

Ziziphi Spinosae Semen

versus

Jujubae Semen



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

Jujubae Semen

is the dried ripe seed of

Ziziphus jujuba Mill.

in the family Rhamnaceae

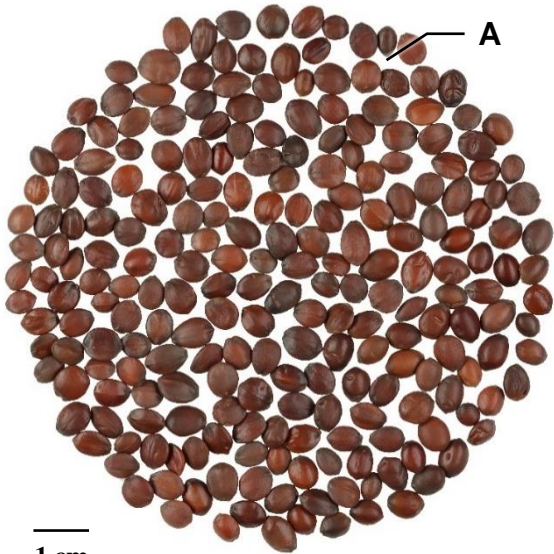
Overview

Ziziphi Spinosae Semen is listed in Chinese Pharmacopoeia (2020 Edition), while Jujubae Semen is not listed in any schedule of Chinese Medicines Ordinance or in the Chinese Pharmacopoeia (2020 Edition). With reference to some literatures, since Ziziphi Spinosae Semen is usually called “Zao Ren”, it causes confusion with Jujubae Semen. As a result, in some regions, the seed of Jujubae Semen is called “Zao Ren” to forge as Ziziphi Spinosae Semen. According to the Chinese Pharmacopoeia (2020 Edition), Ziziphi Spinosae Semen can nourish the heart and tonify the liver, calm the heart to tranquilize the mind, relieve sweating, and engender fluid. While the exact function of Jujubae Semen is rarely recorded. Therefore, they should be used accordingly.

Key identification features

Macroscopic features of Ziziphi Spinosa Semen

- ◆ Flattened round or flattened elliptical, relatively small



Surface is purplish-red or purplish-brown, smooth and lustrous, some with cracks

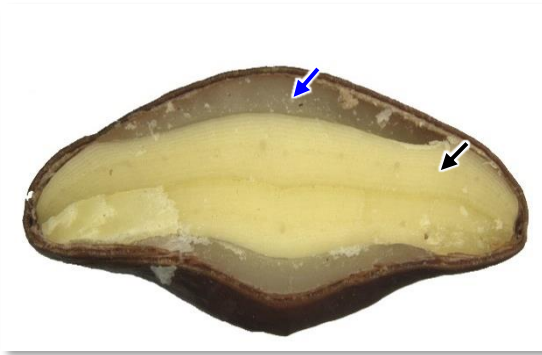
Some have rounded protrusions on both sides, or some are relatively flat on one side



With 1 raised longitudinal ridge in the centre on one side

Micro-morphological feature

A: Cotyledon (→) is thicker than endosperm (→)



(Transverse section)

1 mm

Macroscopic features of Jujubae Semen

◆ Ovate or flattened long-elliptical, relatively large



Surface is dark brown or reddish-brown, smooth and lustrous, cracks or break opens are frequently observable

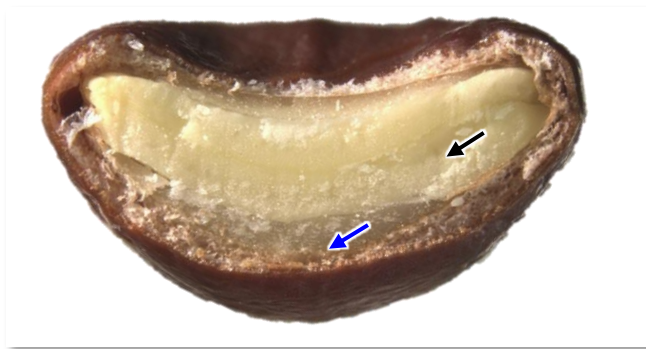
Usually are relatively flat on one side, or are rounded protruding on both sides



With 1 longitudinal ridge in the centre on one side, and frequently shrivels and forms observable depressions on the two sides near the ridge

Micro-morphological feature

A: Cotyledon (→) is thicker than or as thick as endosperm (→)



(Transverse section)

Microscopic feature comparison of Ziziphi Spinosae Semen and Jujubae Semen powder



	Ziziphi Spinosae Semen	Jujubae Semen
Vessel	<p>Barely found, mostly present in groups of brown-coloured cells</p>	<p>Frequently found, mostly present in groups of brown-coloured cells</p>
Crystal of calcium oxalate	<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>	<p>There are three types. Prism (1) barely found, mostly present in groups in brown-coloured cells, sub-square, double-conical or irregular; bright white or polychromatic under the polarized light microscope; fine crystal (2) present in cotyledon cells, rounded cluster-shaped, dotted hollow is frequently observable in the centre; bright white under polarized light microscope; cluster (3) barely found or observable, mostly present in groups of cells; polychromatic under polarized light microscope</p>

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

Summary

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

		Ziziphi Spinosae Semen	Jujubae Semen
Macroscopic and micro-morphological features	Appearance	Flattened round or flattened elliptical, smaller	Ovate or flattened long-elliptical, larger
	Surface	Some are relatively flat on one side	Usually relatively flat on one side
	Transverse section	Cotyledon is thicker than endosperm	Cotyledon is thicker than or as thick as endosperm
Microscopic features	Vessel	Barely found	Frequently found
	Crystal of calcium oxalate	With prism and fine crystal	With prism, fine crystal and cluster



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