

### What are you going to Do in your lab?

- |                       |   |
|-----------------------|---|
| 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 (CO<sub>2</sub>?), 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...

- |                                |   |
|--------------------------------|---|
| 1. Sterility                   | washing area should not be in the centre of culturing area                                      |
| 2. Convenience                 | washing area should be beside media preparation area  |
| 3. Human movement              | culturing area should not be near the entrance of the laboratory                                |
| 4. Area size                   | sectioning is more effective than wall-up different areas if area allocated is small            |
| 5. Laboratory throughput       | high throughput laboratory would have wider walkway as well                                     |
| 6. Type of research            | may need to allocate space for a gene gun or when working with Agrobacterium, or microinjection |
| 7. Location of equipment       | electrical appliances should be near plug points, distillation unit should be near a tap        |
| 8. Future laboratory expansion | -   |

### Design

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

### Simple Tissue Culture Lab Set-up

