INFLUENCE OF ORGANIC AND CONVENTIONAL PRODUCTION SYSTEMS ON THE MICROBIOLOGICAL QUALITY OF LETTUCE VARIETIES

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Alternative production systems of foods have been developed because of society’s increasing concern with sustainability, safety and quality of conventional products. Organic production has attracted the attention of the entire food production sector since it aims to produce healthier foods, without chemical contaminants. Among the foods produced by organic production, lettuce (*Lactuca sativa*) has a high consumption in Brazil and other countries. This study aimed to compare the influence of organic and conventional production systems on the microbiological quality of lettuce varieties (loose leaf, butterhead, Romaine and red looseleaf) produced in the city of Araraquara, São Paulo state, Brazil. A total of 80 lettuce samples (40 organic certified by national authority and 40 conventional), were analyzed for mesophilic aerobic bacteria, yeasts and molds, total coliforms, *Escherichia coli* and *Salmonella* spp. The results showed that the most of the mesophilic aerobic bacteria counts ranged from $10^6$ to $10^7$ CFU/g, most of the yeasts and molds counts ranged from $10^5$ to $10^6$ CFU/g, most of the total coliforms counts ranged from $10^4$ to $10^5$ CFU/g and most of the *Escherichia coli* counts ranged from $10^1$ to $10^2$ CFU/g in both production systems. None of the samples was positive for *Salmonella* spp. Statistical differences between the microbial counts of organic and conventional lettuces was observed to loose leaf lettuce, presenting higher mesophilic aerobic bacteria counts in organic than conventional samples ($p=0.01$). These results indicate the need of good farming practices along the production chain to minimize the risk of contamination, independent of the production system.