Online Training Course on Horticulture seed Propagation with Tissue Culture for Latin American Countries

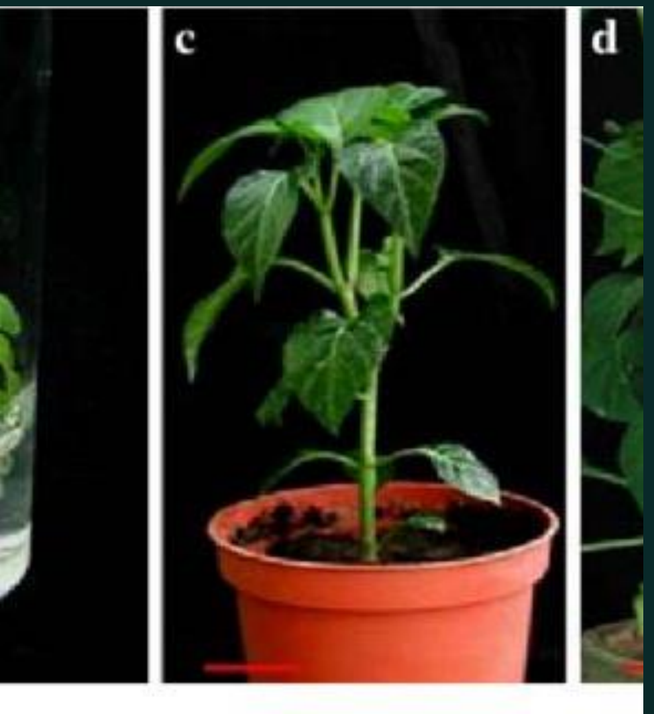
ACCLIMATIZATION

AGENCY FOR AGRICULTURAL EXTENSION AND HUMAN RESOURCE DEVELOPMENT
MINISTRY OF AGRICULTURE

Objectives

After this session :
Participants expected to understand about the importance of acclimatization in tissue culture

Acclimatization



Acclimatization

is a process of adaptation / transfer of plants from the internal environment to the outside environment (from a controlled environment to an uncontrolled environment)

Why We Need Acclimatization

Adjustment from high air humidity to low air humidity

Improved root function to absorb nutrients from non agar media, such as soil

Maximize the photosynthesis process

Adapt from a sterile environment to an environment where microorganisms present

Plantlet ready to be acclimatized

Have :

-Root

-Stem

-Complete leaf

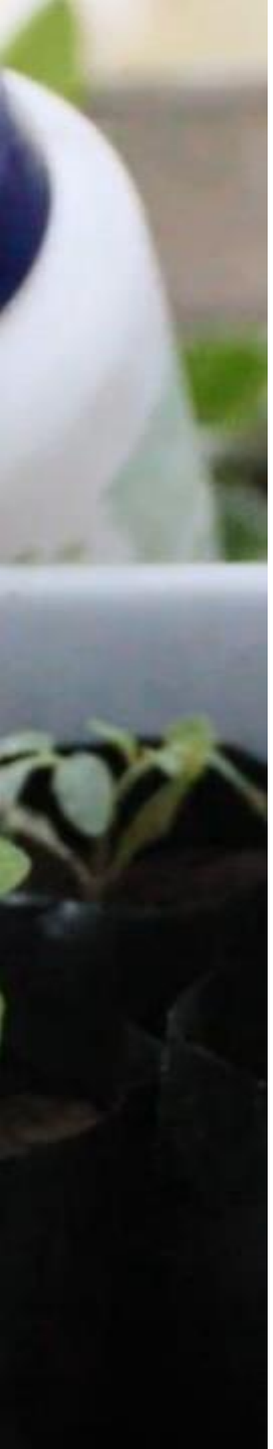
Materials:

- Growing media
- Planlets
- Fungicides
- bactericides
- Root Growth Hormone

Tools:

- Markers
- Tape
- Scissors
- Tray
- Clear Plastic
- Polybag

Autoclave and Gas Stove



Preparing the growing media

The composition of the acclimatization medium was sand and compost (3 : 4)

Mix the media and put in the clear plastic

sterilized the media for 1 hour using Autoclave

Put the sterilized media in a plastic tray

Spray the sterile media with fungicide and bactericide (leave it for 1 night)

02 Prepare your plantlet

The plantlet should be ready to acclimatized, has complete root, stem and leaves

Clean

your plantlet

Clean the plantlet form the media that is sticks under running water

Put clean plantlets on *plastic tray*

The plantlets were soaked in bactericide and fungicide solution (2 g/l)

Soak the plantlets for 15 minutes and let them dry

Before planting, the plantlets roots are dip in root hormone

Wrap the tray using clear plastic and write/put a label on it

03 Growing Banana, Tomato and Hot Pepper Seedlings

The composition of the polybag media is soil and husk charcoal (4 : 1)

Transplanting is the process of moving the acclimatized seedlings into polybag

The banana plantlets are transplant from the previous acclimatization into polybags

Put the seedling under the plastic lid cover, then spray them with water

Plastic trays are stored in plastic lid covered with 55% - 75% paranet/ shade net for 3 – 4 weeks

Maintenance

Seedlings in polybags that have been covered for 2 weeks are left under 55% shade net for 1-2 weeks

Seedlings that have grown new leaves are transferred to mounds (beds) in open land without shade nets

Every two weeks the seeds were provided with nitrogen fertilizer, half a teaspoon per polybag of seedlings

If attacked by caterpillars or insects, spray the seeds with 2 ml/liter of pesticides

Potato Acclimatization

Tools

- DFT Installation
- EC/TDS meter
- pH meter
- Tray
- Tweezers
- Handsprayer
- Bucket

MATERIALS

- Potato plantlet
- AB Mix nutrition
- Husk charcoal
- 70% alcohol
- Insecticide
- Detergent
- Clorox
- Water

01 Preparation

For potato acclimatization in green house

Sterilized the screen house and DFT instalation

Screen house

DFT Instalation

Prepare the growing media, put in tray

02

Open the botle and remove planlet

↓

Clean the planlet

↓

Cut the planlet

↓

Plant it into the growing media

↓

Placed the tray in DFT

used the AB mix

↓

check the solution EC

↓

in 14 - 21 days its ready for cuttings

1 st Cuttings

- Sterilized the screen house, DFT and tray
- Cut the the seedling from planlet
- Dip into root hormone
- Plant into seedling tray contain media
- Maintain the first cutting as in the acclimatization

03

2 nd Cuttings

- Sterilized the screen house, DFT and tray
- Cut the the seedling from planlet
- Dip into root hormone
- Plant into seedling tray contain media
- Maintain the second cutting as in the acclimatization

04

3 rd Cuttings

- Sterilized the screen house, DFT and tray
- Cut the seedling from planlet
- Dip into root hormone
- Plant into seedling tray contain media
- Maintain the third cutting as in the acclimatization
- After the plant age is 21 dap. or it already have 5-7 leaves. The plant was able to move into aeroponics container

Remove the plant from tray and it was cleaned

Dip into fungicides

Put into Styrofoam, using rockwool or foam

06 Plant into the aeroponic container

G0

Breeder Seed

G1

Foundation Seed 1

G2

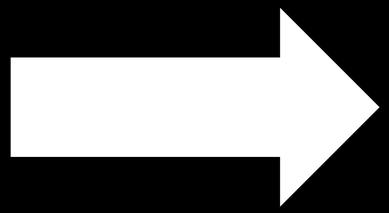
Foundation Seed 2

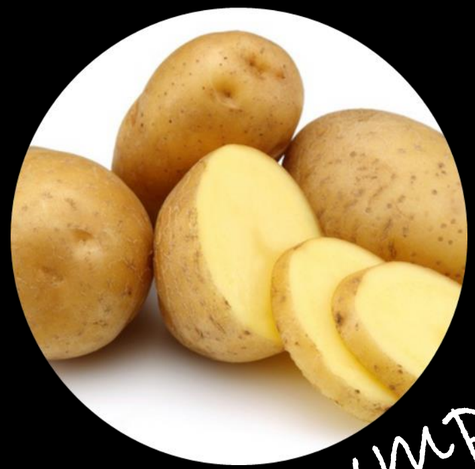
G3

Stock Seed

G4

Extension Seed





Consumption

Thank you

fiadini_putri@apps.ipb.ac.id