Date 22-Nov-21

Expt. No. 06

Page No. 22

Aim:

To perform microscopical study of coriander.

Reference:

Kokate C.K., Purohit AP and Gokhale S.B., Nirali Publication, 56th Edition, Page no - 14.37 to 14.38.

Requirement:

- Glassware :-
  - → Slide
  - → Coverslip
  - → Watch glass
- Chemicals :-
  - Glycerine
  - Safranine reagent.
- Other :→
  - Watery dipped coriander
  - Sharp blade
  - Microscope
  - Pen Brush.

Theory :-

The coriander is native to the mediterranean region, eastern and central Europe, East Asia, North and South America.

Teacher's Signature _____

All parts of the plant are edible, but are generally used the fresh leaves and dried seeds. In some countries it is known as Chinese or Japanese parsely.

Coriander essential oil is a stimulant of gastric secretion. It has benefits as a carminative, eupeptic, estrogen and spasmolytic. It also has antibacterial and antifungal effects.

It should not be used during pregnancy, lactation, hyperestrogenism.

Macroscopic Characteristics.

- Colour :- Yellowish - Brown
- Odour :- Aromatic
- Taste :- Spicy and characteristics
- Shape :- Sub-globular.
- Size :- 2-4 mm in diameter and 4-30 mm in length.

Microscopical Charactistics.

1. Epicarp : Polygonal cells with occasional stomata and ~~stomata~~ calcium oxalate crystal.

Teacher's Signature

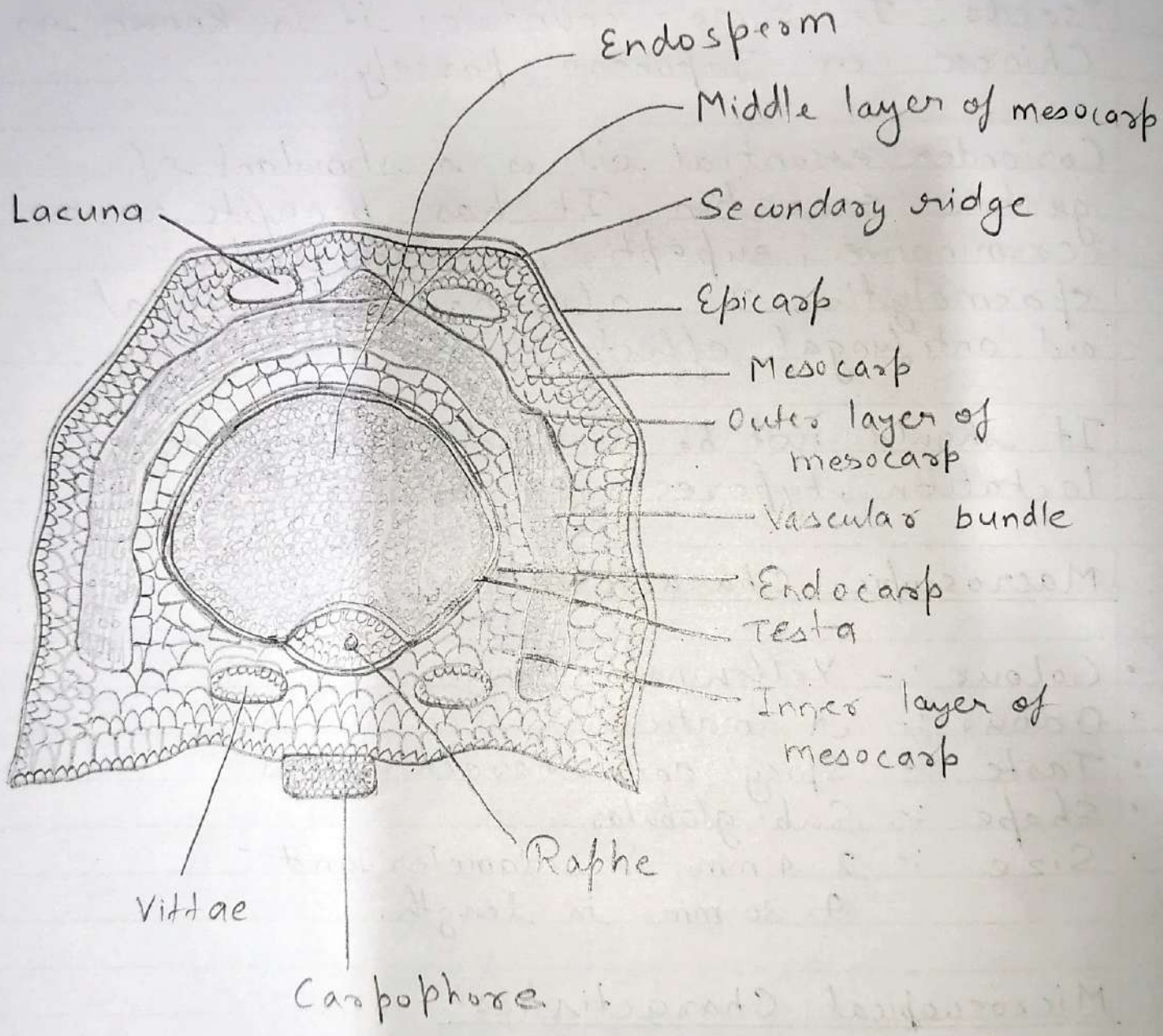

Fig → T. S. of Coriander

2. Mesocarp: Inner and outer layer of parenchyma with sclerenchyma in between.

3. Sclerenchyma in tangential and longitudinal bands.

4. Two vittae on the commissural surface and four lacunae on the dorsal surface.

5. Endocarp: Elongated cells forming parquetry layer.

6. Endosperm: Cellulosic parenchyma containing oil globules and aleurone grains.

Procedure:

- Soak the coriander for overnight.
- Take a piece of coriander and cut it with the help of a sharp razor blade.
- Place the section in watch glass containing water.
- And then transfer into the staining reagent.

- Now transfer the T.S. in another watch glass containing plain water to remove the excess stain.
- Transfer the section into a clean and dry glass slide.
- Add 1 to 2 drops of glycerine-water (50%) on the section.
- Place the cover slip over the final section without any air bubbles.
- Watch ~~glass~~ under compound microscope with the combination of 10× and 10× (eye piece and objective lens).
- Observe it and draw all parts of the T.S.

Usage.

- Carminative.
- Flavouring agent.
- Aromatic
- Stimulant
- Stomachic
- Diuretic

Teacher's Signature _____

Expt. No. 06

Date

Page No. 26

Result:

Microscopical study of coriander was successfully performed in the laboratory.

Teacher's Signature