Fennel - Macroscopy Powder and Microscopy

Experiment 10 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To describe the authenticated fruit material of Fennel and record supporting identity characters.

Principle

A crude drug is identified from a combination of botanical source, plant part, external morphology and microscopic evidence. Common fragments are not sufficient on their own.

Requirements

- Authenticated Fennel specimen and supplied powder or prepared slide.
- Microscope, measuring scale, slide tools and the assigned species atlas.

Procedure

1. Establish source

Record Foeniculum vulgare; Apiaceae. State the specimen code and the supplied plant part.

2. Macroscopic study

Elongated ridged fruits that can separate into mericarps. Measure size, colour, surface and fracture without tasting the material.

3. Section study

Orient the prepared section, identify outer and inner tissue regions and draw a labelled outline.

4. Powder study

Ridges, vascular elements, vittae and endosperm in a labelled mericarp section. Record only the structures actually observed and the magnification used.

5. Compare and conclude

Do not call a fruit a seed in the record; compare with other Apiaceae fruits. Compare the combined evidence with the assigned authenticated specimen.

Observations and Record

Record	Observation
Source / plant part / code	_____
Macroscopic characters	_____
Section tissues and drawing	_____
Powder fragments / magnification	_____
Supported identity and limitation	_____

Result

Fennel specimen code: ____. Plant part: ____. Supporting features: ____. Comparison outcome and limitation: ____.

Precautions

- Never taste crude drugs; toxic specimens require the assigned contained handling or prepared material.
- Record botanical source and plant part instead of relying only on the commercial name.
- Distinguish expected comparison characters from features actually seen.

Viva Questions and Answers

1. What is the examined plant part?

Fruit.

2. Which features support the comparison?

Elongated ridged fruits that can separate into mericarps. Ridges, vascular elements, vittae and endosperm in a labelled mericarp section.

3. Does one common fragment establish identity?

No. Use the combined specimen and microscopic evidence.

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