Cheatography

PTC - C6 (Lab Layout and Equipment) Cheat Sheet

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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

1. Equipment and Apparatus	microscope, LAF, incubator (CO2?), Refrigerator, Glassware, NUNC Plastic ware, dissection tools

2. Washing and storage facilities

3. Media Preparation Room

4. Sterilization Room

5. Aseptic chamber for culture

6. Culture rooms or incubators

7. Light & humidity control devices

8. Observation/recording area with a computer for data processing

Other Facilities

1. Hand washing area

2. Fire extinguishing system

3. 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...

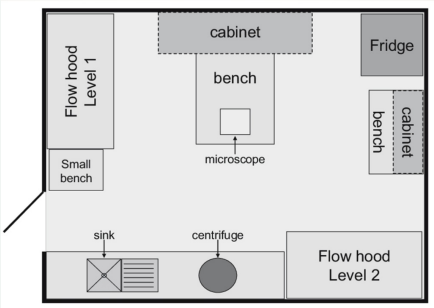
1. Sterility	washing area should not be in the centre of culturing area
2. Convenience	washing area should be beside media preparation area
3. Human movement	culturing area should not be near the entrance of the laboratory
4. Area size	sectioning is more effective than wall-up different areas if area 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

a) Plant Tissue Culture Lab with equipment

b) Animal Cell Culture Lab with equipment

Simple Tissue Culture Lab Set-up



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