Mechanism for Permiation of Sodium Chloride into Food

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Summary

Cubes of corn starch gel, egg albumin gel, and soy protein gel, with side lengths of 1-5cm, were soaked in a 0.1M sodium chloride solution at 25°C for 0-24 hours, and the diffusion coefficients of these substances in three-dimensional diffusion were obtained. Furthermore, the diffusion coefficient of these substances in one-dimensional diffusion using semi-infinite gel slabs was also measured. It is recognized that all of the values of D in various gel cubes imply the properties as that mentioned in the previous paper,[1)] that is the value of D obtained by three-dimensional diffusion operation is less than that obtained by one-dimensional one. This result indicates that the properties for D obtained by three-dimensiona diffusion operation are accepted universally for the transport of the substances in gel cubes.

1)S.Odake, K.Hatae,A.Shimada and S.Iibuchi, Agric.Biol.Chem., 54, 2411(1990)