

# Unprocessed Semen Hyoscyami versus Semen Hygrophilae Salicifoliae



1 cm



1 cm

## Source

**\*Unprocessed Semen Hyoscyami** is the unprocessed dried ripe seed of *Hyoscyamus niger* L. in the family Solanaceae

**Semen Hygrophilae Salicifoliae** is the dried ripe seed of *Hygrophila salicifolia* (Vahl) Nees in the family Acanthaceae

## Overview

Unprocessed Semen Hyoscyami is a potent/toxic Chinese herbal medicine and is listed under Schedule 1 of the Chinese Medicine Ordinance (CMO). It is also listed in the Chinese Pharmacopoeia (2020). According to *Zhong hua ben cao*, unprocessed Semen Hyoscyami is mainly produced in Hebei and Henan, and is sold throughout China. The Chinese Pharmacopoeia has indicated that unprocessed Semen Hyoscyami is warm in property and highly toxic. The functions of unprocessed Semen Hyoscyami include: arresting convulsions, relieving pain, calm panting and tranquilizing. On the other hand, Semen Hygrophilae Salicifoliae was not included in the CMO or the Chinese Pharmacopoeia. According to *Zhong hua ben cao*, this CMM is mainly produced in Guangdong and Guangxi, and is marketed locally. Cold in property, Semen Hygrophilae Salicifoliae possesses functions of heat-clearing and detoxicating, as well as dispersing swelling to relieve pain. It is only for external use. As the two CMM differ in the properties and functions, they should be used distinctly and in accordance with their properties.

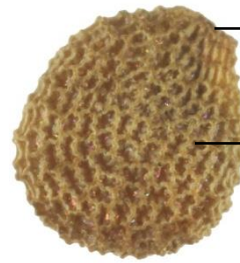
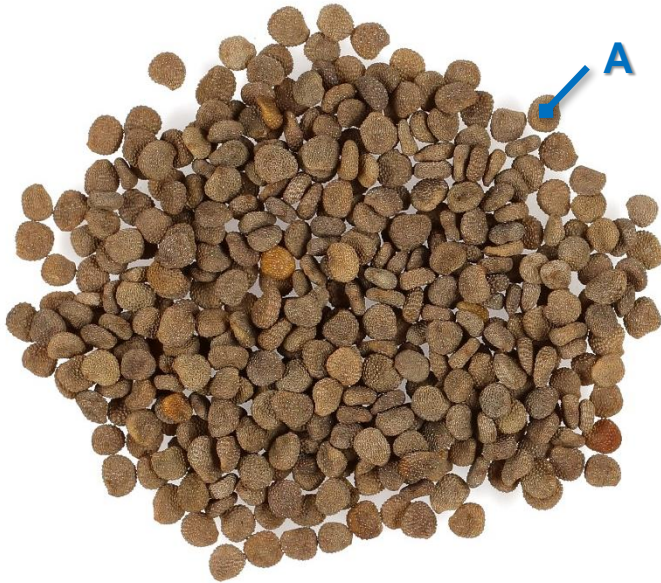
Note:

\*Its name in Chinese Pharmacopoeia (2020) is “Hyoscyami Semen”.

## Key identification features

### Macroscopic features of unprocessed Semen Hyoscyami#

- ◆ Flattened sub-reniform or flattened ovate



With dotted hilum at the slightly pointed end

Surface is brownish-yellow or and has fine reticulate striations

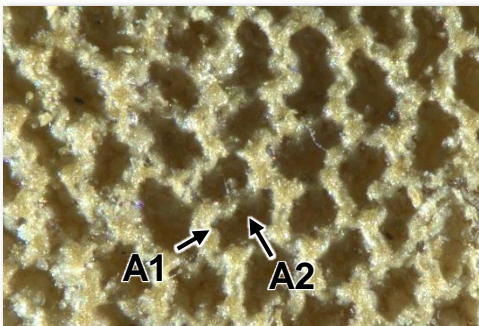
0.5 mm

5 mm

### Micro-morphological features

A1: Lustrous, honeycomb-like grid, edge slightly twisted with uneven protuberances

A2: Sunken centre



(Surface)

200 µm

Appearance remains unchanged after soaking in water, without mucilaginous trichomes observed



(Testing with water)

0.5 mm

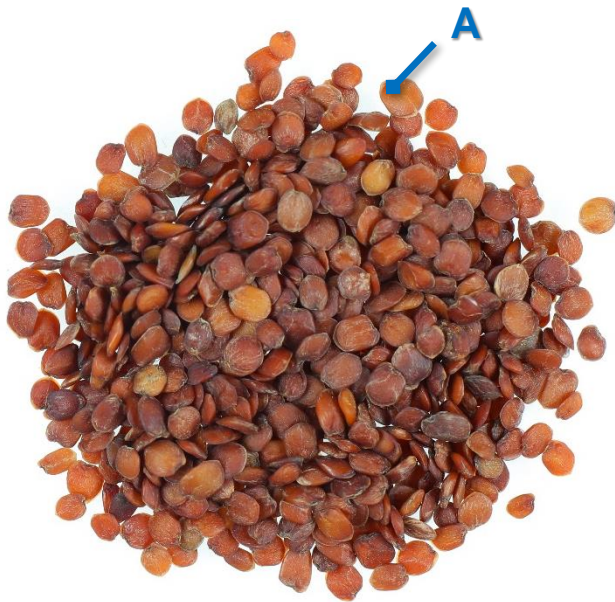
Note:

#Unprocessed Semen Hyoscyami is a toxic CMM. Handle it with care and avoid tasting during identification.

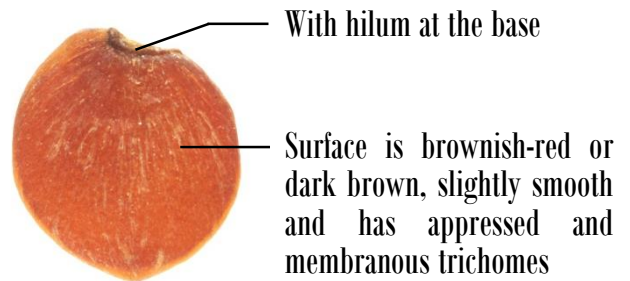
## Macroscopic features of Semen Hygrophilae Salicifoliae



### ◆ Flattened cordate



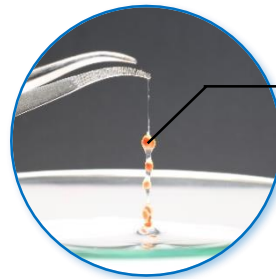
5 mm



With hilum at the base

Surface is brownish-red or dark brown, slightly smooth and has appressed and membranous trichomes

0.5 mm



After soaking in water, the seeds become viscous and stick together

## Micro-morphological features

A: Appressed mucilaginous trichome stretches from hilum to the edge to become fimbriate



(Surface)

200  $\mu$ m

After soaking in water, mucilaginous trichome becomes swollen, erect and loosely spread out

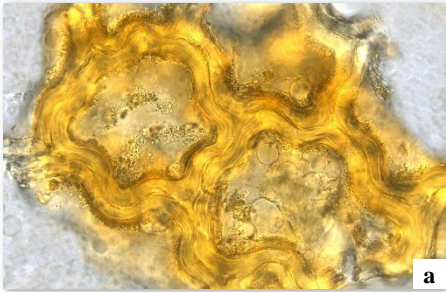
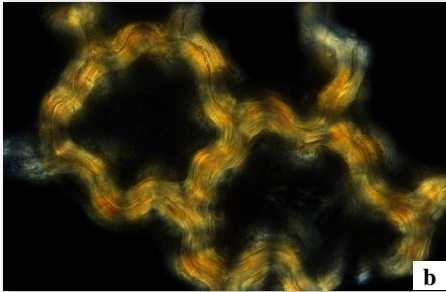
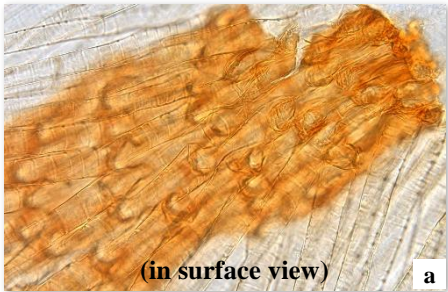
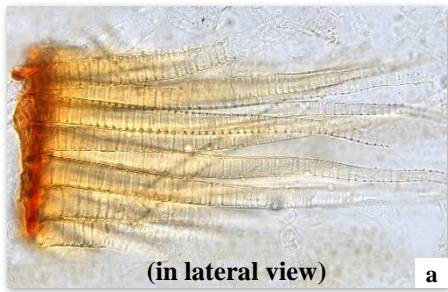


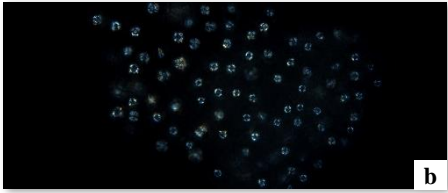


(Testing with water)

0.5 mm

## Microscopic feature comparison of unprocessed Semen Hyoscyami and Semen Hygrophilae Salicifoliae powder



	Unprocessed Semen Hyoscyami	Semen Hygrophilae Salicifoliae <sup>%</sup>
<b>Exotesta cell</b>	  <p>Yellow to yellowish-brown, irregular-polygonal or long-polygonal in surface view, with sinuous anticlinal wall and distinct striations; bright orange-yellow to polychromatic under the polarized light microscope</p>	 <p>(in surface view)</p>  <p>(in lateral view)</p> <p>Yellowish-brown, with numerous trichomes on the surface; trichome with annular thickening, containing large amount of mucilage</p>
<b>Cluster of calcium oxalate</b>	 <p>Absent</p>	  <p>Numerous, fine, scattered or present in cotyledon cell; polychromatic under the polarized light microscope</p>

a. features under bright field; b. features under polarized light

50 μm

Note:

<sup>%</sup>When preparing the slides, the powder should be well mixed as soon as possible after the test solution is added. Avoid mixing the mixture after it has been stood for a while or heated, in order to prevent the powder from sticking together.

## Summary

Major differences in the features between unprocessed Semen Hyoscyami and Semen Hygrophilae Salicifoliae:

		Unprocessed Semen Hyoscyami	Semen Hygrophilae Salicifoliae
Macroscopic and micro-morphological features	<b>Appearance</b>	Flattened sub-reniform or flattened ovate	Flattened cordate
	<b>Surface</b>	With fine reticulated striations	Slightly smooth, with membranous trichomes
	<b>Result of testing with water</b>	Appearance remains unchanged	Trichome becomes swollen and erect
Microscopic features	<b>Exotesta cell</b>	Irregular-polygonal or long-polygonal in surface view, with sinuous anticlinal wall	With numerous trichomes on the surface
	<b>Cluster of calcium oxalate</b>	Absent	Numerous, fine

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



Hyoscyami Semen(unprocessed) - Hong Kong Chinese Materia Medica Standards (Volume 8)



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