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(51) International classification	:A01N 63/30, C12N 1/14, A01N 63/20, A01C 1/06, C12N 1/20	(71) <b>Name of Applicant :</b> <b>1)Swami Rama Himalayan University</b> Address of Applicant :Swami Rama Himalayan University, Swami Ram Nagar, Jolly Grant, Dehradun-248016 Dehradun Uttarakhand India
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(57) Abstract :

The invention relates to an in vitro biotization system for micropropagated plants, incorporating a sterile culture vessel housing a nutrient-rich artificial growth medium and a micropropagated plant, together with a tailored microbial inoculant formulation comprising a consortium of beneficial microorganisms, including nitrogen fixing bacteria, phosphate solubilizing microbes, and mycorrhizal fungi. An inoculant delivery module administers the formulation via seed coating, root dipping, or media supplementation, while an environmental control module regulates light intensity, temperature, humidity, and gas exchange. The microbial inoculant may be stabilized in a liquid solution or hydrogel matrix. The system further encompasses a method for inoculating the plant tissues and gradually transitioning the plant from in vitro to ex vitro conditions.

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