EFFECT OF MARINATION METHOD, HOLDING TEMPERATURE AND HOLDING TIME ON SENSORY ATTRIBUTES OF JAPANESE QUAIL BREAST MEAT

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Abstract - The effect of four marination methods (unmarinated control, immersion, injection and tumbling), three different holding times (4 h, 8 h and 12 h) and two temperatures (4°C vs. 8°C) on sensory attributes of quail breast meat was assessed. The experiment design was 4 x 3 x 2 factorial arrangement of treatments. Pectoralis major muscles of 42-days old unsexed Japanese quails were collected. Deboned meat was cut into 10 g pieces. The meat samples were evaluated for sensory attributes after marination and holding at respective holding temperatures and holding times. A marinade mixture prepared at a concentration of 20% was applied using either of the marination method. Cubic chunks made from each treatment were evaluated. Meat toughness, aroma, flavor, surface color, marinade penetration and overall acceptability were assessed. Aroma, flavor, toughness, surface color, marinade penetration and overall acceptability differed ($P<0.05$) between treatments. Meat marinated using injection method and held for 4 h at 4 °C resulted the highest score for aroma. Immersion (4 h at 4 °C) and injection (4 h at 8 °C) resulted the highest toughness ($P < 0.05$). The highest score for surface color ($P<0.05$) was observed in meat marinated by immersion (12 h at 8 °C) and tumbling (4 h at 4 °C) methods. The overall acceptability was the highest ($P<0.05$) in meat marinated using injection (4 h at 4 °C) method. The present study concluded that, holding meat for 4 h at 4 °C after injection marination is the best in developing meat organoleptic qualities.

Keywords: Breast meat; immersion; injection; marination; quail; Tumbling