

Effect of Postmortem Aging Period on Quality Properties of Bovine Muscles, *Longissimus dorsi*, *Semimembranosus* and *Semitendinosus*, Held at 2°C

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ABSTRACT

A study was conducted to investigate the effect of postmortem aging period (1, 5, 10, and 15 days) on meat quality of bovine muscles, *Longissimus dorsi*, *Semimembranosus* and *Semitendinosus*, held at 2°C. Fourteen western Baggara bulls were used. The hindquarters were immediately chilled at 2°C for 24 hours, *L. dorsi*, *Semimembranosus* and *Semitendinosus* were cold deboned, each one was divided into four parts and aged immediately after deboning for 1, 5, 10 and 15 days at 2°C. Temperature and pH profile, chemical composition, bacterial load and muscle eating quality were determined. The extractable myofibrillar proteins, the non-protein nitrogen and the water holding capacity were significantly ($P \leq 0.001$) increased, while the extractable sarcoplasmic proteins significantly ($P \leq 0.001$) decreased; cooking loss and colour rating scores decreased and tenderness increased numerically with increasing aging period to 15 days. Increasing aging period from 5 to 15 days resulted in low flavour rating and increased juiciness but non-significantly for the three muscles studied. SDS polyacrylamide gel electrophoresis revealed a gradual decrease and disappearance of the troponin-T and a built up of a 30 kd component seems to be the major changes during postmortem aging. Complete disappearance of troponin-T and appearance of a 30 kd component at day 10 of aging and continue to be observed at day 15.

Key words: Bovine muscles; quality properties; aging