

**Technologies  
for  
Entrepreneurship  
Development**

# Waste to Wealth



# Single Floret Packaging



# Orchid Based Farming



# Tissue culture Protocols



Standardization *in vitro* propagation protocol (*Zygopetalum*)

# Standardization *in vitro* propagation protocol (*Paphiopedilum*)

**P. Villosum**

**Stages of seed development**

**Plantlets growth in vitro**

**Hardened plantlets**

**Multiple shoot induction**

**Protocorm like bodies**

The image illustrates the in vitro propagation protocol for *Paphiopedilum villosum*. It is divided into several stages: 1. **Stages of seed development**: A series of images showing the development of seeds from a single seed to a protocorm-like body (PLB) with a root. Scale bars include 200 μm and 0.50 mm. 2. **Plantlets growth in vitro**: A 3x2 grid of images showing plantlets at stages PN0, PN1, PN2, PN3, PN4, and PN5. 3. **Multiple shoot induction**: A star-shaped graphic with four images showing the induction of multiple shoots from a single PLB. 4. **Protocorm like bodies**: Four images (a, b, c, d) showing PLBs at different stages. Scale bars include 1 mm and 2 mm. 5. **Hardened plantlets**: Three images of plantlets in pots, labeled with their respective stages and dates.

# Protocol for *in-vitro* propagation of *Dendrobium nobile*



*Dendrobium nobile*



Different stages of  
seed germination



Seed germination



Emergence of shoot



Shoot elongation and rooting



Hardening of plants

# Orchid Potting Media

*Cymbidium*

*Dendrobium*

*Cattleya*



# Semi-Hydroponics in *Zygopetalum*

