

Effects of using Potato Black Dot Pathogen on Regeneration Resistant Stocks under *in vitro* Conditions

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In order to screen and induce the resistance of the potato stocks to the *Colletotrichum coccodes*, firstly, healthy seed tubers from two potato cultivars (Marfona and Agria) were placed in suitable conditions to produce sprout and single node. Then, segments of sprouts and single node of 5 to 7 mm were prepared. These segments were transferred to sterilized culture media containing MS and Nitsch & Nitsch mixed with three-dosage mixture of the fungus extract. Flasks of sprouts and nodal segment cuttings transferred into the chamber growth under appropriate temperature and light period until shoots were regenerated. This test arranged by factorial experiment based on randomized complete design with four replications. The factors were selected by cultivar in two level (Agria, Marfona), three concentration of fungus extract; low concentration (Six cc pure fungus extracts plus one volume of sterilized distilled water), Medium concentration (Six cc pure fungus extract plus one third volume of distilled sterilized water) and high concentration (Six cc pure fungus extract), distilled water as control treatment and culture medium in two levels (MS and Nitch & Nitch). After regeneration and production of new plantlets, their contamination and their health were evaluated. The result of the experiment showed that regeneration was not observed in sprout segments in both culture media and in both cultivars with all three concentrations of fungal extract, and only in the control treatment, the sprout segments were able to regenerate. However, regeneration was performed in the single nodes in both cultivars with a low concentration and average fungus extract.

Keywords: Fungus extract, Single node, Sprout, Tissue culture.

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