



Effect of Glucose, Sucrose, Cellulose, Glycerol, Chitosan Addition to Improve Gelatin Quality of Fish, Chicken, and Cow

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Abstract: Gelatin potency from fish and chicken is very profound because reuse of the skin/shell and the bone is still limited. However, utilization in pharmacy is very limited because gel strength and viscosity from fish and chicken are poor.

To ameliorate quality of fish and chicken gelatin, it can be combined with other substances that are expected to form cross-linking between gelatin and the substances. This research intend is to improve quality of gelatin viscosity by cross-linking approach. Objective of this research is to determine whether glucose, sucrose, cellulose, glycerol, or chitosan is the best substance to improve quality of gelatin viscosity as well as to analyze effect of the best substance to gelatin viscosity made from fish, chicken, and cow.

This research was performed by sample demineralization of cow skin, cow cartilage, fish shell, fish bone, chicken skin, and chicken bone with acid until ossein formed. The ossein was extracted with distilled water producing gelatin. The best substance to improve gelatin viscosity was gained by cross linked glucose, sucrose, cellulose, glycerol, and chitosan with standard gelatin then comparing their viscosity. This the best substance was used as cross-linking component combined with gelatin of fish, chicken, and cow by heating method at temperature 70°C for 1 hour. Afterward, the viscosity of these gelatins were measured.

The result is that chitosan has the highest viscosity which is used to form gelatin cross-linking of fish, chicken, and cow. Adding of 1% chitosan significantly affects increasing of fish, chicken, and cow gelatin, therefore it is expected can improve gelatin quality of fish and chicken.

Key words : gelatin, cross-linking, chitosan, viscosity.