



Sanitation of two plum cultivars from *plum pox virus* in *in vitro* conditions by chemotherapy and thermotherapy

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Abstract

The objective of this study was to sanitize two important plum cultivars Domáci švestka and Čačanská lepotica infected with PPV (*Plum pox virus*) and to work out the procedure for the production of PPV-free initial planting material for the system of certification. *In vitro* cultures were established from the buds infected with PPV and multiplied on MS medium supplemented with 0,6 mg.l⁻¹ BAP, 0,1 mg.l⁻¹ NAA, 1 mg.l⁻¹ thiamin and 0,5 mg.l⁻¹ pyridoxin. For the sanitation chemotherapy by Ribavirin (10, 20 and 40 mg/l), thermotherapy (34°C and 37°C) and their combination were used. The treatment at 34°C was not effective for the virus elimination, cultures died after the thermotherapy at 37°C. Chemotherapy of *in vitro* cultures grown on medium with 10 and 20 mg.l⁻¹ of ribavirin showed to be most effective, fast and economical. Regenerated PPV-free explants were transferred to media for rooting and subsequently for the acclimatization *in vivo*. The highest percentage of rooted plants (34 %) was obtained on MS medium supplemented with 80 mg.l⁻¹ of phloroglucinol and 2 mg.l⁻¹ of IBA. Nineteen virus-free plants of cv. Domáci švestka and one plant of cv. Čačanská lepotica growing in the screenhouse at present time. This work was supported by Ministry of Agriculture CR, NAZV, grant No. QJ1210175.