

The Diffusion of Sodium Chloride in Foods

-The Diffusion of Sodium Chloride
in Agar Gel Cubes Containing Emulsion-

Sachiko ODAKE

Faculty of Living Science, Yamanashi Women's Junior College

Toru TORII

Faculty of Agriculture, University of Tokyo

Summary

The relationship between the diffusion coefficients of sodium chloride and oil volume fraction of emulsion in agar gel cube was studied. The oil volume fraction of o/w-emulsion was 0-0.3. The size of agar gel cubes containing emulsion were 1 and 2cm (2L), and the concentration of agar gel was 5%. After soaking in a sodium chloride solution for 0 - 48 hours (t), the mean concentrations ($\bar{C}(t)$) of sodium chloride in gel cubes were measured by the conductivity. The value for the diffusion coefficient, which was yielded by substituting the value of t/L^2 and $\bar{C}(t)$ into the solution of the diffusion equation, depends on the oil volume fraction. When oil volume fraction increased, the diffusion coefficients decreased.