Ginger - Macroscopy Powder and Microscopy

Experiment 16 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To describe the authenticated rhizome material of Ginger 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 Ginger specimen and supplied powder or prepared slide.
- Microscope, measuring scale, slide tools and the assigned species atlas.

Procedure

1. Establish source

Record Zingiber officinale; Zingiberaceae. State the specimen code and the supplied plant part.

2. Macroscopic study

Branched rhizome pieces with scars and a fibrous fracture. 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

Starch, secretory cells and vascular elements in the supplied powder or section. Record only the structures actually observed and the magnification used.

5. Compare and conclude

Record peeled condition and processing, which affect appearance and starch. 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

Ginger 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?

Rhizome.

2. Which features support the comparison?

Branched rhizome pieces with scars and a fibrous fracture. Starch, secretory cells and vascular elements in the supplied powder or section.

3. Does one common fragment establish identity?

No. Use the combined specimen and microscopic evidence.

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