

Title: COMPARISON OF METHODS FOR WASHING AND DISINFECTION OF LETTUCE AND TOMATO CONTAMINATED WITH *Salmonella* Enteritidis SE86

Authors: Rossi, E. M.^{1,2}, Beilke, L.¹, Kochhann, M.¹, Tondo, E. C.²

Institution: 1 Universidade do Oeste de Santa Catarina- UNOESC (Rua Oiapoc, 211, Agostini, São Miguel do Oeste-SC), 2 Universidade Federal do Rio Grande do Sul (Av. Bento Gonçalves 9500, prédio 43212, Campus do Vale, Agronomia, Porto Alegre/RS)

Abstract:

In recent years the vegetables have also been identified as important food pathogen vehicles. Lettuce and tomato are the most consumed vegetable in the world and are often washed only with water before consumption, which increases the risk of foodborne. *Salmonella* Enteritidis SE86 has been recognized for outbreaks of salmonellosis in Rio Grande do Sul-RS since 1999. Thus, the aim of this study was to compare different methods of cleaning and disinfection of contaminated lettuce and tomato with *Salmonella* Enteritidis SE86. Separately lettuce and tomato were contaminated with approximately 8.0 log CFU/ml of *S. Enteritidis* SE86 and then subjected to different methods of cleaning and disinfection with sodium hypochlorite (50 and 200 ppm) and vinegar (2% and 20%). After, the count of *S. Enteritidis* SE86 on xylose lysine deoxycholate agar was performed. The results showed that all methods reduce the counts of this microorganism, although neither method was able to completely eliminate *S. Enteritidis* SE86. The method was more efficient treatment (T4) with washing lettuce and tomato with drinking water and, then, submerging it in a 200 ppm sodium hypochlorite for 30 minutes (reduction of 3.44 log CFU/g on lettuce and 3.11 log CFU/g on tomato). The least effective treatment was the washing the vegetables only with drinking water (reduction of 1.3 log CFU/g on lettuce and 2.08 log CFU/g on tomato), the methods often used by food handlers. Thus, it is concluded that methods of cleaning and disinfection in tomato and lettuce are needed to reduce microbiological contamination and ensure safety consumption of these vegetables.

Keywords: lettuce, tomato, *Salmonella* Enteritidis SE86, disinfection

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