# Transverse Section Microscopy of Coriander

Experiment 21 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

## Aim

To study a transverse section of the assigned coriander fruit and record diagnostic tissues.

## Principle

A thin transverse section reveals how protective, conducting, supporting, storage and secretory tissues are arranged. A cremocarp section shows two mericarps with pericarp, vascular tissue, endosperm and secretory ducts in their assigned positions.

## Identity and Drawing Guide

| Field | Guide |
|---|---|
| Botanical source | Coriandrum sativum |
| Family | Apiaceae |
| Part | Fruit |
| Labels to include | Label epicarp, mesocarp, lignified inner pericarp, endosperm, vascular region and commissural face. |

## Requirements

- Authenticated prepared section or teacher-assigned sectioning material
- Compound microscope, slides, coverslips and approved mountant/stains
- Pencil and labelled drawing sheet

## Procedure

### 1. Verify material

Record botanical source, part, specimen treatment and section level.

### 2. Prepare or select slide

Use the assigned thin section or prepared slide; select an intact representative region.

### 3. Survey at low power

Identify the tissue outline and major regions before increasing magnification.

### 4. Examine diagnostic details

Locate supporting and secretory features. The joined mericarp form and pericarp pattern distinguish it from elongated fennel fruits.

### 5. Draw and label

Label epicarp, mesocarp, lignified inner pericarp, endosperm, vascular region and commissural face.

### 6. Compare

Compare with authenticated material and write which observed features support identity.

## Observations and Record

| Feature | Actual observation / drawing label |
|---|---|
| Outer protective region | _____ |
| Ground / storage tissue | _____ |
| Vascular arrangement | _____ |
| Diagnostic structure | _____ |
| Magnification / scale | _____ |

## Result

Diagnostic tissues observed: _____. The section _____ supports the assigned identity because _____.

## Precautions

- Observe secretory features against the authenticated slide; do not assume every empty space is a duct.
- Use prepared slides for toxic material and avoid direct exposure to powders.
- Do not mistake folds, air bubbles or stain deposits for diagnostic structures.
- Start with low power and record magnification.

## Viva Questions and Answers

### 1. What is a transverse section?

A section cut across the long axis or specified plane of the material.

### 2. Why is tissue arrangement important?

The pattern helps distinguish plant parts and authentic materials.

### 3. Which feature is especially useful here?

The joined mericarp form and pericarp pattern distinguish it from elongated fennel fruits.

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