

# Morphological Identification of Fennel

Experiment 4 - Practical Notes

Name: \_\_\_\_\_ Roll no.: \_\_\_\_\_ Date: \_\_\_\_\_

## Aim

To identify fennel using the supplied crude-drug specimen and diagnostic morphology.

## Principle

Macroscopic identification combines the correct botanical source and plant part with shape, surface, colour, fracture and other diagnostic features. A single visual resemblance is insufficient.

## Drug Profile

| Field                 | Teaching profile                                              |
|-----------------------|---------------------------------------------------------------|
| Botanical source      | Foeniculum vulgare                                            |
| Family / source group | Apiaceae                                                      |
| Part used             | Dried ripe fruits                                             |
| Appearance            | Elongated greenish to yellow-brown fruits.                    |
| Diagnostic morphology | Five conspicuous ridges on each mericarp; aromatic character. |
| Constituent group     | Volatile oil, including anethole                              |
| Pharmacognosy context | Aromatic / carminative ingredient                             |

## Requirements

- Authenticated comparison material and the coded teaching specimen
- Hand lens, ruler, clean tray and observation sheet

## Procedure

### 1. Inspect the whole specimen

Record the supplied part, overall shape, colour and approximate size before breaking it.

### 2. Examine surface

Use a hand lens to locate the diagnostic ridges, scars, margins or other features listed below.

### 3. Observe fracture or cut face

Only where permitted, examine the internal surface or fracture and describe its texture.

**Pharmacognosy**

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**4. Compare**

Compare the coded specimen with authenticated material; record similarities and differences.

**5. Conclude**

State the proposed identity, supporting features and any need for microscopy or other confirmation.

**Observations and Record**

| Character                       | Actual observation |
|---------------------------------|--------------------|
| Plant part / shape              | _____              |
| Colour / dimensions             | _____              |
| Surface features                | _____              |
| Cut face / fracture             | _____              |
| Diagnostic feature / comparison | _____              |

**Result**

The supplied specimen was identified as \_\_\_\_\_ based on \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_. Any conflicting feature: \_\_\_\_\_.

**Precautions**

- Do not taste crude drugs; toxic specimens such as ephedra and rauwolfia require controlled handling.
- Do not inhale powders or break valuable museum material without permission.
- Morphology does not establish chemical potency or clinical safety.

**Viva Questions and Answers****1. Which part is examined?**

Dried ripe fruits.

**2. What supports identification?**

Five conspicuous ridges on each mericarp; aromatic character.

**3. Can appearance establish assay content?**

No; chemical content requires an appropriate validated test.

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