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INFLUENCE OF THE CONTAMINATION LEVEL ON THE SURVIVAL OF *ESCHERICHIA COLI* O157:H7 IN SOYBEAN SEEDS

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Contamination of *Escherichia coli* O157:H7 associated to soybean seeds, is mainly attributed to primary production, irrigation with sewage and/or poor post-harvest practices. In the present study, the behavior of *Escherichia coli* O157:H7 in soybean seeds before germination during storage at 25℃ and 70% RH was evaluated. More specifically, the impact of the level of contamination on the survival capacity of the pathogen was assessed. To do this, three batches of soybeans were artificially inoculated with contamination levels of 6, 4 and 2 log cfu/g. The results showed an initial decrease of the population of *E. coli* O157:H7 mainly due to the drying conditions performed in a biosafety cabinet. Subsequently, the microbial population showed a slight growth during the storage followed by a decrease from 70 h until the end of the analysis period (26d). Interestingly, at low contamination levels (2 log cfu/g) simulating more realistic conditions, the inoculum was evenly distributed among the contaminated samples yielding positive results by the detection techniques in 60% of the samples analyzed in the final analysis. It can be concluded that *E. coli* O157:H7 can survive during the normal conditions of storage of soybean seeds. Therefore, the importance of drying is proposed as an effective technique for inhibition of pathogenic microorganisms together with cooking treatment prior to consumption.

Keywords: Influence, contamination level, survival, *Escherichia coli* O157:H7, soybean seed

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