

(54) Title of the invention : A method for tissue culture crop production

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## (57) Abstract :

The invention provides a method for tissue culture-based crop production comprising the steps of sterilizing equipment and culture media, selecting and preparing healthy plant material, initiating and sterilizing explants, inoculating explants onto prepared media, and incubating under controlled conditions. The method further includes subculturing plantlets for multiplication, rooting, hardening, acclimatizing, and maintaining tissue culture lines for continuous production. The system enables rapid propagation of disease-free, genetically uniform plants with high survival rates, reduced space requirements, and minimal chemical use. It offers improved crop yield, enhanced plant quality, and year-round production capability, making it highly suitable for commercial agriculture, horticulture, and floriculture. This invention provides an efficient, scalable, and sustainable solution for modern plant production needs.

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