



Identification of
Tiny Seed and Fruit
Types of Chinese
Materia Medica

Semen Allii Tuberosi*

1 cm

Source

The dried ripe seed of *Allium tuberosum* Rottl.# in the family Liliaceae

Property and flavour

Warm; pungent and sweet

Meridian affinity

Liver and kidney meridians

Actions

To warm and tonify the liver and kidney; to strengthen yang and secure essence

Note:

* Its name in Chinese Pharmacopoeia (2020 Edition) is “Allii Tuberosi Semen”.

The scientific name of the plant source in Chinese Pharmacopoeia (2020 Edition) is “*Allium tuberosum* Rottl. ex Spreng.”.

Micro-morphological features

Shape

Appears semicircular or obovate in surface view



1 mm



Dorsal view



Ventral view

With linear hilum at the base, usually located towards one side

1 mm

Dorsal side is usually protruding

Some are protruding on both sides



Ventral side is flat or slightly dented

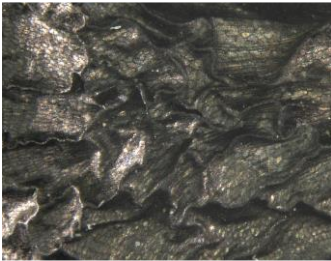


Lateral view

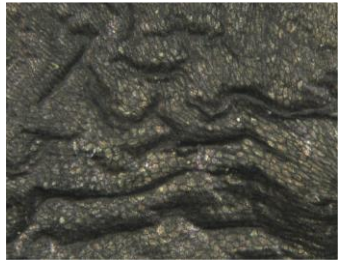
1 mm

Surface

Black, lustrous, with wrinkles and small and dense rectangular or polygonal striations on the surface, usually with less wrinkles on the ventral side



Dorsal view



Ventral view

0.5 mm

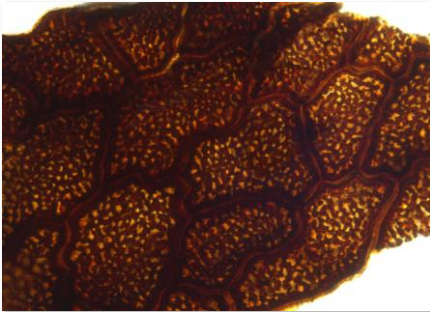
Odour

Characteristic

Powder microscopic features

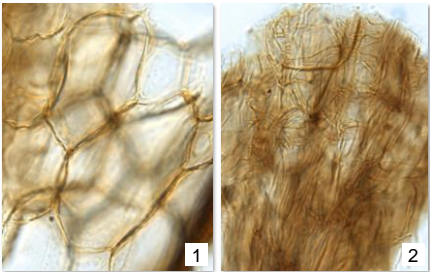
Testa

Epidermal cell of testa[^]



Brownish-black or black, appears irregular, sub-rectangular or sub-square in surface view, with reticulate striations on the surface

Parenchymatous cell of testa



Brown, sub-polygonal or sub-rounded (1), usually shriveled (2)

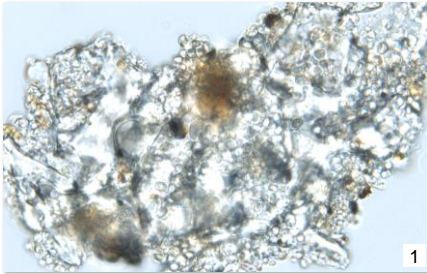
Note:

[^] In order to reveal clearly the shape of the cells, the light source intensity will need to be increased during observation or photography as this feature possesses a very dark colour

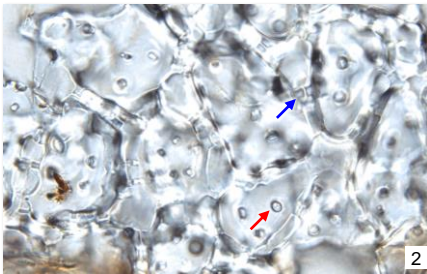
50 µm

Endosperm

Endosperm cell



Sub-rounded or sub-polygonal, with slightly thick wall, filled with aleurone granules and oil droplets (1); with broad pit canals (→) and large pits (→) visible after clearing (2)



Key identification features

Micro-morphology

- ⊙ Appears semicircular or obovate in surface view
- ⊙ Hilum at the base is usually located towards one side
- ⊙ With wrinkles and small and dense rectangular or polygonal striations on the surface

Powder microscopy

- ⊙ Epidermal cell of testa: brownish-black or black, with reticulate striations on the surface
- ⊙ Parenchymatous cell of testa: brown, usually shriveled
- ⊙ Endosperm cell: with broad pit canals and large pits

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

Allii Tuberosi Semen — HKCMMS (Vol 6)

Government Chinese Medicines Testing Institute

Department of Health

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