

0540

## Effects of bitter components of salts on cooking properties

Kyoko Ishikawa, Ryuji Matsunaga and Masanori Kumagai\*

Department of Biotechnology, Faculty of Bioresource Sciences, Akita Prefectural University and

\*Akita Research Institute of Food and Brewing

### Summary

We studied taste properties of salts in water solutions and demonstrated effects of bitter components on the taste of salts. We previously evaluated water solutions of salt samples, but salts are usually used in other food materials during cooking. The use of salt as a seasoning seems to impart different effects on the tastes of salt and food. Therefore, direct evaluations of salt as it is used in prepared foods are inferred to differ from those of a salt solution. During the last year, we used popular foods as sensory test samples to examine the effects of four salts on food taste. The obtained results suggest that taste properties of the salts were characteristic for each dish. In previous studies, panel members were able to distinguish the types of salts in salt solutions and clear soups by sensory evaluation. These differences were detected using taste-sensor analyses. In this study, we analyzed CPA measurements using a taste sensor. Differences between a salt water solution and a clear soup, which were prepared with identical salts, were clarified according to their CPA values.

Because sodium chloride influences the salty taste, we adjusted the sodium chloride contents in foods at the same concentration. Using four salt samples that were produced by different processes and which had different contents of inorganic components, we analyzed the tastes of four foods: rice gruel, *asazuke* of turnip, lemon water, and sweet bean-paste soup. We also examined effects of contents of inorganic components in the salts on the food tastes using a sensory evaluation. Results suggest that the inorganic components aside from sodium chloride were a key factor that influenced the saltiness of foods. The taste properties of the salts were characteristic for each dish. Generally, salt is known to influence the taste of sourness. In this study, we recognized the interaction between sourness and saltiness. These findings suggested that bitter components in salt samples influence the taste.