

O.3.2. EFFECTS OF SOME COMBINED TREATMENTS OF PVY INFECTED POTATO PLANTLETS CV. ROCLAS

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Potato virus diseases affect strongly the farmer's income. Elimination of PVY from potato supply is essential for seed potato production. This is the reason because in this study, the efficiency of some techniques (chemotherapy, electrotherapy) in decreasing the infection level of PVY infected plants and producing virus-free plants was evaluated. At the same time, the behaviour of the treated plants and their chlorophyll and anthocyanin content were estimated. Plantlets (variety Roclas) obtained from PVY (necrotic strains) infected materials (mechanically inoculated) were used in the experiments. Electrotherapy was applied in several variants: the infected plantlets were exposed to either 40, 50 or 100 mA, for 5, 10 and 20 minutes, washed, divided into single node cuttings and multiplied *in vitro*. Chemotherapy was undertaken with ribavirin (RBV) and oseltamivir (OSMV) (RBV 40 mg/L + OSMV 40mg/L). *Solanum tuberosum* L. plantlets regenerated were removed from the culture medium, acclimated in green house. The survivor plants were indexed (DAS ELISA). The variant leading to highest rates virus elimination and plant regeneration was estimate using the Therapy Efficiency Index (TEI). Monitoring the vegetative state of healthy regenerated plant was done by estimation the chlorophyll content of leaf (portable device SPAD 502 Chlorophyll Meter) and the anthocyanin content of leaf (portable device ACM 200 plus, Anthocyanin Chlorophyll Meter). Electrotherapy (100 mA, 10minutes) applied to infected plantlets, chemotherapy (RBV40mg/L OSMV40mg/L) led to the highest rate of virus eradication, the maximum values of the therapy efficiency. This study revealed that applying this combined therapy could have beneficial effects on PVY elimination from potato plant tissues.

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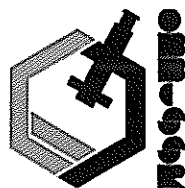
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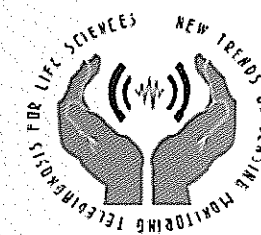
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New Trends on Sensing- Monitoring- Telediagnosis for Life Sciences

NT SMT-LS 2015

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Editors

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