EuroSciCon

2nd EuroSciCon Conference on

Food Technology

May 14-16, 2018
Rome, Italy

J Food Nutr Popul Health 2018, Volume: 2
DOI: 10.21767/2577-0586-C1-003

EFFECTS OF A PASTURE-BASED PORK PRODUCTION SYSTEM ON THE EXPRESSION OF GENES INVOLVED IN LIPID METABOLISM AND MEAT QUALITY CHARACTERISTICS

M O Ezekwe, N Okoli, N Ceron-Romero and Y Meng
Alcorn State University, USA

Studies have shown that pasture-raised pork is fresher and of higher nutritional value than its conventional counterpart. This study was to determine the effect of grazing systems on meat quality, carcass traits, and on lipid metabolism gene expressions. Control pigs were fed 100% commercial diet. Fifty/fifty (50/50) group was placed on 50% of the diet consumed by control group plus free access to rye grass-clover pasture. The twenty five/seventy five (25/75) group was fed 25% of the diet consumed by the control plus access to free pasture. The overall meat quality (flavor, overall acceptability and carcass traits (marbling, color) were scored significantly higher ($P<0.05$) in the 25/75 group than in control or 50/50 group. Back-fat thickness was lower in 25/75 group ($P<0.05$) than in control and 50/50 group. No differences were observed between the controls and 50/50 in meat and carcass qualities. Real-time PCR revealed that peroxisome proliferator-activated receptor α (PPARα), peroxisome proliferator-activated receptor γ (PPARγ), lipoprotein lipase (LPL), and sterol-regulatory-element binding protein 2 (SREBP-2) responded differently in muscle and adipose tissues. The results indicated that pasture-based pork production could positively influence lipid metabolism genes important in meat and carcass quality traits, with pasture exposure and feed allowance.

ezekwe@alcorn.edu