Plant Propagation Lab Exercise
Module 2



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CONTROLLED POLLINATION

An introduction to plant propagation laboratory exercises by:
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LAB OBJECTIVES

- Introduce students to the basic steps of controlled pollination
- Familiarize students with flower sexual reproductive structures
- Demonstrate cross pollination and seed production techniques for petunia

Basic Steps in Controlled Pollination

1. Selection of parent plants
2. Bringing chosen parents into flower simultaneously
3. Collection of pollen from the male parent
4. Emasculation and pollination of female parent
5. Protection of the pollinated flower
6. Growing of ripening fruit from pollination to maturity

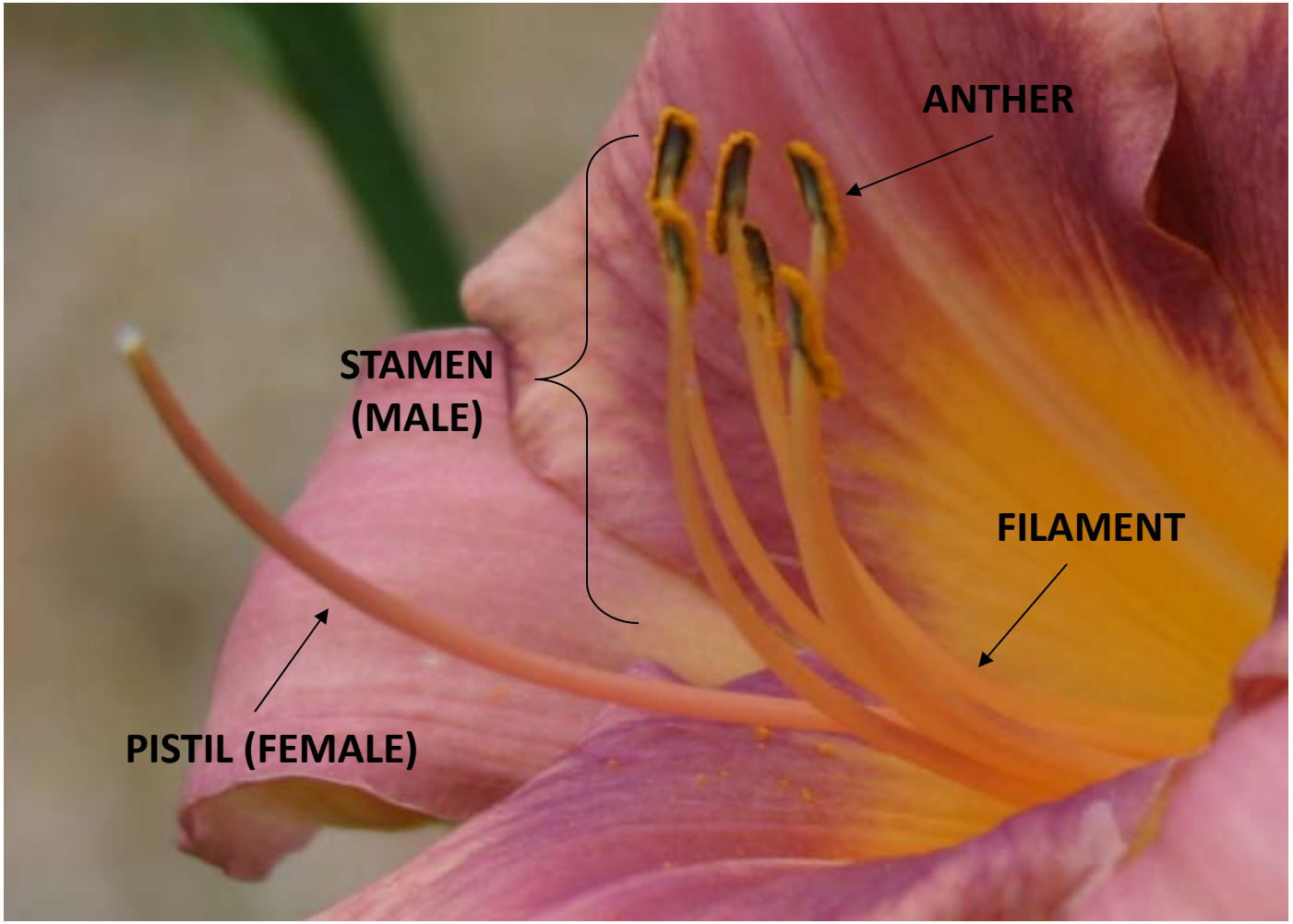
Basic Steps in Controlled Pollination

7. Extraction of seed from fruit
8. Seed germination
9. Seedling growth and transplanting
10. Transplanting to final evaluation site
11. Field selection among hybrids
12. Propagation of selected seedlings

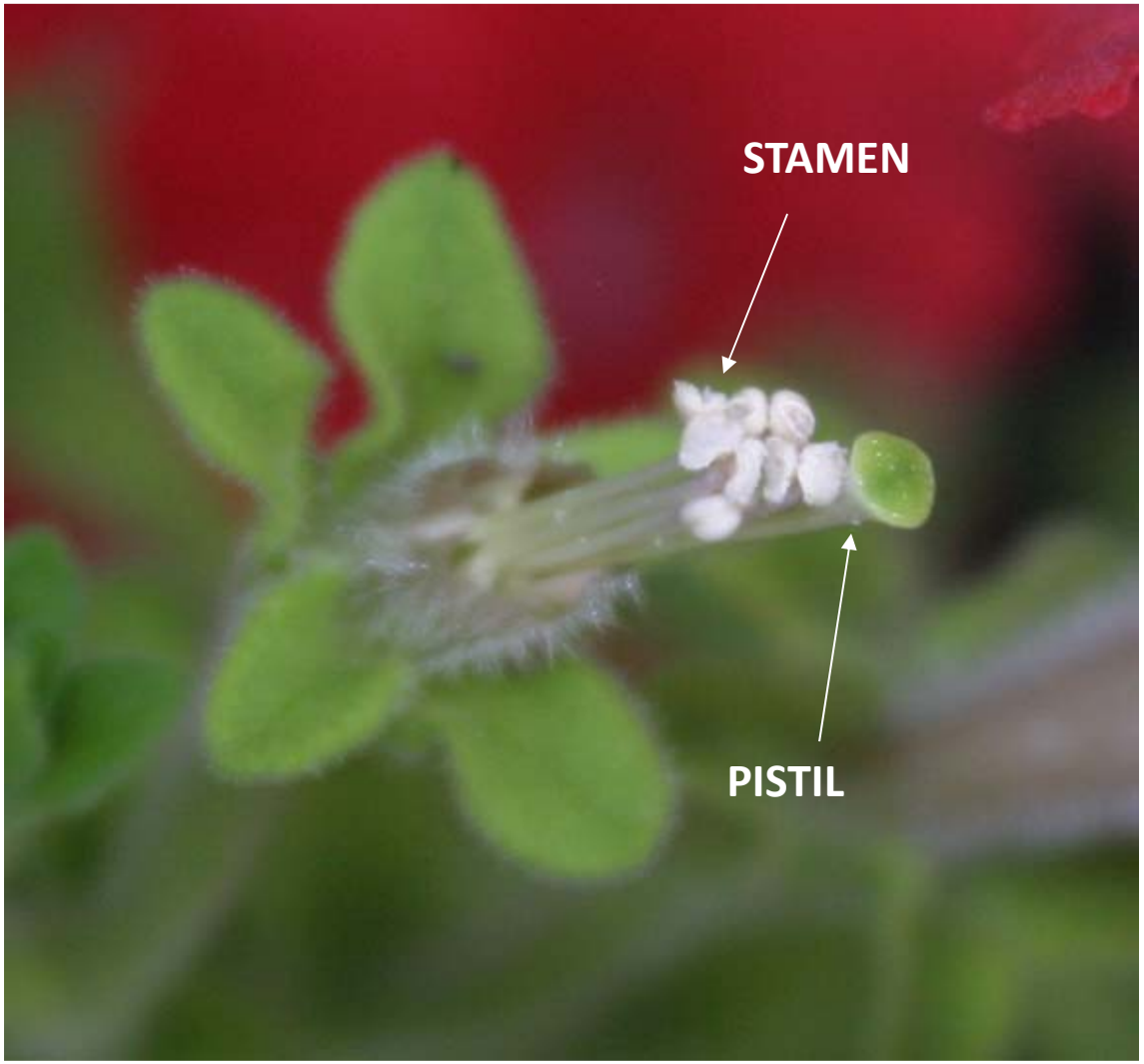
Select Parent Plants

Bring Parents Into Flower

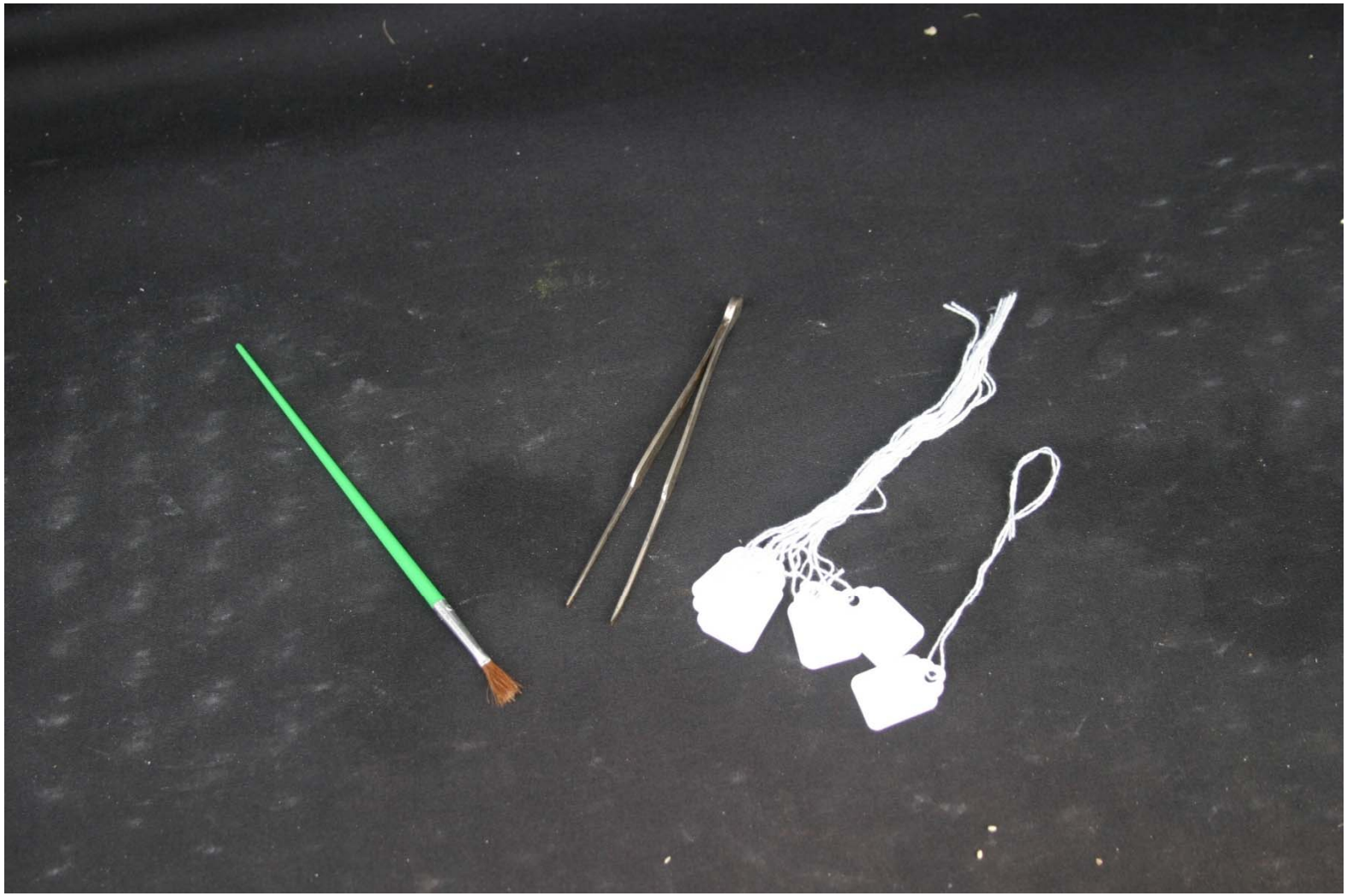
Flower Parts



Flower Parts



MATERIALS



Emasculation

Pollen Collection

Inspect the open flower to ensure pollen has matured and is ready for transfer before collecting.

Pollen Collection

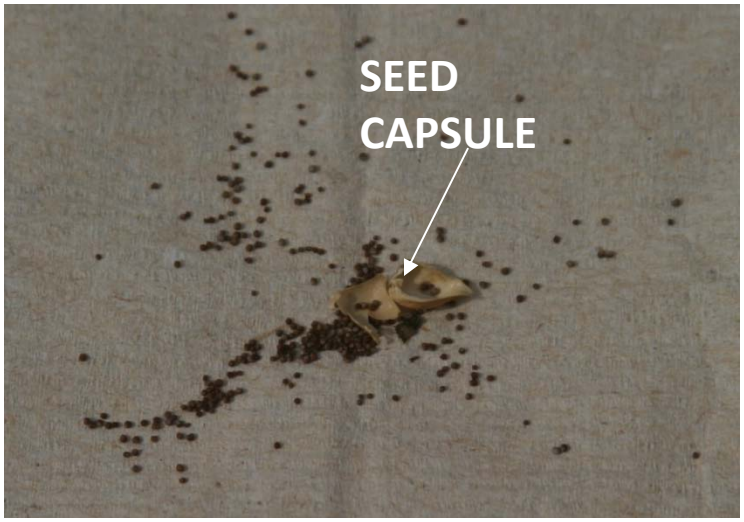
Flower Protection and Labeling

Ripening Fruit

The empty ovary of a petunia flower that was not pollinated has a light tan color and is small and round.

The ripened ovary of a petunia flower that was pollinated has a light tan color, is approximately ¼ inch long, and is cone shaped. The seed are extracted by opening the dry capsule.

Seed Germination



Seedling Growth and Transplanting

Young seedlings are grown on to maturity to select individuals with the desired traits.