

# Determination of the ability of *Clavibacter michiganensis* ssp. *sepedonicus* strains to infect various *in vitro* cultures of potato

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Potato is one of the most economically crucial crops in the world and it is exposed to many dangerous diseases caused by numerous bacterial, viral or fungal pathogens. Their presence is usually associated with significant economic losses. Quarantine diseases, including ring rot of potato, caused by *Clavibacter michiganensis* ssp. *sepedonicus* (Cms) (Spickermann et Kotthoff) Davis et al.- one of the most important quarantine potato pathogens - are considered as particularly troublesome for potato cultivation. There are several factors that can stimulate uncontrolled spread of Cms bacteria in the environment. One of them is the lack of effective biological or chemical method of utilization of Cms in potato tissue. Furthermore, the latent form of the disease is extremely significant, as well as absence of information on how potato varieties are infected by different strains of Cms bacteria. In both cases these bacteria put future potato generations at risk. Existing in low concentration in potato tissue, they remain undetected even for a few growing seasons. However, inhibition of the symptoms of infection by Cms tolerant varieties favors the rapid spread of these pathogens in the environment. Therefore, the purpose of the presented research, was to determine the ability of Cms bacteria to infect potato plants *in vitro*. Due to the high level of the disease expression symptoms and the simplicity of multiplication, potato variety in form of *in vitro* plants was used for research. The obtained results allowed for determination of influence of the examined pathogenic Cms strains, causing ring rot, on the level of expression symptoms on the tested *in vitro* plants and the attained result of the molecular test.