ABSTRACT

MAIJON PURBA. Reducing Off Odor Intensity in Local Duck Meat through Santоquin and Vitamin E supplementation in the Duck Diet. Under supervision of ERIKA B. LA CONI, PENI S. HARDJOOWORO, C. HANNY WIJAYA and PIUS P. KETAREN.

Aim of this experiment was to reduce off odor intensity in local duck meat through Santоquin and vitamin E supplementation in the duck diet. Two hundred and eighty-eight ducks (day old of Mojosari Alabio crossbred ducks) were used in this experiment. The experiment was conducted based on a completely randomized design with 10 experimental diets, 4 replicates and 7 ducks/replicate. The experimental diets were:

0) basal-diet (RB) without antioxidant (control); (R1) RB+50 ppm santoquin +100 IU vitamin E (VE); (R2) RB+50 ppm Sq+200 IU VE; (R3) RB+50 ppm +300 IU VE; (R4) RB+100 ppm Sq+100 IU VE; (R5) RB+100 ppm Sq+200 IU VE; (R6) RB+100 ppm Sq+300 IU VE; (R7) RB+150 ppm Sq+100 IU VE; (R8) RB+150 ppm Sq+200 IU VE; (R9) RB+150 ppm Sq+300 IU VE. The ducks were fed ad libitum for 10 weeks and then sacrificed. Feed consumption, live weight gain, feed conversion ratio, carcass and visceral weights, mortality, total lipid, fatty acid composition, off odor intensity (scoring test, and off odor description - QDA test) in raw and boiled duck meat were used as parameters in this experiment. Volatile components in raw and cooked duck meat were determined using GC-MS based on SDE-Lichen Nickerson method. The results showed that Sq and VE supplementation did not adversely affect feed consumption, live weight gain, feed conversion ratio, carcass and viscerals weights. Sq and VE supplementation significantly (P<0.05) reduced off odor intensity and all off odor attributes in both raw and boiled duck meat. Combination of 150 ppm Sq and 300 IU VE was the most effective treatment in reducing all off odor attributes, and VE supplementation in duck diets was also effective in preventing the unsaturated fatty acids from being oxidized and reduced volatile components concentration in both raw and boiled duck meat. Sq and VE supplementation significantly protected lipid from oxidation process hence reduced (E,E)-2,4-decadienal and (E,E)-2,4-heptadienal production that responsible for fatty, fishy, beany, moudly, green and grassy attributes in the fresh duck meat. Other volatile components: heptanal, octanal, (E,E)-2,4-decadienal, hexadecenal, (E)-2-nonenal, cyclohexanol, 3-octanone and tetradecane production those responsible for fatty, fishy, rancid, beany, moudly, green, grassy and earthy attributes were mostly reduced in boiled duck meat by the antioxidants supplementation. This experiment indicates that combination of 150 ppm Sq and 300 IU of VE (R9) in the diet was the most effective treatment in increasing sensory quality of raw and boiled duck meat.

words: off odor, local duck, vitamin E, santoquin and sensory quality