

**Faculty of Agriculture and Food Sciences
University of Sarajevo
Bosnia and Herzegovina**



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MOLECULAR AND BIOLOGICAL CHARACTERIZATION OF BLACK RASPBERRY NECROSIS VIRUS ON RED RASPBERRY IN SERBIA

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Summary

Black raspberry necrosis virus (BRNV) is considered as economically important virus infecting raspberries. In black raspberry (*Rubus occidentalis* L.) BRNV is causing cane tip necrosis, but infected red raspberry (*Rubus idaeus* L.) cultivars in general do not express foliar symptoms.

From 2014–2018, a number of 105 samples from 9 red raspberry cultivars ('Almira', 'Fertödi Zamos', 'Glen Ample', 'Meeker', 'San Rafael', 'Polana', 'Polka', 'Tulameen' and 'Willamette') were collected from different localities in Serbia. Samples were tested on the BRNV presence by reverse transcription-polymerase chain reaction (RT-PCR) using specific primers targeting 417 bp nucleotide (nt) fragment of the RNA-dependent RNA polymerase (RdRp) region of RNA 1 of the BRNV genome. BRNV was detected in 19 samples in cultivars 'Fertödi Zamos', 'Polana', 'Tulameen' and 'Willamette'.

A 417nt sequence of the RdRp was determined for 5 isolates. The nt sequences of these isolates were 94.2–99.7% identical. When compared to available sequences of BRNV isolates from North America and Europe, Serbian isolates showed significant divergence (80.0–82.2% of nt identity).

A portion of the BRNV infected plants of cultivar 'Fertödi Zamos' were further tested on indicator *R. occidentalis* by inarch bottle grafting. Two months after inoculation cane tip begun to curl down and became necrotic on all inoculated plants. Non-grafted control plants were symptomless.

Keywords: BRNV, red raspberry, RT-PCR, bottle grafting, diversity