

Characterization of *Pectobacterium carotovorum* isolated from diseased carrots and study on their pathogenicity on selected vegetable crops

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Bacterial soft rot, caused by *Pectobacterium carotovorum* is a disease responsible for severe post-harvest losses of carrots in Sri Lanka. The present study aimed to isolate *P. carotovorum* strains from diseased carrot samples from different carrot fields and to determine their pathogenicity on selected vegetable crops. Five bacterial strains, namely CSR1, CSR2, CSR3, CSR4 and CSR5 were isolated from diseased carrots and their identity was confirmed using standard biochemical characteristics of *P. carotovorum*. All isolates were positive for catalase test, citrate test and Voges Proskauer test. Each of the isolates showed a luxuriant growth on McConkey agar and they were negative for oxidase, indole and methyl red tests. Pathogenicity of each of the isolates was evaluated by inoculating them on healthy carrot discs. Furthermore, healthy samples of four other vegetables, namely radish, cabbage, potato and pumpkin were inoculated with the isolated *P. carotovorum* strains to study the development of rotting symptoms at 25°C within 48 hours. CSR1 was able to macerate radish, cabbage and pumpkin. CSR2 caused rotting symptoms only in radish. Cabbage and radish were rotten by CSR3 while potato and cabbage did not show any rotting symptom when inoculated with CSR3. The strain CSR4 was able to macerate all four vegetables tested. Potato was the only sample that was macerated by CSR5.

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