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Antioxidant supplementation in pig nutrition: effects on shelf life of *longissimus dorsi* muscle and consumers' preferences for smoked cured ham.

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ABSTRACT

The effects of dietary supplementation with antioxidant mixture in medium-heavy swine on oxidative status, nutritional and sensory characteristics of *longissimus dorsi* (LD) muscle and smoked cured ham were evaluated. Seventy-four pigs (PIC x Max Grow), were assigned to two experimental groups: control (CT) and treated supplemented with antioxidant mixture (AOX) for 45 days before slaughter. The total antiradical activity of blood (KRL test) and carcass dressing percentage was positively affected ($P < 0.05$) by AOX supplementation. Chemical composition of LD was not affected by dietary treatment. Oxidative stability and colour indices were significantly affected ($P < 0.05$) by dietary treatment and storage time (0, 6, 12, 15 days under modified atmosphere packs - MAP). Sensory analysis revealed that at 12 and 15 days of storage a loss of colour beside presence of off odors was higher ($P < 0.05$) in CT than AOX group. The seasoning losses of smoked cured ham tended to be lower ($P = 0.06$) in AOX group than CT. Physical and chemical composition was not affected by dietary treatment. Sensory analysis revealed a difference between CT and AOX ($P < 0.05$) in salty and sweet taste. Furthermore, the consumer test revealed that smoked cured ham from AOX were preferred ($P < 0.05$) than CT. Dietary supplementation with antioxidant mixture improves total antioxidant status, carcass dressing percentage and smoked cured ham seasoning losses. The oxidative, colour stability and sensory parameters of LD muscle was improved in AOX groups during refrigerated storage in MAP. Antioxidant mixture positively affect the consumer preference of smoked cured ham, without affecting other quality parameters.

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