Effects of medium compositions and plant growth regulators on in vitro propagation of *Citrus* explants.

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In the current study, different media and various combinations of growth regulators were tested in order to determine the organogenetic and rhizogenesis abilities of two Algerian varieties Citrus of 10 years old, Pineapple sweet orange (*Citrus Sinensis* L. Osbeck) and Carvalhall (*Citrus Deliciosa*).
For this end, four different kinds of media were used; Murashige and Skoog (MS) medium supplemented with 2, 4-dichlorophenoxy acetic acid (2, 4-D)(0,1mg l^{-1}) and benzylaminopurine (BAP) allowed a high percentage of callus induction (1 mg l-1).
Additionally, the combination of α-naphthalene acetic acid (NAA) (0,1mg l^{-1}) and N6-benzylaminopurine (BAP) (1 mg l^{-1}) offers the best caulogenesis, with a rate of 30%.
However, the highest rate (100%) of axillary buds for Pineapple cultivar was obtained on MS medium within 1 mg l-1 of BAP without auxin or supplemented with 0,1 mg l^{-1} of indole-3-acetic acid (IAA). Rhizogenesis experiments revealed that Murashige and Skoog medium enriched with indole-3-butyric acid (IBA) 0, 1 mg l^{-1} and activated charcoal (a.c) 0,5 g l^{-1} was demonstrated to be particularly favorable for rooting.

Key-words: *Citrus*, growth regulators, callogenesis, caulogenesis, rhizogenesis.

Changes in proteome profiling of potato tubers in response to elicitor treatment and pathogen infection.

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Potato (*Solanum tuberosum*) is grown world-wide and the crop is usually considered to be the fourth most important staple food source after wheat, rice, and corn. One such complex trait of high agronomic interest is the tuber susceptibility to pathogens (specifically *Erwinia*) infection during harvesting and storage, which causes important economic losses. In response to this infection, defense mechanisms are induced. Elicitors are known to induce several signaling pathways in plants; among them: defense genes activation, which in some cases occurs within a few minutes upon elicitor treatment and, is part of a massive change in the pattern of mRNA, and consequently protein synthesis underlying the induction of defense responses. The aim of this proteomic study is to understand the molecular mechanisms implicated in potato defense response at the proteome level using differential gel electrophoresis and protein sequencing by mass spectrometry. We will compare potato tuber proteome response to infection with its compatible pathogenic bacterium *Pectobacterium spp. (syn. Erwinia)* in the presence of an elicitor (Chitosan) to (i) characterize proteins induced by elicitor in potato tubers based on differential protein expression, and (ii) disclose potato defense mechanism induced by elicitor treatment to prevent pathogen infection. Additionally, tuber proteome changes triggered by elicitor treatment and pathogen infection will be monitored over time. The first part of this work is technical aiming to put in place a protocol compatible with potato tuber proteins extraction, separation by two-dimensional gel electrophoresis and pattern reproducibility.

Key-words: potato, pathogen, elicitor, proteomics, 2D-DIGE.