



PRACTICES IN CROP PRODUCTION



PROPAGATION

Means to multiply or make new

Propagation methods require:

- Knowledge
- Skill
- Practice
- Propagation is an ART!!





Propagation Methods

- Sexual propagation
- Asexual propagation





SEXUAL PROPAGATION

Reproduction involving a female (egg) and male (pollen) sex cells to produce a seed.



Sexual propagation offers the following advantages:

- It is usually the only method of producing new varieties or cultivars.
- It is often the cheapest and easiest method of producing large numbers of plants.
- It can be a way to avoid certain diseases
- It may be the only way to propagate some species.



SELECTION OF SEED

- Viable
- Damage free
- True to type
- Free from seed-borne diseases
- Free from weed mixture
- Mature



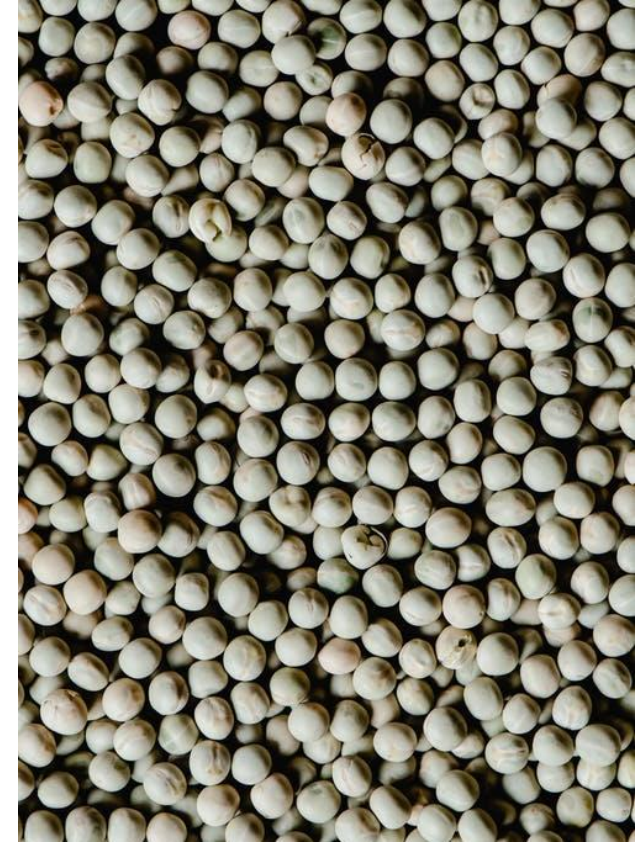
GERMINATION

- Germination is the growth of an embryonic plant contained within a seed; it results in the formation of the seedling.



FACTORS THAT AFFECTS GERMINATION

- TEMPERATURE
- WATER
- OXYGEN
- LIGHT/DARKNESS



SEED VIABILITY TESTING

- Seed quality testing involves measuring, examining, evaluating, and checking seeds to determine conformity with standards and requirements.



GERMINATION TEST

- A germination test is performed to determine what proportion of seeds in an accession will germinate under favorable conditions and produce seedlings judged as normal according to specific criteria for each species



COMMON METHODS OF TESTING SEED VIABILITY

- Rag-doll Method
- Dish Method
- Seed Box Method

RAG DOLL METHOD

- is a method of testing seeds using a towel. The towel is soaked and drain in water.



PROCEDURE

- Place the seeds inside a damp piece of cloth.
- Space the seeds along one side of the cloth covers them.
- The cloth is then rolled and place on trays.
- A piece of stick is placed in the middle of the damp cloth to allow circulation of air.
- After three days, count the seeds that have germinated



Plate or Dish method

- is a method of germinating seeds with the used of a plate and tissue . It's sometimes mistaken as paper-towel method because of its steps and procedures. The difference is that this method used tissue while the latter used paper towel.

PROCEDURE

- Line the dish with moistened, tissue paper, and then place a number of seeds.
- Cover with another sheets of moist tissue paper.
- Allow the seeds to germinate for several days.
- Count the number of seeds that germinated.



SEED BOX METHOD

the process of germinating your seedlings in one flat tray. Usually 3–4 inches deep.

- Plant a number of seeds in a box and water them.
- After several days, count the seeds germinated and compute for the percentage of germination using this formula:

$$\%GERMINATION = \frac{\textit{number of seeds germinated}}{\textit{number of seeds sown}} \times 100$$