

Analysis of the Antioxidant Response of Pepper plants (*Capsicum annuum* L.) to infection with *Xanthomonas euvesicatoria*

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ABSTRACT

Plant diseases are one of the main risk factors reducing the productivity of economically important crops. One of the most devastating bacterial disease affecting pepper plants is bacterial leaf spot, caused by phytopathogenic bacterium *Xanthomonas euvesicatoria*. We studied the interaction between bacterial pathogen *X. euvesicatoria*, and susceptible pepper plants (*Capsicum annuum* L.) to improve our knowledge of combating bacterial infections in plants. Our effort was focused on the changes in basic physiology and antioxidant protection system in the host plant. The levels of some endogenous protective compounds (low-molecular-weight thiols, glutathione, phenols, and proline) and the activity of the main antioxidant enzymes (catalase, guaiacol peroxidase, glutathione reductase, superoxide dismutase) were established. Analysis of the antioxidant defense in plants under normal and stress conditions leads to the acquisition of new knowledge of the infectious process in the pathosystem *Xanthomonas euvesicatoria* - pepper plants.

Keywords: *Xanthomonas euvesicatoria*, pepper plants, antioxidants, bacteriophages.

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