**BARLEY**

*(Hordeum vulgare)*

**Equipment**

A pair of scissors, pointed needle, forceps, a magnifying lens, camel hair brush. Petri dish, butter paper bag (4'x2‘), methylated spirit, tag and lead pencil.

**Procedure**

Barely is a naturally self-pollinated crop. Anthesis starts usually slightly above the middle of the spike and progresses upward and downward. All the spikes on a plant complete blooming within 7-9 days. In two rowed barley, the central spikelet develop into fertile flowers, the lateral being sterile.

**Selfing**

Self-pollination in barley occurs by nature. Cover the spike with a butter bag to avoid the stray pollen contamination.

**Crossing**

***Emasculation***

* 1. In the evening, out the lateral spikelets with a pair of scissors retaining 8-15 central spikelets on a spike.
  2. Cut off 3-4 spikelets from the basal side and 4-5 florets from the apical side of the spike.
  3. Cut 1/3 upper portion of the floret with the help of a pair of scissors and remove the anthers from the spikelets before the anthesis with a fine pointed forceps and a sharp needle.
  4. Carefully handle the flower and see that the pistil does not get injured.
  5. Cover the emasculated spike with a butter paper bag.

**Pollination**

1. In the evening bag the spike of the male parent before the dehiscence of anther.
2. Next day collect the pollen grains in the Petri dish from the already bagged male parent.
3. Take the pollen grains from the Petri dish and apply to the stigma with a soft camel hair brush or place mature anther as such within the floret.
4. Cover the spike within its respective bag after pollination.
5. Sterilize your hands and instruments with methylated spirit shifting to the other pollinations.

**Labelling**  Tag the plant, indicating the name of the cross, date of pollination and your signature. Write the-female parent first and then the name of the pollen parent (male). Always use lead Pencil as it is water proof and will, not be damaged during rains or due to dew.