

Evaluation of cooking methods of pork belly and collar butt for Korean seniors

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Introduction: In South Korea, the number of seniors, people aged sixty-five or older, will exceed twenty percent of entire population after 2021 years. To prepare for upcoming super-aged society, Korea has established senior-friendly food standards and is implementing its certification system. The hardness value is utilized as an index of Korean senior-friendly foods and is classified into three grades, such as 1 (50,000 - 500,000 N per m², texture that can be chewed by teeth), 2 (20,000 - 50,000 N per m², gum) or 3 (below than 20,000 N per m², tongue). Thus, the objective of this study was to evaluate the cooking methods of pork belly and collar butt, the most popular pork parts in Korea, for our seniors.

Materials and methods: The samples of fresh pork belly and collar butt were trimmed, cut, and then divided into two groups according to cooking methods. One group was grilled using a household electric grill until the internal temperature attained seventy-seven degrees (doneness degree: well-done). The other group was soaked in water and then boiled for one hour. Quality measurements were taken after cooling the cooked samples in an ice. Proximate composition was determined using a near-infrared spectrophotometer (FoodScan™ Lab Type, Foss Analytical A/S, Hillerød, Hovedstaden, Denmark) and expressed as a gram per 100 g meat. Calorie was calculated as kcal per 100 g meat with protein and fat content. Hardness value was measured using a texture analyzer (Universal Testing Machine 5543, Instron Corporation, Norwood, Massachusetts, USA) equipped with a cylindrical probe of 10 mm diameter and calculated as N per m². All data were statistically analyzed using SPSS (2015) program.

Results: The boiled pork had significantly ($p < 0.05$) lower calorie and moisture content and higher ($p < 0.05$) fat content compared to the grilled pork. The hardness values of both grilled and boiled belly met the standard of Korean senior-friendly foods and were rated at grade 1. However, only boiled pork between two cooked collar butt showed the hardness value to meet the senior-friendly food standard.

Conclusions: These findings suggest that boiling is suitable as the cooking method of pork for Korean seniors but grilling method could be applied to some meat with very high fat content for them.

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