

عنوان مقاله:

Impact of Photoperiodism on In Vitro Propagation of Indigenous Musa

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خلاصه مقاله:

This research was aimed at in vitro propagation of banana. Banana (*Musa spp.*) is a nutritious fruit but is susceptible to certain diseases. A traditional method of its propagation is through the separation of suckers, although it may culminate in the transmission of nematodes, parasitic organisms, and viral diseases. In the past two decades, plant tissue culture techniques have largely facilitated the production of disease-free plantlets. In the tissue culture of banana, different explants can be used, including shoot tips, suckers, leaves, and flower buds. Each responds differently to the presence and absence of light. In the current research, explant cultures were placed either in light or dark incubation for identical durations, i.e., one to six months, to monitor their growth and development. The culture test tubes after inoculation were kept in culture room at $25 \pm 2^\circ\text{C}$ for growth. The explants brooded for shoot acceptance per expansion were kept up at under white light fluorescence tubes, $25 \pm 2^\circ\text{C}$ temperature, photoperiod ($2000-3000$ lux) of 16 hours light and 8 hours dark in culture room. The colour intensity of the explants changed in response to different photoperiods. Young flower buds, mature flower buds, and suckers developed a higher colour intensity when placed in light, compared to their placement in dark conditions. However, the opposite was observed in leaf explants which grew optimally in the dark. The best results were obtained from sucker explants which exhibited the fastest growth.

کلمات کلیدی:

explant, Light, MUSA, Regeneration

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