

PERTUMBUHAN BERBAGAI MACAM BAHAN EKSPLAN KENTANG ATLANTIK SECARA *IN VITRO* DENGAN PERLAKUAN IAA

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ABSTRAK

Penambahan zat pengatur tumbuh seperti IAA dan pemilihan bahan eksplan yang tepat dapat mendukung terbentuknya bibit yang berkualitas. Penelitian bertujuan untuk mengetahui ada tidaknya interaksi antara IAA dan berbagai macam bahan eksplan kentang Atlantik terhadap pertumbuhan eksplan, menentukan konsentrasi IAA yang paling tepat pada berbagai macam bahan eksplan, serta mendapatkan bahan eksplan yang paling baik. Penelitian dilaksanakan pada bulan Juli - Agustus 2020 di Laboratorium Kultur Jaringan Jurusan Agroteknologi Fakultas Pertanian Universitas Pembangunan Nasional “Veteran” Yogyakarta. Penelitian menggunakan Rancangan Acak Lengkap (RAL) 2 faktor. Faktor pertama adalah konsentrasi IAA pada taraf 0,5; 1; dan 1,5 ppm; dan faktor kedua adalah macam bahan eksplan yaitu bagian pucuk, bagian tengah, dan bagian pangkal planlet, terdapat 9 kombinasi dan 3 kali ulangan. Hasil penelitian menunjukkan terdapat interaksi antara konsentrasi IAA dengan macam bahan eksplan kentang Atlantik. Konsentrasi IAA 1 ppm dengan macam bahan eksplan bagian tengah dapat meningkatkan jumlah buku dan jumlah daun planlet kentang Atlantik. Konsentrasi IAA 0,5 ppm mampu meningkatkan tinggi planlet, jumlah tunas samping, jumlah akar, panjang akar, dan bobot kering planlet kentang Atlantik. Macam bahan eksplan bagian tengah mampu meningkatkan persentase hidup dan jumlah tunas samping planlet kentang Atlantik.

Kata kunci : kentang Atlantik, IAA, eksplan, *in vitro*

THE GROWTH OF VARIOUS KINDS OF MATERIAL EXPLANTS OF ATLANTIC POTATO BY USING IN VITRO WITH IAA TREATMENTS

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ABSTRACT

The addition of plant growth regulators such as IAA and the selection of explants can support the formation of high-quality seeds. This study aims to determine if there is an interaction between IAA and various kinds of Atlantic potato explants on explants growth. Moreover, it also aims to determine the most appropriate IAA concentration for various kinds of explants and to find the best kind of explants. The study was conducted in July - August 2020 at the Tissue Culture Laboratory of the Department of Agrotechnology, Faculty of Agriculture, Pembangunan Nasional "Veteran" Yogyakarta University. Completely Randomized Design (CRD) was used as an experimental design with 2 factors considered. The first factor was the concentration of IAA. The concentration levels were 0.5; 1; and 1.5 ppm; and the second factor was the kind of the explants, namely the shoot, middle, and base of the plantlet, there were 9 treatment combinations and 3 replications. The results showed that there was an interaction between the IAA concentration and the kind of the Atlantic potato explants. 1 ppm concentration of IAA with the middle of the plantlet could increase the number of books and the number of leaves of Atlantic potato plantlets. 0.5 ppm concentration of IAA were able to increase the plantlet height, number of branches, number of roots, root length, and dry weight of Atlantic potatoes. Explants from the middle of the plantlet were able to increase the percentage of survival and number of side shoots of Atlantic potato plantlets.

Key words: Atlantic potato, IAA, explants, in vitro