

P15

Chemical Treatment on Rheology of Sea Tangle (*Laminaria japonica*) Extract

Hye-Ri Kim, Wook-Min Park, Ok-Soo Choi*,
Hae-Sub Kim and Tae-Jin Bae

Division of Food Technology and Nutrition, Yosu National University,
Yosu 550-749, Korea

*Division of Food Science, First College, Sunchon 540-744, Korea

Recently, it was achieved development of the product using sea tangle but it was become limit fluid food in case of use high concentration by stink of sea tangle and a high viscosity as well as precipitate at solvent. Therefore this study was added acid, salt, sugar with make up for its defects of sea tangle extract. Therefore, we was investigated viscosity, solid yields and it had effect on detection of useful component. Sea tangle was extracted as different concentration(0.5, 1.0, 1.5, 2.0, 2.5 and 3.0%) of sodium chloride and sucrose, it was extracted as different concentrations(0.05, 0.1, 0.2 and 0.3%) of acetic acid and sodium polyphosphate. Since then was extracted 0.5, 1, 2 and 4hr at 20°C, 100°C. As a result, sucrose and sodium polyphosphate were showed high viscosity compare with control sample. Solid yields of sucrose was increased some 2.0% in case of 2.5%. Sodium polyphosphate almost nothing changed. Reducing sugar was increased some double from 0.4% to 0.72% of control sample in case of addition 2.0% but was decreased 0.62% by addition of 3.0% as well as this numerical value almost nothing changed. Addition of 1.5% sodium chloride was significantly decreased viscosity from 189.3cP to 642.2cP. When addition 3.0% the maximum amount was increased a small amount of 223.3cP. Solid concentration was increased about 2% by increase of addition value. Ash was increased double from 1.45% to 3.86% of control sample after addition of 3.0% sodium chloride. In case of acetic acid effected from 330.9cP to 131.8cP at 0.05%. However solid yields, ash, reducing sugar were respectively showed of small amount decrease some 1%, from 0.91% to 0.86% and from 0.90% to 0.67%. Aqueous extraction of sea tangle at the temperature range of 20~100°C was studied for temperature effects on soluble solids and viscosity of extracts. It was showed low viscosity more 20°C than 100°C. Solid yields was increased as increase the temperature and most of solids was extracted during 30min. Acetic acid was no difference between 0.60% and 0.55% at 20°C.