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# EXPERIMENT 5 RAISING OF SEEDLINGS

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## 5.1 INTRODUCTION

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Generally, mulberry is propagated through cuttings. It can also be propagated through seeds. The seeds when provided with the desired conditions for germination develop into seedlings. This method is mostly used for raising stock for root grafting.

### Objective

After studying and performing this experiment, you should be able to:

- raise seedlings from the mulberry seeds.

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## 5.2 EXPERIMENT

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### 5.2.1 Principle

Seeds are the source of producing plants. It has the desired feature to produce plants. But, mulberry is propagated vegetatively, through cutting. For breeding purpose and in temperate climates, seeds are used for raising seedlings.

### 5.2.2 Requirements

- Seeds / mulberry fruits
- Fungicide - Bavistin
- Sand
- Farm Yard Manure (FYM)
- Rose cane

### 5.2.3 Procedure

- Harvest the ripened fruits from a mulberry plant. Generally, purplish black colour of the fruit signifies the ripened stage of the seeds.
- A ripened seed usually has a good storage of nutrients, long life and high germination.

- Gently crush the fruit or mince by hand to separate out the seed from the flesh of the fruit.
- Continuously wash the seed with water till the flesh of the fruit gets removed.
- Dry the seeds under shade.
- Usually, we can get 5 kg of seeds from 100 kg of fruit.
- Remember that freshly harvested seeds give better germination than the stored seeds.
- Before sowing, treat the seeds with fungicide like Bavistin.
- Prepare nursery beds of suitable dimension.
- Apply required quantity of sand, FYM and ash.
- Soak the seeds for a day in water prior to sowing.
- Draw a 3 cm deep line with a stick and sow the seeds. Cover the seeds with a thin layer of fine soil.
- Seeds can be sown by broadcasting also.
- Apply water to the nursery beds with a rose can. Keep the nursery bed wet as and when required.
- Seeds start germinating within 6-10 days after sowing.
- Soil temperature of around 20°C to 36°C is favourable for raising seedlings. Sow the seeds once favourable temperature prevails.
- Seeds germinate better in bright light than in total darkness.
- Apply fertilizers to facilitate the growth of seedlings.
- When the seedlings attain a height of 5 cm, thinning can be done.

#### 5.2.4 Observations

- a) Sow fifty each freshly harvested seeds and seeds harvested and stored for six months and record its survivability.

Sl. No.	Storage of Seeds	No. of Seeds Sown	No. of Seeds Germinated	% of Germination	Remarks
1.	Fresh seeds	50			
2.	Stored seeds for six months	50			

- b) Sow fifty seeds each at 3 cm, 6 cm and 9 cm depth and find out the difference and record its survivability.

Sl. No.	Sowing Depth	No. of Seeds Sown	No. of Seeds Germinated	% of Germination	Remarks
1.	3cm	50			
2.	6cm	50			
3.	9cm	50			

- c) Sow fifty seed each in a well prepared nursery beds (with sand and FYM applied) and in unprepared nursery beds.

Sl. No.	Condition of Nursery Bed	No. of Seeds Sown	No. of Seeds Germinated	% of Germination	Remarks
1.	Unprepared nursery beds	50			
2.	Prepared nursery beds	50			

### 5.2.5 Calculations

$$\% \text{ of germination} = \frac{\text{No. of seeds germinated}}{\text{No. of seeds sown}} \times 100$$

### 5.2.6 Results

This experiment will allow you to know the number of seedlings developed from the seeds used in nursery under various conditions as pointed in a, b and c above. This will be used as stock for grafting.

$$\% \text{ of seedlings raised} = \underline{\hspace{2cm}} \%$$

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## 5.3 PRECAUTIONS

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- Prepare nursery beds thoroughly.
- Maintain the requisite level of moisture in nursery beds.
- Protect the young seedlings from excessive light and temperature.