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Candidatus Liberibacter solanacearum - detection on potatoes and carrots

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Candidatus Liberibacter solanacearum detected on potato in Finland

‘*Candidatus* Liberibacter solanacearum’ (CLso) haplotype C, a bacterial pathogen transmitted by the carrot psyllid *Trioza apicalis*, causes yield losses in carrot production. Due to concerns that this pathogen might also threaten potato production, the occurrence of CLso in cultivated and volunteer potatoes in Finland was studied.

Of the 148 potato samples tested by PCR, eight volunteer potato plants and one cultivated potato grown at the edge of a carrot field were found to be CLso positive. This is the first observation of CLso haplotype C in field-grown potatoes.

Attempts to transmit CLso into potato with carrot psyllids were not successful.

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CLso haplotype C was transmitted from infected carrots to potato plants by leaf grafting and by phloem connection, and found to survive in the potato plants for several weeks after transmission.

The bacterial colonisation progressed slowly in the potato phloem and the amount of bacteria detected was low. The plants produced from the daughter tubers of the CLso-positive potato plants were all CLso negative, suggesting that CLso haplotype C was not able to pass to the daughter plants.

None of the CLso-positive potatoes inoculated in greenhouse or collected from fields showed symptoms characteristic of zebra chip disease, associated with CLso haplotypes A and B.

Candidatus Liberibacter solanacearum detected on carrot, parsnip and weeds in Finland

- *Candidatus* Liberibacter solanacearum (CLso) haplotype C has been found on carrots, parsnip and some weeds (*Urtica dioica, Anthriscus sylvestris*)
- New haplotype G on carrots and weeds (*Polygonum* sp.)
- New haplotype U on *Urtica dioica*
- CLso survived alive in the cold storage conditions
- CLso haplotype C did not spread in the carrot seeds
- CLso overwintered on the psyllids *Trioza* sp.

Reference

- https://www.semanticscholar.org/paper/Carrot-Pathogen-%E2%80%98Candidatus-Liberibacter-Haplotype-Haapalainen-Latvala/7eb1c677976defc659543f8bbd148fe52f8c251c

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Thank you

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