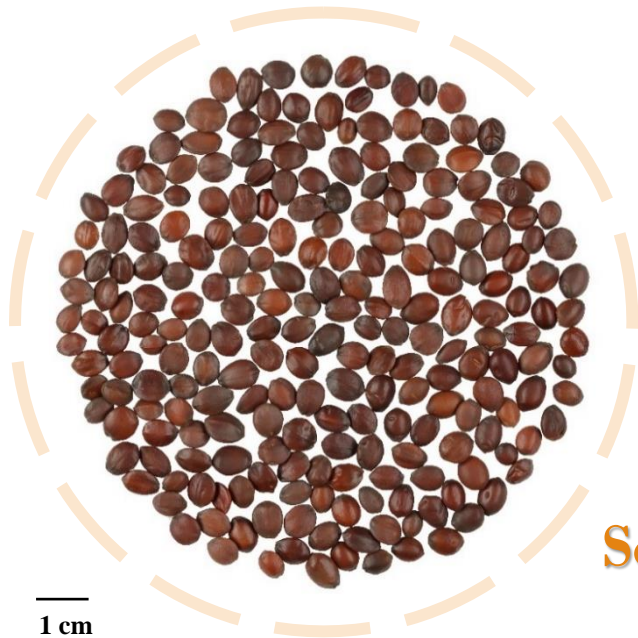


# Ziziphi Spinosae Semen versus Semen Hoveniae



Source



## **Ziziphi Spinosae Semen**

is the dried ripe seed of

*Ziziphus jujuba* Mill. var. *spinosa* (Bunge)

Hu ex H. F. Chou

in the family Rhamnaceae

## **Semen Hoveniae**

is the dried ripe seed of

*Hovenia acerba* Lindl.

in the family Rhamnaceae

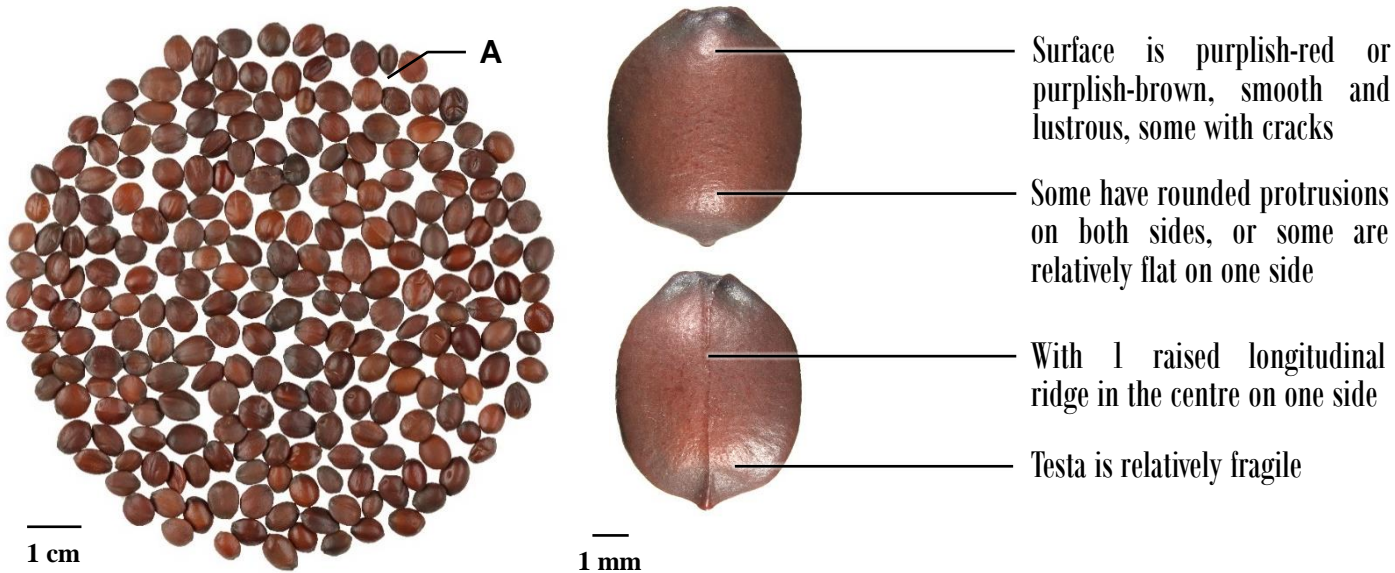
## **Overview**

Ziziphi Spinosae Semen is listed in Chinese Pharmacopoeia (2020 Edition), while Semen Hoveniae is only listed in Schedule 2 of the Chinese Medicine Ordinance. According to “*Zhong hua ben cao*”, “The seed of *Hovenia acerba* Lindl. is flattened and in reddish brown colour, and its appearance is similar to Ziziphi Spinosae Semen”. Since Semen Hoveniae and Ziziphi Spinosae Semen share similar appearances, and the demand of Ziziphi Spinosae Semen is large these days, it may lead to confusion on the market. According to the Chinese Pharmacopoeia, Ziziphi Spinosae Semen can nourish the heart and tonify the liver, calm the heart to tranquilize the mind, relieve sweating, and engender fluid. According to *Zhong hua ben cao*, Semen Hoveniae can remove alcoholic toxin, quench thirst, relieve vexation, stop vomiting, relieving constipation and promote urination. As the two Chinese Materia Medica differ in functions, they should be used accordingly.

## Key identification features

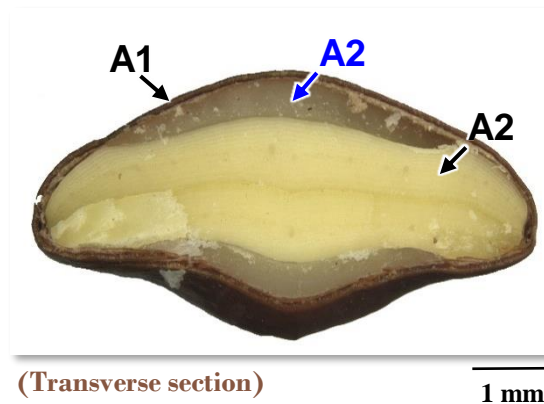
### Macroscopic features of Ziziphi Spinosae Semen 🔍

- ◆ Flattened round or flattened elliptical, relatively large



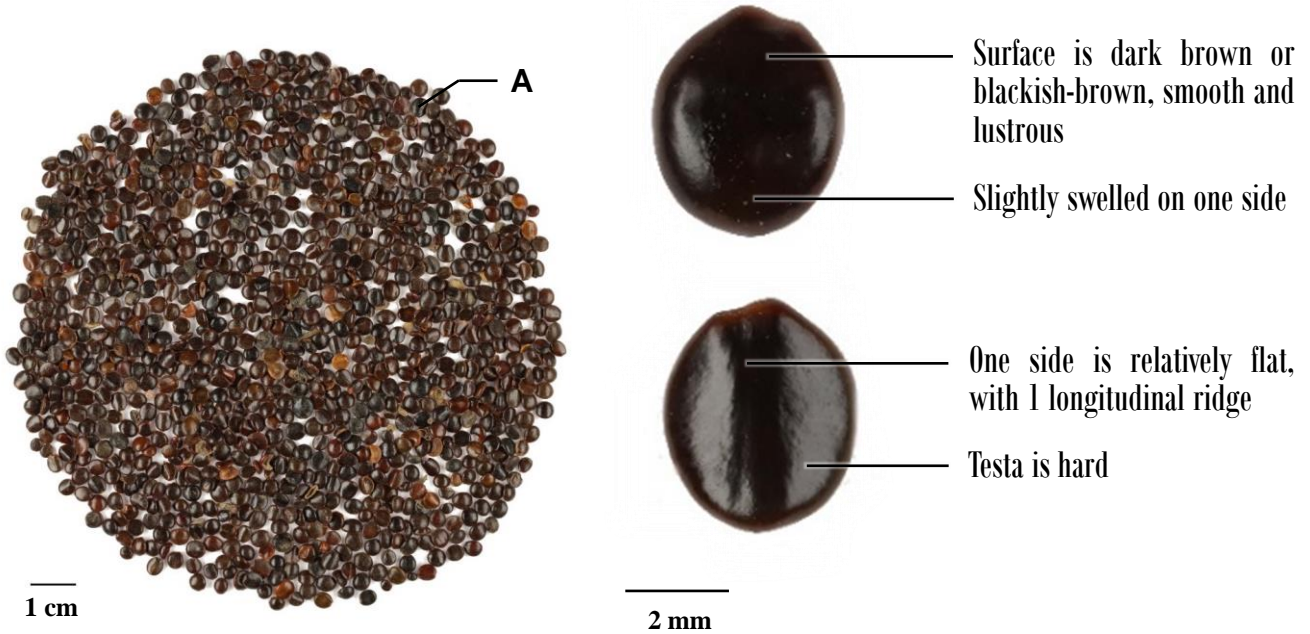
### Micro-morphological features

- A1: Testa (→) thin
- A2: Cotyledon (→) is thicker than endosperm (→)



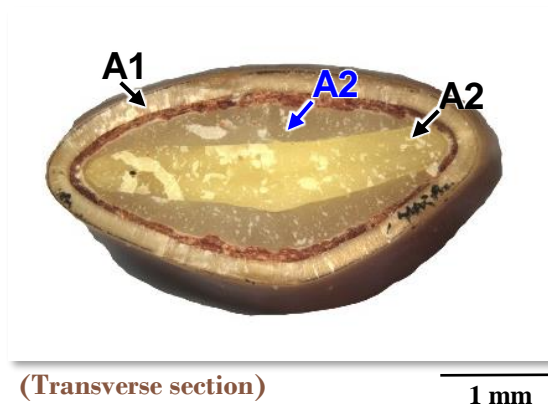
## Macroscopic features of Semen Hoveniae 🔍

◆ Flattened round, relatively small



### Micro-morphological features

A1: Testa (→) thick  
A2: Cotyledon (→) is thinner than or as thick as endosperm (→)



Microscopic feature comparison of Ziziphi Spinosae Semen and Semen Hoveniae powder



	Ziziphi Spinosae Semen	Semen Hoveniae
Palisade cell of testa	<div><div>(in top view) </div><div>(in bottom view) </div><div>(in lateral view) </div><div>(in lateral view) </div></div> <p>Brownish-red or light brown. Top view is frequently found, polygonal, thick-walled and lignified, with observable radial striations, lumen is small; is relatively narrow in lateral view, long strip-shaped, with thickened outer walls and the walls are much thickened in upper and middle parts. The walls are gradually thinner towards the lower part, luciferous band (→) distinct; polychromatic under the polarized light microscope; bottom view is frequently found, sub-polygonal or rounded-polygonal, lumen is slightly large</p>	<div><div>(in top view) </div><div>(in bottom view) </div><div>(in lateral view) </div><div>(in lateral view) </div></div> <p>Colourless, light yellow or brown. Top view is barely found, polygonal, thick-walled with observable radial striations, lumen is small; extremely thick in lateral view, frequently found, long strip-shaped, luciferous band (→) distinct; polychromatic under the polarized light microscope; bottom view is barely found, sub-polygonal, lumen is slightly large</p>
Cell of endopleura	<div></div> <p>Brownish-yellow, rectangular or sub-square in surface view, with beaded-thickened and lignified anticlinal walls</p>	<div></div> <p>Light yellow or colourless, rectangular or sub-square in surface view, with thick and smooth anticlinal walls</p>
Crystal of calcium oxalate	<div><div>(1) </div><div>(1) </div><div>(2) </div><div>(2) </div></div> <p>There are two types. Prism (1) barely found, mostly present in groups in brown-coloured cells, sub-square, double-conical, irregular or slightly cluster-shaped; polychromatic under the polarized light microscope; fine crystal (2) present in cotyledon cells, relatively smaller, sub-polygonal, dotted hollow is frequently observable in the centre; bright white under polarized light microscope</p>	<div><div>(1) </div><div>(1) </div><div>(2) </div><div>(2) </div></div> <p>There are two types. Prism (1) barely found, mostly present in groups in cells, sub-square, double-conical, irregular or slightly cluster-shaped; polychromatic under the polarized light microscope; fine crystal (2) present in cotyledon cell, relatively larger, fine, rounded cluster-shaped; bright white or polychromatic under polarized light microscope</p>

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

50 μm

## Summary

Major differences in the features between Ziziphi Spinosae Semen and Semen Hoveniae:

		Ziziphi Spinosae Semen	Semen Hoveniae
Macroscopic and micro-morphological features	Surface	Purplish-red or purplish-brown, some with cracks	Dark brown or blackish-brown
	Texture	Relatively fragile	Hard
	Transverse section	Testa is thinner, cotyledon is thicker	Testa is thicker, cotyledon is thinner
Microscopic features	Palisade cell of testa	Top view and bottom views are frequently found, lateral view is thinner	Top view and bottom views are barely found, lateral view is thicker
	Cell of endopleura	Anticlinal wall beaded-thickened	Anticlinal wall thick and smooth
	Crystal of calcium oxalate	Prism barely found; fine crystal relatively smaller	Prism observable; fine crystal relatively larger

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



Hoveniae Semen - Hong Kong Chinese Materia Medica Standards (Volume 9)



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 other reproduction, adaptation, distribution, dissemination or making available of the information in this pamphlet for commercial use is strictly prohibited unless prior written authorization is obtained from the GCMTI.*