

高压处理对牛肉感官特性与食用品质的影响

Effects of high pressure treatment on the sensory property and eating quality of beef

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中文摘要:

通过对宰后牛肉施加250 MPa的压力处理, 分析测定处理后牛肉在贮藏期间理化指标的变化, 研究了高压处理对牛肉感官品质的影响。试验结果表明高压处理能明显降低牛肉的剪切力和改善牛肉的嫩度($P < 0.01$), 高压嫩化的效果与肌肉的部位密切相关, 压力处理对背最长肌和里脊的嫩化作用最明显。压力处理后牛肉的可溶性物质含量有所增加, 但在贮藏后期差异不显著($P > 0.05$), 压力处理对牛肉中的游离氨基酸的影响不明显($P > 0.05$), 这也表明压力处理对牛肉风味的贡献与自然成熟的作用相近。通过研究可以得出结论, 在室温下用250 MPa的压力处理宰后热剔骨(6小时以内)真空包装的牛肉10 min, 0~4℃冷藏条件下贮存2~3 d, 可获得嫩度好、其它感官指标不明显低于低温吊挂成熟7~10 d的产品。

英文摘要:

High pressure of 250 MPa was applied to beef post-mortem muscle, and the physicochemical characteristics of the chilled storage pressure-treated beef were determined to investigate the effects of pressurization on sensory property of beef skeletal muscle. The results show that high pressure treatment significantly decreases shear values of the cooked meat ($P < 0.01$) and improves the beef tenderization. The differences in response to pressurization of various muscles were found, the pressure effect appeared to be the greatest on the Striploin and tenderloin. High-pressure treatment has no adverse effect on the water-soluble components responsible for the flavor of meat, but significant differences were not observed in the contents of free amino acid in each treatment. It indicates that high-pressure treatment on the post-mortem muscle causes almost the same changes in the components responsible for the flavor of meat as those observed in conditional muscle. From the result, it is suggested that a high pressure of 250 MPa was applied to pre-rigor muscle (in 6 h post-slaughter) packaged in pouches under vacuum for 10 min at room temperature and the muscle was preserved at 0~4℃, which caused tenderization, reduced condition time and extended refrigerated storage life.

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