RAMA UNIVERSITY

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FACULTY OF ENGINEERING & TECHNOLOGY

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Course: B. Tech Biotechnology
Sub Code: BBT-515

Semester: 5th
Sub Name: Plant Biotechnology

LECTURE 7

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AUXIN (IAA)
Indole-3-acetic acid

- Synthesised from the amino acid L-tryptophane

-leaf primordia
- Young leaves
- Developing seeds

- Moves from cell to cell from tip to base

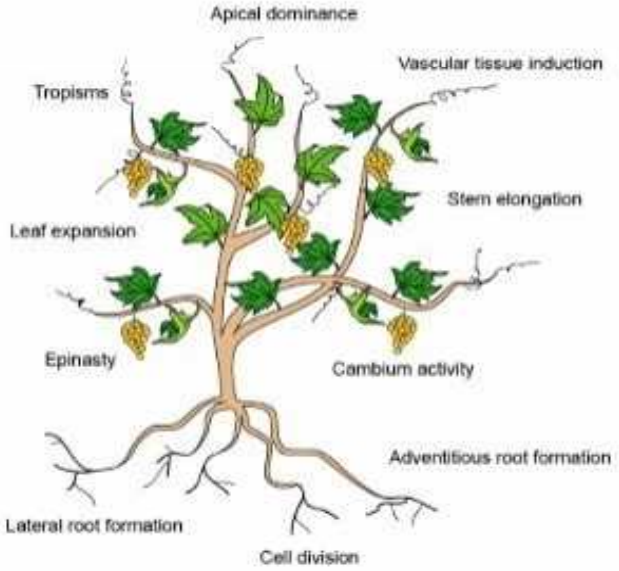
1-naphthaleneacetic acid

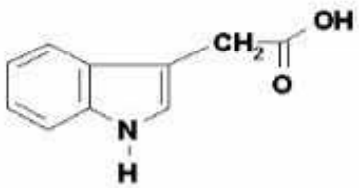
2,4-dichlorophenoxyacetic acid

AUXIN (IAA)
Indole-3-acetic acid

1. Coleptile bending towards light
   (cell elongation)

2. Inhibition of lateral buds by terminal buds
   (apical dominance)





Indole-3-acetic acid (IAA)

I Influence
A Almost
A Anything

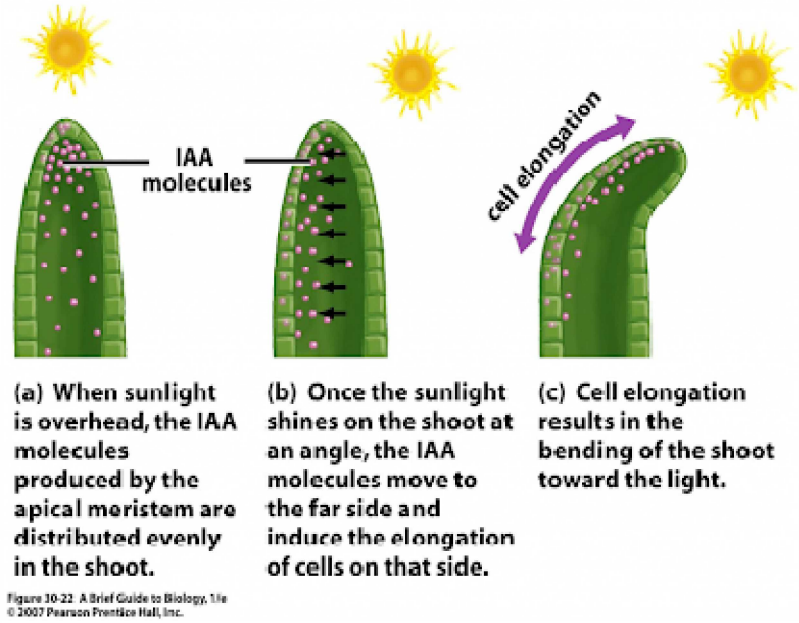


Figure 30-22 A Brief Guide to Biology, 1/e
© 2007 Pearson Prentice Hall, Inc.

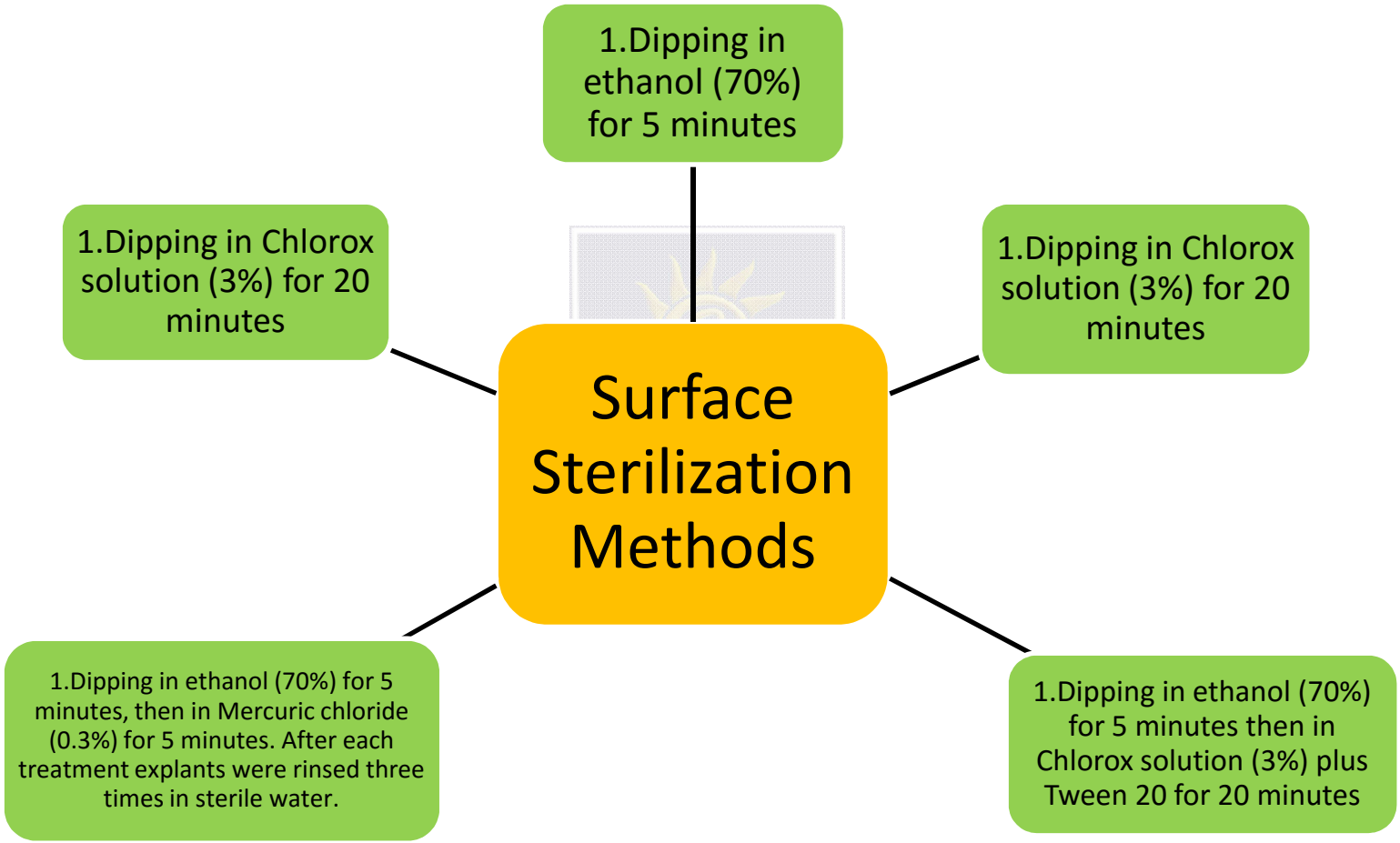
https://sites.google.com/a/aisr.org/mun-ib/biology/plant-biology/topic-9-3-growth-in-plants

3. Formation of abscission layer on
   leaves and fruit

4. Activation of cambial growth.

https://www.yumpu.com/en/document/view/13774692/indole-3-acetic-acid-iaa-influence-a-almost-a-anything

SURFACE STERILIZATION OF PLANT MATERIAL



SURFACE STERILIZATION OF EXPLANTS

Wash the explant with tap water to remove surface borne mico-organisms.

Transfer the washed explant into a glass beaker containing tap water; add few drops of liquid detergent – Tween 20 for 10-15 min.

Cover beaker mouth with muslin cloth with the rubber band and keep under running tap water for 1 hour to remove any waxy/ oily deposition on surface of explant.

Wash it thrice with distilled water.

Transfer the explant into laminar airflow hood for farther work to avoid contamination.

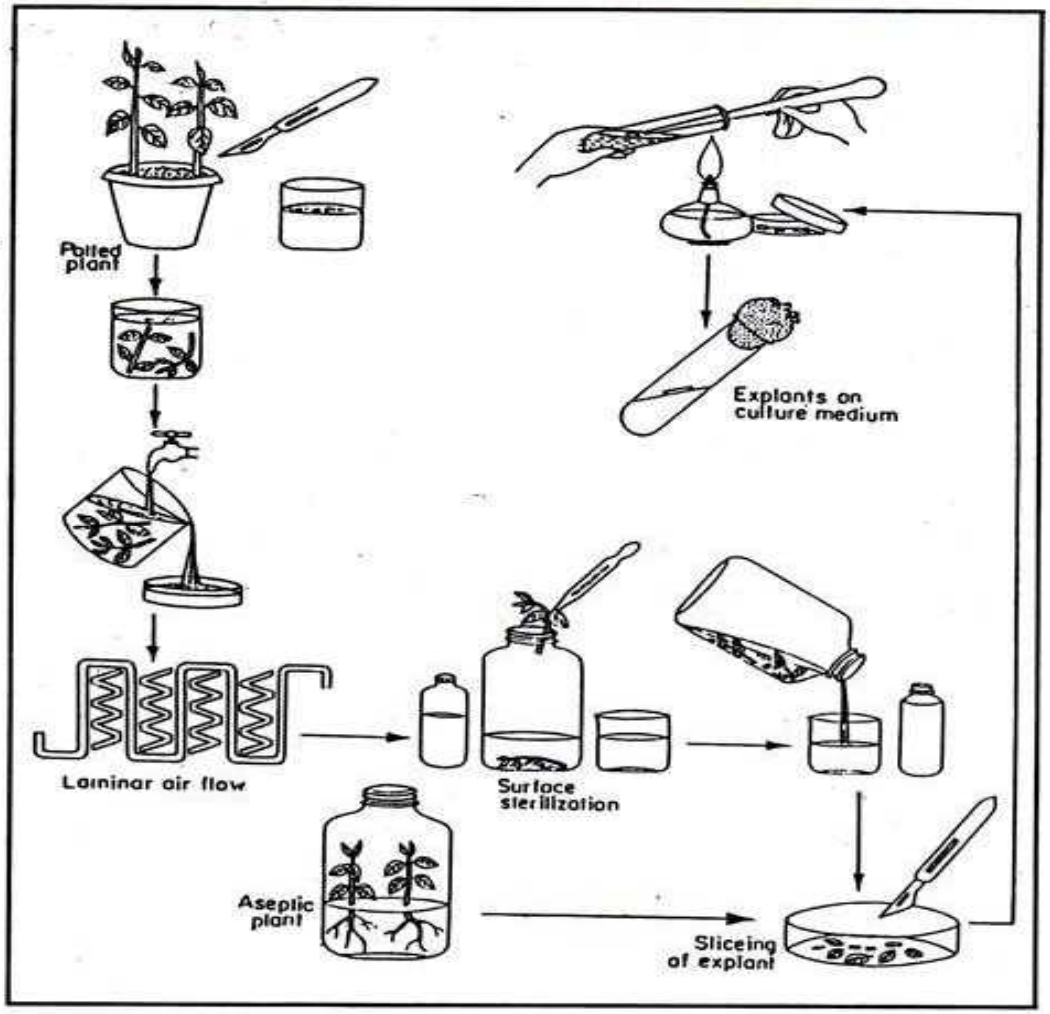
Wash the above explant with sterile distilled water for thrice each washing should be for 3-4 minutes.

Treat it with 0.1% $HgCl_2$ or 5-10% sodium hypochlorite solution for 60 sec. After treating it with disinfectant, wash it with sterile distill water for thrice, each washing should be for 3-4 minutes.

Wash with 70% alcohol for 30 seconds to remove water from the surface of the explant.

Transfer t**he** sterile explant to a sterile petriplate and cut the leaf into small pieces of about 1x1 cm with sterile blade.

Now the explant is ready for inoculation.



❒ Fig 1.10

Flow diagram illustrating the procedure for surface sterilization of plant material and inoculation of explant for culture

https://www.biologydiscussion.com/plant-tissues/culture/techniques-used-in-plant-tissue-culture-with-diagram/14549

QUIZ