

## World Congress and Expo on Applied Microbiology

August 18-20, 2015 Frankfurt, Germany

## Patterns of symptoms and pathogenicity factors among the potato pathogenic *Streptomyces* from Hamedan province

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Several *Streptomyces* species are reported from the potato growing area in the world which cause potato scab diseases. Pathogenicity genes of them are *nec1* and thaxtomin biosynthesis genes including *txtA*, *txtB*, *txtC* and *txtD* and the main produced phytotoxins are thaxtomin, concanamycin and a compound named as FD-981. As potato scab disease is an important disease in Iran, samples which shown scab symptoms including raised, netted and deep or shallow-pitted lesions were collected from the main potato fields. The causative agent *Streptomyces* strains were isolated, which were very heterogeneous and belonged to four main groups: *S. scbies*, *S. acidiscabies*, *S. turgidiscabies* and *Streptomyces* sp. They were pathogenic on potato, parsnip, horseradish, carrot and some other tested plants. Raised and netted potato scab-inducing strains produced thaxtomin determined by thin layer chromatography, but this phytotoxin could not be detected in the pitted lesion-inducing strains. Selected strains were examined for the presence and situation of the pathogenicity related genes as they induced variable disease symptoms under field and greenhouse condition. Pulse field gel electrophoresis technique revealed that most of the tested strains carried a linear plasmid. Amplification of the pathogenicity gene fragments and southern hybridization analysis showed that only some tested trains harbor *nec1* and *txt* genes. A total of 20 representative strains was grown in modified oatmeal medium and extracted with ethyl acetate. It was shown that some strains produced pathogenicity compound(s) other than thaxtomin which induced pitted lesion on potato tuber slice.

## **Biography**

Gholam Khodakaramian has completed his Ph.D at the age of 33 years from Tarbiat Modarres University, Faculty of Agriculture in Tehran, Iran and postdoctoral studies from Hiroshima University, Graduate School of Advanced Sciences of Matter, Higashi-Hiroshima, Japan. He is faculty member and head of the Department of Plant Protection at Bu-Ali Sina University. He is working on the identification, genetic diversity, pathogenicity and biocontrol of plant pathogenic bacteria. He has published more than 60 papers in some reputed international and local journals and serving as an editorial board member of the agricultural biotechnology journal which publish by Bu-Ali Sina University.

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