PHYSICO-CHEMICAL AND SENSORIAL QUALITY OF BUFFALO MEAT

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Study aimed to determine physico-chemical and sensory quality of meat. 30 samples (Longissimus dorsi muscle) of buffalo meat with age group of ≤1.5y (group A), >1.5 to 2y (group B) & >2y (group C) were taken. 10g homogenized sample was used to see pH with pH meter. For water holding capacity (WHC), 8g sample was mixed with 12ml of 0.6M NaCl solution, placed in water bath (5°C) for 15min & centrifuged (4°C) at 10,000rpm (15min) in refrigerated centrifuge machine. Supernatant decanted, measured & reported as ml of 0.6 M NaCl per 100g of meat. For cooking loss (CL) 20g meat sample in polyethylene bag was heated in water bath with internal temperature of 72°C & drained, cooled and weighed. For drip loss (DL) 50g meat samples in polyethylene sealed bags were placed at 4°C for 24 h. It was dried & weighed. For moisture analysis, 5g meat sample transferred in pre-weighed aluminum dish & kept in hot air oven at 105±1°C for 3 - 4 h. Dried sample was kept in desiccator for 1h & weighed. Protein was determined by method as described in AOAC (2000). For fat analysis, 2g dried meat sample was taken in extraction thimble & placed in extraction apparatus. Ether (150ml) poured in extraction flask & placed on electric heater to boil gently for 6 h. Solution was removed. Fat content was calculated. For ash, 5g meat sample in crucible was transferred to muffle furnace (550°C) for 4-5h. Cooled in desiccator (silica gel) for 1h, weighed to calculate ash. Meat sample was cooked in a boiling water bath (20 min) with 0.5% salt for color, odor, juiciness, tenderness & overall palatability (OAP). Sensory scores (1-5) were given by 5 panelists. (5= excellent, 4= Good, 3= fair, 2= poor, 1= very poor). In group A, B & C pH (5.80±0.02, 5.81±0.02 & 5.87±0.02 respectively), ash (0.92±0.05%, 0.95±0.06% & 0.89±0.06% respectively) & sensory scores for color, flavor, juiciness, tenderness & OAP were 3.44±0.07, 3.46±0.10, 3.44±0.07, 3.64±0.07, 3.58±0.10 & 3.42±0.11, 3.60±0.09, 3.38±0.08 & 3.46±0.10 respectively with non significant results (P>0.05). It was concluded that pH was not significantly different (P>0.05) in three age groups. CL was higher in group C. WHC was significantly higher in group A. Protein & fat contents were lower in group A while moisture was lower in group C. No significant difference was seen in ash contents (P>0.05). Higher scores were given to group A for color, flavor, juiciness, tenderness & OAP showing non significant result b/w three groups.