

SIFAT FISIK DAGING SAPI RESTRUKTURISASI DARI DAGING *TRIMMING* MENGGUNAKAN ENZIM TRANSGLUTAMINASE MIKROBIA DAN GARAM

INTISARI

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Sifat fisik daging sapi restrukturisasi yang berasal dari daging *trimming* dengan menggunakan enzim transglutaminase dari mikrobia (MTG) dan garam sebagai agen perekat diteliti dalam penelitian ini. Tiga bagian potongan sapi yang berbeda digunakan sebagai bahan baku olahan daging sapi restrukturisasi dalam penelitian ini.

Tiga perlakuan yang berbeda meliputi daging merah, *plate*, dan *shank* yang masing-masing dicampur dengan MTG 1% w/w, dan garam 1.5% w/w. Sampel, kemudian, dianalisis persentase *cooking loss*, *thawing loss*, sifat tekstural, warna, dan *binding strength* baik pada sampel mentah maupun masak. Hasil analisis, kemudian, digunakan untuk menentukan penelitian lebih lanjut pada daging sapi restrukturisasi dari campuran tiga bagian potongan sapi yang berbeda (50% daging merah, 30% *plate*, dan 20% *shank*). Penggunaan daging campuran ini menunjukkan adanya perbedaan nyata terhadap sampel daging merah pada beberapa parameter seperti *binding strength*, kekerasan, dan kohesivitas pada sampel mentah. Namun, tidak ada perbedaan nyata pada *binding strength* di sampel masak.

Campuran bagian potongan daging sebagai bahan daging restrukturisasi, selanjutnya, digunakan pada penelitian tentang perbedaan level konsentrasi MTG (1, 1.5, 2%, w/w) dan garam (1, 1.5, 2%, w/w). Pada penelitian ini, terdapat penurunan *cooking* dan *thawing loss* seiring dengan meningkatnya konsentrasi garam. MTG (2%) dan garam (1%) menunjukkan hasil *binding strength*, kenampakan, dan kekerasan pada sampel masak yang paling baik dibandingkan dengan perlakuan lainnya.

Kata kunci: *restrukturisasi; daging sapi; enzim transglutaminase mikrobia; garam*

PHYSICAL CHARACTERISTICS OF RESTRUCTURED BEEF FROM MEAT TRIMMING USING MICROBIAL TRANSGLUTAMINASE AND SALT

ABSTRACT

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Physical characteristics of restructured beef from meat trimming using microbial transglutaminase (MTG) and salt were investigated. Utilization of three different parts of beef cuts were used in this research.

Three treatments included trimmed red meat, plate, and shank were added with 1% and 1.5% w/w concentration of MTG and salt, respectively. The samples were analyzed for cooking loss in cooked samples, thawing loss in raw samples, textural properties, color evaluation and binding strength in both raw and cooked samples. The results were used to determine further investigation of restructured beef from mixed parts (50% red meat, 30% plate, and 20% shank). The use of mixed parts result some significant differences in several parameters between samples from mixed parts and red meat including binding strength, hardness, cohesiveness in raw sample. However, no significant difference in binding strength of cooked sample was observed.

The mixed parts, then, was used for further study of effect of different level of MTG (1, 1.5, 2%, w/w) and salt (1, 1.5, 2%, w/w). In this study, cooking and thawing loss decreased alongside the increased of salt concentration. MTG (2%) and salt (1%) indicated the best binding strength, appearance, and higher score of hardness in cooked sample compared to other treatments.

Keywords: *restructured; beef; microbial transglutaminase; salt*