



Identification of  
Tiny Seed and Fruit  
Types of Chinese  
Materia Medica

# Descurainiae Semen

1 cm

## Source\*

The dried ripe seed of *Descurainia sophia* (L.) Webb ex prantl<sup>#</sup> in the family Cruciferae

## Property and flavour

Highly cold; pungent and bitter

## Meridian affinity

Lung and bladder meridians

## Actions

To drain the lung and alleviate panting; to circulate water and resolve swelling

Note:

\* According to Schedule 2 of the Chinese Medicine Ordinance and Chinese Pharmacopoeia (2020 Edition), *Lepidium apetalum* or *Descurainia sophia* can be the plant source. The former one is known as Semen Lepidii or Lepidii Semen (*Bei Tingzi*), the latter one is known as Semen Descurainiae or Descurainiae Semen (*Nan Tingzi*). Only *D. sophia* is included in this study as currently it is the main species in the market.

<sup>#</sup> The scientific name of the plant source in Chinese Pharmacopoeia (2020 Edition) is "*Descurainia sophia* (L.) Webb. ex Prantl."

## Micro-morphological features

### Shape

**Appears oblong, elliptical or sub-ovate in surface view, occasionally sub-polygonal**



Slightly flat, usually relatively protruding on one side



Lateral view

Hilum is short linear-shaped



Bottom view

0.2 mm

Both sides usually have 2 shallow longitudinal grooves each, one of which is usually deeper; sometimes have relatively distinct longitudinal grooves on one side



Base is slightly dented or truncate



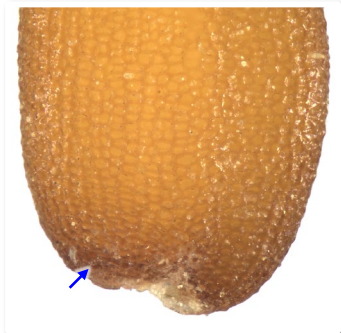
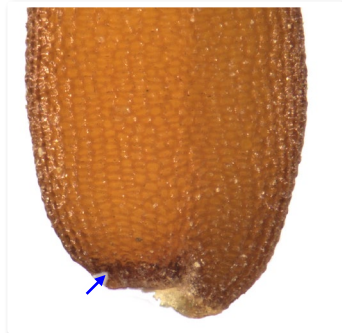
After being soaked in water, epidermis swells to form a transparent mucilaginous membrane surrounding the whole seed

Surface view

0.2 mm

**Surface**

**Reddish-brown or yellowish-brown, with extremely small and dense reticulate striations; area near the hilum at the base (→) is blackish-brown or brown**

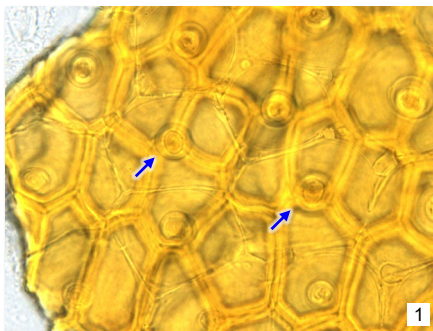


0.5 mm

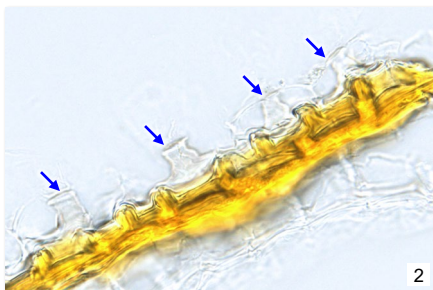
## Powder microscopic features

### Testa

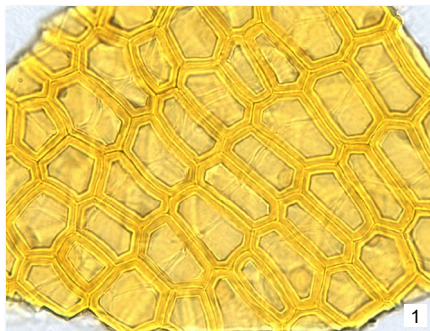
#### Outer epidermal cell of testa



Colourless, appears polygonal or sub-square in surface view (1), with 1 sub-annular cellulose column (→) in the centre, some with mucilage; appears sub-rectangular or sub-rounded in lateral view (2), outer wall and lateral wall are usually broken, cellulose column (→) is rectangular or trapeziform; usually adheres to inner epidermal cell of testa



### Inner epidermal cell of testa



Yellowish-brown or yellow, appears polygonal or rectangular in surface view (1), with slightly thick wall; slightly thick lateral wall and inner wall are visible in lateral view (2), outer wall (→) is usually broken, relatively thin; usually adheres to outer epidermal cell of testa



## Key identification features

### Micro-morphology

- ⊙ Appears oblong, elliptical or sub-ovate in surface view, occasionally sub-polygonal; slightly flat
- ⊙ Both sides usually have 2 shallow longitudinal grooves each, one of which is usually deeper
- ⊙ Surface has extremely small and dense reticulate striations

### Powder microscopy

- ⊙ Outer epidermal cell of testa: appears polygonal or sub-square in surface view, with 1 sub-annular cellulose column in the centre
- ⊙ Inner epidermal cell of testa: yellowish-brown or yellow, appears polygonal or rectangular in surface view, with slightly thick wall

For more information, please refer to [website of the Hong Kong Chinese Materia Medica Standards](#):

Descurainiae Semen — HKCMMS (Vol 6)

Government Chinese Medicines Testing Institute

Department of Health

Enquiry hotline: 3188 8079

Website: [www.cmro.gov.hk](http://www.cmro.gov.hk)

The information in this pamphlet may be re-disseminated or reproduced, provided that the Government Chinese Medicines Testing Institute (GCMTI), as the source of information, is acknowledged and that the re-dissemination or reproduction is for non-commercial use. Any reproduction, adaptation, distribution, dissemination or making available of the information in this pamphlet for commercial use is strictly prohibited unless prior written authorisation is obtained from the GCMTI.