chemical properties, cholesterol content were taken. The results of the present study suggest that supplementation of chelators, zinc sulphate and silicic acid during all experimental period tends to positively affect on 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 by 5.28% lower and tenderness - by 12% lower compared with Control group ($P < 0.05$). According to the pig meat chemical composition of the treatment groups, a statistically significant difference among it was not determined. Cholesterol concentration in muscles of pigs for fattening fed diets supplemented with chelators, zinc sulphate and silicic acid was lower by 7.93mg/100 g of muscle in comparison to 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 its growing performance and meat quality.

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

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