Salmonella enterica serovariedad Typhimurium, has been associated with outbreaks because of the ingestion of fruits and vegetables and those outbreaks have been related due to contamination sources like irrigation water, farm workers influence and the soil itself. In this investigation it was artificially inoculated in a compost and later applied to a lettuce crop, in order to determine the transfer capacity of this microorganism to the plants, as well as to establish if the polyethylene cover protected the crop. In this study, four treatments were made with two controls, T1 and T2 - with and without polyethylene cover - these treatments and controls were inoculated with Salmonella enterica Serovariedad Typhimurium ATCC 13176 0,04 mo/g de compost, T3 y T4 - with and without polyethylene cover - each one with 100 mo/g de compost, and finally C1 and C2 - with and without polyethylene cover -, but without inoculation. At 8 weeks the microorganism was determine by the MPN/4g technique (EPA, 2006). Salmonella enterica serovariedad Typhimurium ATCC 13176 is capable to transfer itself to the lettuce, through the contaminated compost (OR=2.53) regardless of microorganism concentration in the compost, and there was an association between the contamination and the crop cover condition (p=0.002). The analysis of the roots and the irrigation water, demonstrated that it does not exist any transference association.

Abstract

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Keywords

Compost, lettuce, Salmonella enterica serovariedad Typhimurium, safety.