

Title Mechanical Properties and Viability of Japanese Radish Cylinders immersed in Sodium Chloride Solutions

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### **Abstract**

Mechanical properties (rupture properties and Young's modulus) of Japanese radish samples (*Raphanus sativus* L.) were determined following immersion in 2.5, 5.0 and 10.0% w/w NaCl solutions. Upon immersion in NaCl solutions, rupture energy increased while Young's modulus decreased. Influences of NaCl concentration on rupture energy and Young's modulus of Japanese radish cylinders were not apparent in this study. These results were expressed with empirical equations. The calculated values from the empirical equation agreed well with the experimental values. In this article, triphenyl tetrazolium chloride (TTC) reduction and moisture content changes when Japanese radish samples are immersed under various NaCl solutions were also investigated. A decrease in TTC reduction corresponded to an increase of the rupture energy. A decrease in Young's modulus corresponded to increased rupture energy and moisture reduction.