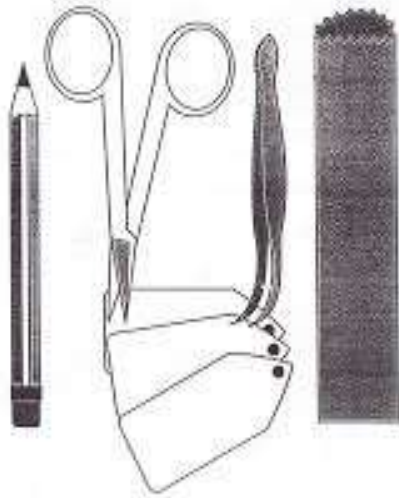


Practical-I

Plant Breeder's Kits



Dr. N K Chaurasia
Deptt. of G&PB, MSSSoA

Forceps/Tweezers (Fine Long Pointed)

Used for incising the floral buds

Required for removing the anthers during emasculation, and

To transfer the pollen grains from male flowers to the stigma of emasculated female flowers



Magnifying Lens

Useful in **emasculating small flower buds**, and

Also required to **observe the stigma of emasculated flower** to confirm



Pollination Ring

Use in pollen collection and pollination of emasculated flowers



Bags

Required to cover the flower buds or inflorescences prior to pollination and after the pollination

Also used to cover emasculated flowers to prevent the landing of foreign pollens



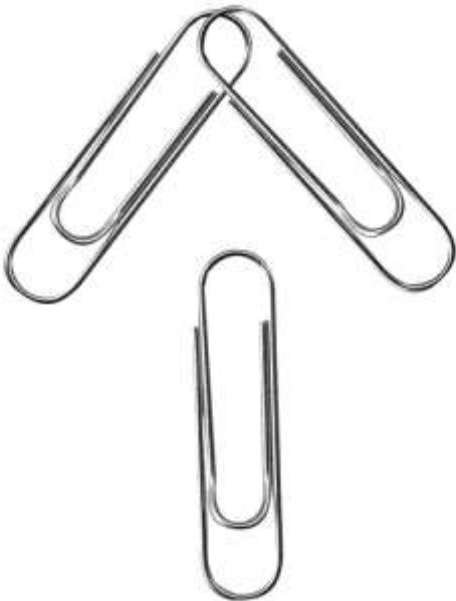
Camel Hair Brush

Required for **collecting the pollen grains**, and **dusting** on the stigma of emasculated female flowers



Gems Clips

Used for **holding the paper bag** kept on the flowers or inflorescences



Scissor

Required to remove unwanted leaves, buds, panicle, etc



Blade

Used in making incision in flower buds during emasculation

Also used in cutting the tip portion of ear for uniform silking



Rice Vacuum Emasculator

Widely used in laboratory to **eliminate anthers from rice spikelet** by means of suction without damaging the stigma or ovary



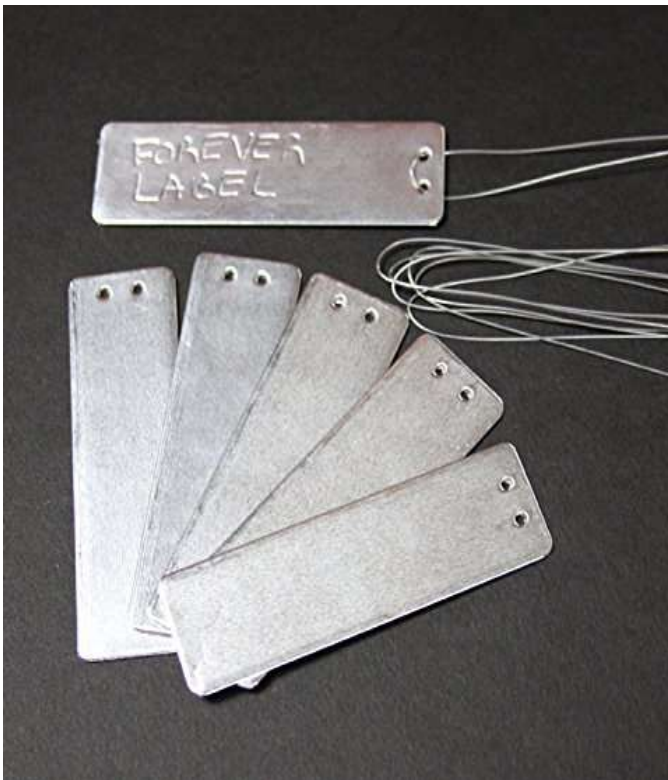
Washing Bottle

A small bottle containing **sterilizing agent** such as alcohol or **spritis** used to sterilize the scissors, needles, forceps and brush as well as hands during the crossing programme



Labels

Made up of with either paper or aluminum, and are **used to write the necessary information** (like date of emasculation, date of pollination, parentage, etc.)



Thread and wires

Thread is used for **fastening (tying)** the flower buds, emasculated flowers, pollinated flowers, etc, while wire ring is inserted in axis of flowers to identify it

Wire ring also used in crops like groundnut for **proper pegging** and

Compared to bags, this method is more convenient and cheaper



Soda Straw Tubes

Used for **protecting the emasculated or pollinated flower buds** of cotton, tobacco, groundnut, etc.

Very convenient, **easy and cheaper** method of selfing and **crossing** as compared to paper bags



Pencils

Need for writing the necessary information on the tags after or before emasculation and pollination



Cotton

Indigenous method of selfing and crossing when threads or bags are not available

it is used for selfing and crossing in cotton, brinjal, and okra.



Muslin Cloth Bag

Used to [cover the whole plant while selfing or crossing](#) in the crops like chillies, brinjal, etc.

In large sized plants like tur it can be used for protecting individual branch also.

It is also used in [sugarcane hybridization](#) programme



Field Notebook

All the important observations required to be taken during the breeding programmes are written in the field notebook.

Carry information/record on **number of crosses, date of selfing or emasculation, flowering, maturity, number of seeds set in crossed flower and about the plant selected in segregating generations**



Thank You...