

What are you going to Do in your lab?

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|-----------------------|---|
| 1. Micro-propagation | higher costs, more expensive equipment/facilities |
| 2. Basic cell culture | lower cost lab |

Basic Requirements for a Tissue Culture Laboratory

- Equipment and Apparatus: microscope, LAF, incubator (CO₂?), Refrigerator, Glassware, NUNC Plastic ware, dissection tools
- Washing and storage facilities
- Media Preparation Room
- Sterilization Room
- Aseptic chamber for culture
- Culture rooms or incubators
- Light & humidity control devices
- Observation/recording area with a computer for data processing

Other Facilities

- Hand washing area
- Fire extinguishing system
- Waste disposal facilities

Location

-beside a biology laboratory, particularly molecular biology laboratory (or a molecular biology laboratory should be beside a culture laboratory)

-far from other laboratories that handle dirty or pathogenic materials, e.g. microbiology laboratory

->Could be positioned in different ends of a building

->Or different floor of a building

->Large-scale culturing facility should not be at the same building with microbiology laboratory at all.

Sectioning the Laboratory

-Flow of laboratory, with consideration for...

- Sterility**: washing area should not be in the centre of culturing area
- Convenience**: washing area should be beside media preparation area
- Human movement**: culturing area should not be near the entrance of the laboratory
- Area size**: sectioning is more effective than wall-up different areas if area allocated is small
- Laboratory throughput**: high throughput laboratory would have wider walkway as well
- Type of research**: may need to allocate space for a gene gun or when working with *Agrobacterium*, or microinjection
- Location of equipment**: electrical appliances should be near plug points, distillation unit should be near a tap
- Future laboratory expansion**: -

Design

- Plant Tissue Culture Lab with equipment
- Animal Cell Culture Lab with equipment

Simple Tissue Culture Lab Set-up

