



ISSN 2278- 4136

ZDB-Number: 2668735-5

IC Journal No: 8192

Volume 1 Issue 3

Online Available at www.phytojournal.com

Journal of Pharmacognosy and Phytochemistry

Microscopic Studies on *Lens esculenta*

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Microscopic analysis of a crude drug facilitate the researchers for appropriate identification of a drug and abolish adulteration and provide a basis for authentication of crude drug. The present investigation involves the plant drug *Lens esculenta* Moench. Belonging to family Papilionaceae. It is cultivated as a pulse crop. Even though the plant has captured scientific emphasis recently, there is a need for standardization. Hence in present work the seed part of the plant is subjected to various microscopic assessments. In the microscopic studies different cell structure and arrangement were studied.

Keyword: *Lens esculenta*, Microscopic Evaluation, Identification.

1. Introduction

Lens esculenta is a native to South West Asia and cultivated as a pulse crop mainly in North India, Madhya Pradesh and some parts of Maharashtra. Seeds are mostly used as a pulse containing as much as 30% proteins (similar to those of peas and beans). Soup is used in gastric troubles and constipation and its paste or poultice is applied to foul and indolent ulcers ^[1-3].

2. Material and Method:

2.1 Collection of Plant:

The seeds were collected from Joginder Nagar, Himachal Pradesh, India and the collected seeds were subjected to microscopic examination.

2.2 Microscopic Studies

Powder of the seeds was used for observation of various microscopic features. The powdered drug was separately treated with phloroglucinol,

hydrochloric acid, glycerine and iodine solution, safranin, methylene blue in determining the presence of palisade cells, parenchymatous cells and starch grains ^[4].

3. Results and Discussion:

3.1 Powder Microscopy of Seeds:

The seed powder was observed microscopically after staining with various reagents and after mounting with glycerin, different changes have been observed, which have been provided below in Figure 1.

4. Conclusion

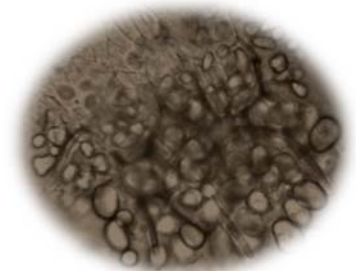
In conclusion, the microscopic studies on the seeds of *Lens esculenta* Moench. can assist as a relevant source of information and contribute towards the standards to dispose the quality and identity of this plant in future exploration.



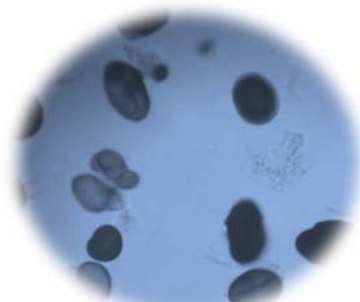
Starch grains (unstained)



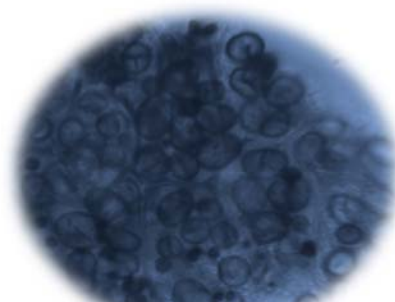
Oval, striated, fissured hilum



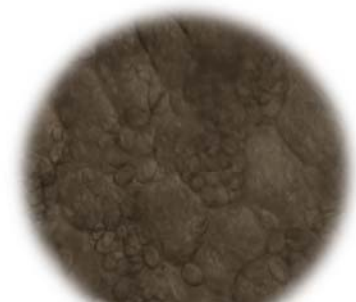
Parenchymatous cells (Unstained)



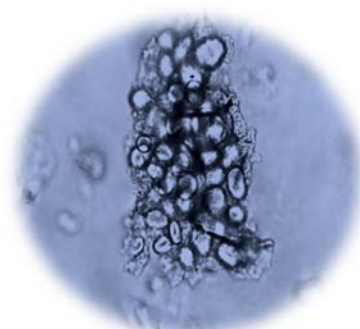
Starch grains (stained)



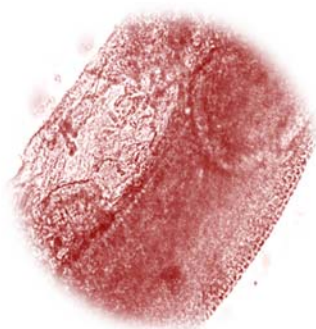
Parenchymatous cells (Stained)



Unstained parenchymatous cells



Palisade cells



Seed coat



Fibers

Fig 1: Microscopic evaluation showed diagnostic characters of *Lens esculenta* Moench.

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