

Comparison of quality traits and nutrition components of six retail cuts from female Hanwoo (*Bos Taurus coreanae*) with high parities

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In Korea, female Hanwoo beef production accounts for about 46% of all Hanwoo beef, of which parity cow are found to be more than heifer (KAPE, 2017). The parity cows have the disadvantage of being lower marbling and higher toughness on meat quality than heifer (Hilton et al., 1998; Xiong et al., 2007). In order to consume female Hanwoo beef, it is necessary to investigate the meat quality and nutritional properties for various retail cuts with female Hanwoo beef. Thus, the purpose of this study was to determine the comparison of tenderness and nutrition value of different retail cuts of parity cow among female Hanwoo. A total of six female Hanwoo (*Bos Taurus coreanae*) with above 3 parities were randomly selected from different commercial herds. The Hanwoo cow slaughtered at an abattoir in National Institute of Animal Science. The Beef muscles was dissected into primal cut (tenderloin, middle loin, strip loin, internal flank plate, top inside round and rump). The beef muscles were used to measure pH, proximate (Anderson et al., 2007), collagen content (Anderson et al., 2007), cooking loss, shear force, amino acid composition and fatty acid composition (Morrison and Smith, 1964). The general linear model (GLM) procedure and the Duncan's multiple range test ($p < 0.05$) were performed using SAS version 9.4 program (SAS Institute Inc., Cary, Nc, USA) to determine the significance of differences between treatment means. The pH value of internal flank plate (5.89) was significantly higher than that of other muscle (5.50-5.62). The moisture and collagen content were not significantly different in all muscles. The protein content was the highest in top inside round and the lowest in internal flank plate. In fat content, the muscles separated from the torso (tenderloin, middle loin, strip loin, and internal flank plate) tended to be significantly higher than those of the hind limb muscles (top inside round and rump) ($p < 0.05$). There were no significant differences in collagen content among the primal cuts. The cooking loss of Top inside round and rump were significantly higher than that of other muscle. The highest shear force was found in strip loin, while the lowest shear force was found in tenderloin ($p < 0.05$). And the top inside round and rump was showed no significantly difference compared to the middle loin. No significant differences in the essential amino acid composition were found, regardless of the retail cuts (data not show). In fatty acid composition, the oleic acid (C18:1n9) in middle loin, strip loin and internal flak plate was higher than those of other primal cuts. The internal flak plate showed the highest in unsaturated fatty acid (USFA) and the tenderloin ($p < 0.05$) showed the lowest. From those results, this study confirmed that the retail cuts of female Hanwoo (*Bos Taurus coreanae*) with high parities showed differences in proximate, shear force and fatty acid composition. It seems that the consumption of top inside round is appropriate for health-conscious consumers. Further study on the comparison of retail cuts from parity cow beef among female Hanwoo on eating quality is necessary.

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