Survey of Antagonistic Effect of Lactobacillus Brevis Isolated from Tomato Against Phytopathogenic Erwinia Carotovora PTCC 1675

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Background & Objectives: *Lactobacillus spp*. is rarely pathogenic and these bacteria have been probiotically application in recent years extensively. During of production and processing of agricultural products have occurred vast economical losses due to microorganisms specially *Erwinia carotovora* that causes rot in kinds of plants post harvesting. The aim of this study was isolation and diagnosis of kind of isolated Lactobacilli from different plants and determination of their efficiency as a biocontrol agent against phytopathogenic bacteria like *E.carotovora*.

Methods: Each isolate from kinds of isolated Lactobacilli from plants following 48 hours of microbial growth in MRS agar and under anaerobic condition were identified by biochemical methods and comparing to sugars fermentations investigated. Supernatants and suspensions containing lactobacilli were studied for determination of antagonistic effect. Antibacterial activity performed by well diffusion and disk methods. Then diameter zone of inhibition (mm) measured. Any Lactobacilli isolatedfrom products like potato and onion and in contrast, the isolates of these bacteria recovered from tomato, radish, Lettuce, squash, carrot and soybean. There were more Lactobacilli in surface areas of spoiling plants especially tomato and soybean.

Result: The isolated bacteria from radish and tomato were *L. plantarum* and *L. brevis*, respectively. Relationship between mean diameter of zone of inhibition with type of methods and kind of microbial solution were significant. Amongst of isolated Lactobacilli, *L. brevis* against *E. carotovora* showed good activity.

Conclusion: If the results of this methods to be similar with in vivo conditions in future, it can be optimized for neutralization of bacteria pests in plants.

Keywords: *Lactobacillus brevis*; *Erwinia carotovora*; Antagonistic Effects; Phytopathogen