

Studying *Xanthomonas arboricola* pv. *corylina* strains from Serbia for streptomycin and kasugamycin resistance and copper sulfate sensitivity *in vitro*

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Hazelnut bacterial blight, caused by *Xanthomonas arboricola* pv. *corylina* (Xac), has been observed in Serbia since 1950s. While the application of antibiotics is prohibited, different copper compounds are routinely used in disease control which can lead to the pathogen resistance. Therefore, we studied the *in vitro* effect of different concentrations of copper sulfate, streptomycin and kasugamycin on development and growth of 46 Xac strains originating from Serbia. Droplets of each strain suspension were spotted on the surface of sucrose peptone agar (SPA) plates amended with either CuSO₄ x 5H₂O (100, 200 ppm), streptomycin sulfate (25, 50 ppm) or kasugamycin (50, 100 ppm) or on SPA without any of the bactericides. *Xanthomonas euvesicatoria*, strain E-3, resistant to these compounds was used as a positive control. Plates were incubated for 48 h at 28 °C and observed for bacterial growth. Results of these experiments showed that all tested Xac strains were sensitive to the lowest concentration of streptomycin sulfate (25 ppm). Kasugamycin inhibited growth of two strains at 50 ppm, while 44 were able to grow. Two times higher concentration of kasugamycin inhibited growth of 35 strains while 11 strains showed reduced growth. None of the strains developed on SPA amended with 200 ppm of copper sulfate, however 39 strains showed tolerance to 100 ppm, indicating certain level of copper tolerance. This study suggests the possibility of resistance development to copper ions in Serbian Xac population that may be due to intensive use of this compound in disease control.