

# Micropropagation

## Definition

Micropropagation is the rapid multiplication of plants using tissue culture techniques under controlled lab conditions.

It produces large numbers of genetically identical (clonal) plants in a short time.

# Steps

1. **Selection of Explant** – Choose a small part of the plant (leaf, stem, bud, root tip).
2. **Sterilization** – Remove all microorganisms from the explant.
3. **Culture in Nutrient Medium** – Place explant in a sterile medium containing nutrients + plant hormones.
4. **Shoot Multiplication** – Shoots develop from the explant.
5. **Root Formation** – Shoots are transferred to root-inducing medium.
6. **Acclimatization** – Young plantlets are slowly adapted to natural conditions.

## Advantages

- Rapid production of many plants.
  - Disease-free plants.
  - Year-round production.
  - Preservation of rare or endangered species.
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## Examples

- Banana, sugarcane, potato, orchids.