

Inhibitory Effect of Sesame Oil and Chitosan against *Salmonella* in Mayonnaise

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The objectives of the current study were to investigate the effect of totally (100% sesame oil) or partially (50% sesame oil and 50% corn oil) replacing corn oil with sesame oil on *Salmonella* spp. in mayonnaise stored at 4, 10 or 24 °C and the inhibitory effect of chitosan at 0.5 to 1.0% against *Salmonella* spp. in mayonnaise. Effect of chitosan on mayonnaise particle size was also investigated. *Salmonella* cells were not detected in mayonnaise prepared with 50% sesame oil and 50% corn oil or by addition 0.5 to 1% chitosan at and beyond 1 d; however, cells were not detected in mayonnaise prepared 100% corn or sesame oils by 7 d at 24 °C. Further, *Salmonella* numbers were reduced by approximately ≤ 1.2 log CFU/g in totally or partially sesame oil-treated mayonnaise or in mayonnaise containing 0.5 to 1% chitosan and stored at both 4 and 10 °C compared to mayonnaise prepared with corn oil (control without chitosan). The addition of chitosan enhanced the viscosity of mayonnaise and reduced the particle size of droplets which were 50, 24.1 and 6.1 μm in mayonnase treated with 0, 0.5 and 1.0% chitosan. The results showed that replacing of corn oil with sesame oil in manufacturing of mayonnaise or addition of chitosan have the potential to reduce presence the of *Salmonella* in this product and enhance the reduction in the particles size and their distribution.