Effect of yeast polysaccharide on meat quality of finishing pigs. X. Ma*, Z. Tian, Y. Xiong, Y. Qiu, D. Deng, and L. Wang, Institute of Animal Science, Guangdong Academy of Agricultural Sciences, The Key Laboratory of Animal Nutrition and Feed Science (South China) of Ministry of Agriculture, State Key Laboratory of Livestock and Poultry Breeding, Guangzhou, P.R. China.

This study was conducted to investigate the roles of yeast polysaccharide (a kind of yeast polysaccharide from Institute of Animal Science, Guangdong Academy of Agricultural Sciences) on meat quality of finishing pigs. A total of 72 Du × (Chang × Da) (about 60 kg BW) were randomly allotted to 1 of 2 dietary treatments on the basis of BW in a completely randomized design. Each treatment consisted of 6 replicates with 6 pigs per replicate. All pigs received the same wheat-soybean meal diet. The pigs in Group 1 (the control) were fed a corn and soybean meal–based diet, whereas pigs in Groups 2 were fed the basal diet supplemented with 0.5 g/kg yeast polysaccharide. This experiment ended when the pigs reached 110 kg BW. On the last day of the experiment, pigs were deprived of food for 16 h before blood samples were obtained for analysis of biochemical indexes. Immediately thereafter, pigs were slaughtered for determination of carcass composition, muscle biochemical parameters, and meat quality. The results showed that yeast polysaccharide did not affect the growth performance of pig. However, yeast polysaccharide significantly decreased the backfat thickness and suet weight. Yeast polysaccharide decreased drip loss of muscle at 24 and 48 h postmortem, and although it increased intramuscular fat content ($P < 0.05$), it also improved the meat color ($a^*$ had a trend to increase and $b^*$ value had a trend to decrease). Yeast polysaccharide decreased the cortisol level in serum and enhanced antioxidant capacity and glutathione peroxidase activity in serum ($P < 0.05$); yeast polysaccharide also increased the IL-10 and TGF-$\beta$ and decreased IL-1$\beta$ and IL-6. Additionally, yeast polysaccharide increased glutathione peroxidase activity and decreased the concentration of malondialdehyde in skeletal muscle ($P < 0.05$) and decreased the concentration of aflatoxin in the liver ($P < 0.05$). We conclude that yeast polysaccharide improved the meat quality by improving the antioxidant and immune function of finishing pigs. The funds are from Key project of Natural Science Foundation of Guangdong Province (2014A030311010) and the earmarked fund for Modern Agro-industry Technology Research System (CARS-36, 2016LM1080).

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The objective was to evaluate quality of beef from Nellore and Nellore × Angus steers fed whole shelled corn (WSC) diets. Thirty-two steers with average BW of 353 kg were used in a completely randomized design using a 2 × 2 factorial arrangement (2 breeds and 2 diets). One diet containing 80% WSC and 20% of a commercial pellet based on soybean meal and minerals (15.1% CP and 2.84 Mcal/kg). The other diet had 74% WSC, 20% of the same protein-mineral pellet, and 6% of sugar cane bagasse (14.7% CP and 2.75 Mcal/kg). Feeding period was 116 d, steers were fed individually and final BW was 431 and 463 kg for Nellore and crossbred steers ($P < 0.05$), respectively. Twenty-four hours after slaughter, samples were taken from the LM muscle of the left half carcass between 12th and 13th ribs for chemical composition analysis, color (L*, a*, and b*), cooking loss (CL), and shear force (SF). The statistical model included the effects of breed, diet, time, and their interactions. There was no effect ($P > 0.05$) of breed and diet on chemical composition, with mean values for moisture, CP, ether extract, and ash equal to 72.2, 22.88, 3.05, and 1.84%, respectively. There was no effect of diets on CL, SF and color indices (Table 373). However, there was a tendency ($P < 0.10$) of the beef from Nellore steers be less tender than Nellore × Angus steers, only 24 h after slaughter. Aging time increased tenderness and CL and reduced a* values. Beef from Nellore steers had lower CL. In conclusion, beef from Nellore are tougher than beef from Nellore × Angus steers after slaughter but similar after 14 d of aging. In addition, color,