Morphological Identification of Ispaghula

Experiment 1 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To identify ispaghula 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	Plantago ovata
Family / source group	Plantaginaceae
Part used	Dried seeds / separated husk
Appearance	Small oval boat-shaped seeds; translucent husk material when separated.
Diagnostic morphology	Seed surface and a distinct hilum; husk hydrates to mucilage.
Constituent group	Mucilage polysaccharides
Pharmacognosy context	Bulk-forming laxative 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.

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 seeds / separated husk.

2. What supports identification?

Seed surface and a distinct hilum; husk hydrates to mucilage.

3. Can appearance establish assay content?

No; chemical content requires an appropriate validated test.

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