

Plant Tissue Culture

A vegetative propagation method that yields many progeny

- A **simple** process that only needs your **full attention** and some **practice**
- A process that starts the production pathway for many, many economically important plant products, including supermarket houseplants and potatoes
- A process that is **rapid** so it IS classroom- and extension- **ABLE**
- A method that is enabling more nutritious rice and tobacco that produces human proteins for medical use.

Crucial skills:

- **Aseptic handling** to minimize contamination of your cultures by microbes on you or in the air.
- Ability to use forceps and scalpels safely

Helpful outcomes:

- Safe handling of foods and fragile materials
- Attention to detail
- Beautiful plants

Teaching plant tissue culture

Classroom management

Preparing students

- Review or introduce plant anatomy and physiology
- Practice and OBSERVE/correct ASEPTIC handling
- Pass around a specimen to for all students to handle

Logistics

- Limited space? Set up work stations
- Introduce, then run Video while you set up stations
- Limited materials? Each one teach one for replenishing materials
- Attention spans? Circulate to encourage, assess, cajole

Preparation of working materials

- Sterilize culture medium
- Use sterile plates, instruments, and vessels
- Use simple disinfectants in-between
- Gather hood materials (see handout)

Student involvement

- Practicing aseptic handling (scissors/pen/home work)
- Observing and correcting YOU
- Setting up/taking down hood
- Interdependent teamwork
- Clean-up/Replenishing materials