



Exploring the M. Rectus Femoris as a Steak Cut

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Objectives

The *m. rectus femoris* (REC) is part of the knuckle. Over the last years, peeled knuckles are being sold as a 93/7 sirloin trim as a leaner ingredient for final ground products. The aim of this experiment was to evaluate WBSF values and cooking loss of REC to explore the marketability of this muscle as a steak cut.

Materials and Methods

Thirty samples of REC ($n = 15$) and *m. gluteus medius* (GLM; $n = 15$) were obtained from an USDA inspected facility. Muscles were fabricated from A-maturity, USDA Choice carcasses. Samples were transferred under refrigeration to the University of Nevada, Reno Meat Quality Lab, where they were aged 15 d *post mortem* at 5°C. Steaks for WBSF and cooking loss analysis were fabricated from the center portion of REC and the center portion of the dorsal half of GLM. Samples were cooked on a tabletop grill, flipped at 35°C, and cooked until final temperature reached 70°C at the geometric center. Samples were cooled for 24 h (cooled to approximately 5°C) prior to

tenderness analysis. Six cores (1.27 cm in diameter) were obtained from each sample and sheared with a Warner-Bratzler blade. The crosshead speed of the texture analyzer was set at 500mm/min with a 100kg load cell. Data were analyzed by using PROC GLIMMIX of SAS (SAS Inst. Inc., Cary, NC).

Results

No differences for cooking loss were observed when comparing REC to GLM ($P = 0.14$, 24.87, and 23.57%, respectively). Numerically, WBSF values for REC were lower when compared to GLM, 2.79 and 3.07 Kgf, respectively (SE = 0.08). However, no statistical difference was observed when comparing both muscles ($P = 0.08$).

Conclusion

The *m. rectus femoris* showed similar cooking loss and objective tenderness when compared to *m. gluteus medius*. Based on tenderness and cooking performance, it is possible to market REC as a steak cut with similar GLM prices. The other muscles from the knuckle, *m. vastus lateralis*, *m. vastus medialis*, and *m. vastus intermedius* still can be used as 93/7 trim.