

Etiology of bacterial leaf spot of arugula in Serbia

Anđelka Prokić, Jelena Menković, Tamara Marković, Milan Ivanović, Aleksa Obradović

University of Belgrade, Faculty of Agriculture, Belgrade, Serbia

Brown, necrotic spots, mainly located at the leaf edge, surrounded by weak halo, were noticed on arugula (*Eruca vesicaria* subsp. *sativa* L.) leaves originating from a farm near Belgrade, in early spring of 2019.

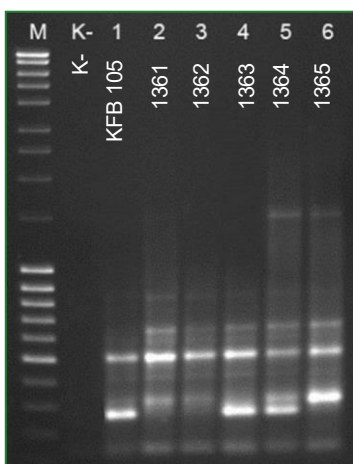
Bacterial strains isolated from arugula leaves formed large, mucoid and shiny yellow colonies on yeast-extract-dextrose CaCO₃ medium.

Three-week old arugula plants were inoculated by spraying with bacterial suspension (approx. 10⁷ CFU/ml in SDW) with a hand held sprayer. A week later, chlorotic spots, spreading from the leaf edge toward the central vein were observed on leaves of inoculated plants. Blackening of secondary veins appeared within the collapsed leaf tissue.

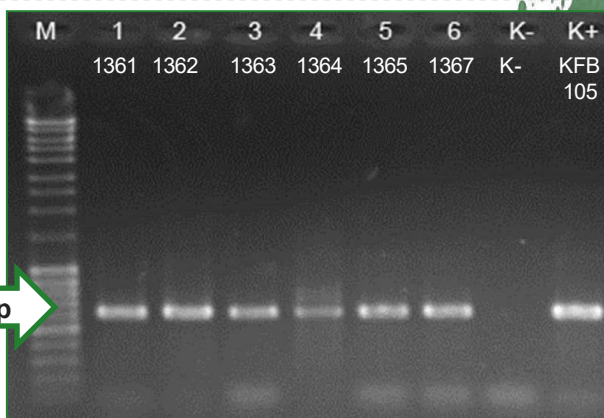
By using PCR primer DLH120 / DLH125 (Berg et al., 2005), a 619 bp fragment specific for *Xanthomonas campestris* was amplified in all studied strains.



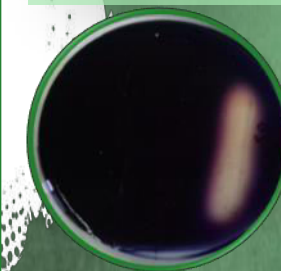
The genetic diversity of strains was studied using the BOX-PCR method.



619 bp



Growth in 0,02%
TTC medium



Hydrolysis of starch

By comparing the *gyr B* genes DNA sequences of the studied strains (GenBank Acc. Nos. MW508894-MW508897) with the sequences from the NCBI base, a high degree of identity (100%) with strains *X. c. pv. campestris* of different geographical origin was found.

Our results indicate that the studied strains belong to the bacterium *X. campestris pv. campestris*, causal agent of Brassicaceae black rot, a widespread and economically important pathogen worldwide. Arugula was first time reported as a host of this bacterium in Serbia.

Acknowledgments: This work was supported by the Ministry of Education, Science and Technological Development, Republic of Serbia and Faculty of Agriculture contract No. 451-03-9/2021-14/ 200116, as well as COST CA16107.