

# Processed Coicis Semen versus Processed Sorghi Semen



## Source

### Processed Coicis Semen

is dried and processed product of  
ripe kernel of

*Coix lacryma-jobi* L. var. *ma-yuen* (Roman.) Stapf  
in the family Gramineae

### Processed Sorghi Semen

is dried and processed product of  
kernel of

*Sorghum bicolor* (L.) Moench  
in the family Gramineae

## Overview

Coicis Semen is a Chinese Materia Medica (CMM) listed in the Chinese Pharmacopoeia (2020), while Sorghi Semen has not yet been listed. The unprocessed form of these two CMM varies in appearances and size, however, after processing, these two CMM become white with small amount of brown colour and their sizes become similar, thus, they appear similar at first glance. According to the Chinese Pharmacopoeia and *Zhong hua ben cao*, both CMM have the properties of fortifying the spleen and check diarrhea, furthermore, Coicis Semen can also induce diuresis to drain dampness, resolve impediment, expel pus, and detoxify and dissipate binds; while Sorghi Semen can resolve phlegm and tranquilize. As the efficacy of these two CMM varies, they should be used accordingly.

## Key identification features

### Macroscopic features of Processed Coicis Semen decoction pieces



#### ◆ Irregular shape



1 cm

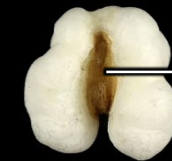


Surface is milky white and occasionally has observable remains of yellowish-brown testa

Usually flatter on one end



With blackish-brown semi-circular scar and light brown dotted hilum



With 1 long and deep longitudinal groove which usually has remains of yellowish-brown testa on one side

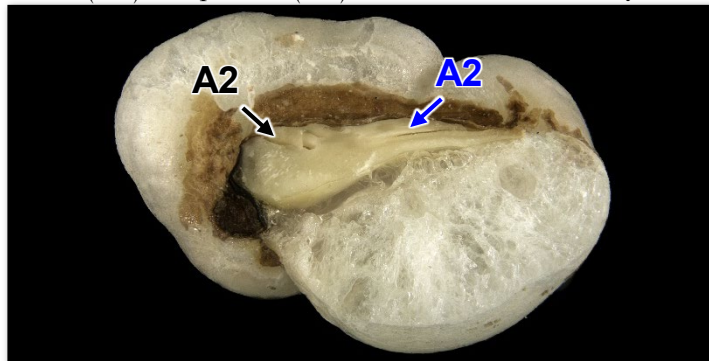
5 mm

#### ◆ Light and loose

### Micro-morphological features

A1: After dissecting along the longitudinal groove, white or light yellowish-white embryo with length over half of the kernel is observable

A2: Radicle(→) and plumule(↗) can sometimes be clearly observed



(Longitudinal cut surface)

2 mm

## Macroscopic features of Processed Sorghi Semen decoction pieces



- ◆ Flattened cordate or flattened reniform



Surface is white and occasionally has observable remains of yellowish-brown or brownish-red testa

With blackish-brown dotted hilum on one side



With 1 short and shallow longitudinal groove which usually has yellowish-brown or brown embryo on the other end

5 mm

- ◆ Light and loose

### Micro-morphological feature

A: After dissecting along the longitudinal groove, yellowish-brown or brown embryo(→) with length less than half of the kernel is observable

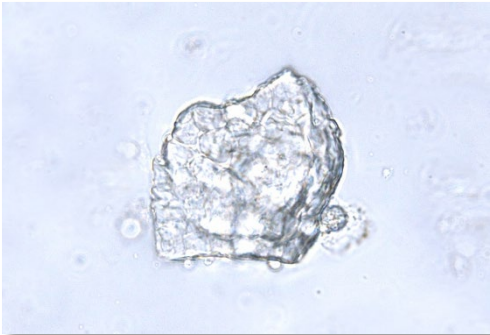

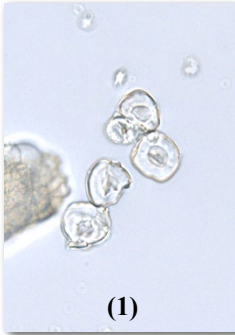

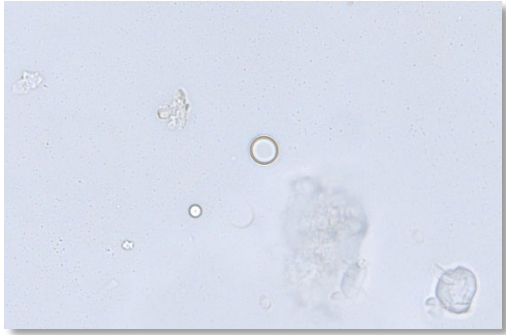


(Longitudinal cut surface)

2 mm



Microscopic feature comparison of Processed Coicis Semen decoction pieces and Processed Sorghi Semen decoction pieces powder

	Processed Coicis Semen decoction pieces	Processed Sorghi Semen decoction pieces
Gelatinized starch granule	<div></div> <p>Mostly in masses, boundary is usually indistinct</p>	<div><p>(1) (2)</p></div> <p>Several in groups(1) or in masses(2), appears sub-rounded or irregular, usually hollow in the centre</p>
Oil droplet	<div></div> <p>Frequently found, scattered or present in parenchymatous cell</p>	<div></div> <p>Barely found, scattered or present in parenchymatous cell</p>

50 μm



### Summary

Major differences in the features between Processed Coicis Semen decoction pieces and Processed Sorghi Semen decoction pieces :

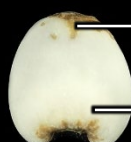
		Processed Coicis Semen decoction pieces	Processed Sorghi Semen decoction pieces
Macroscopic and micro-morphological features	Appearance	Irregular	Flattened cordate or flattened reniform
	Longitudinal groove	Long and deep	Short and shallow
	Embryo	Relatively long	Relatively short
Microscopic features	Gelatinized starch granule	Boundary indistinct usually	Sub-rounded or irregular, usually hollow in the centre
	Oil droplet	Frequently found	Barely found

## Additional information

### Photo of crude Coicis Semen

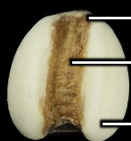


5 mm



Appears broad ovate or long-elliptical, 4-8 mm long, 3-6 mm wide

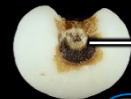
Rounded and protruded dorsal side



Obtuse on one end

With 1 relatively broad and deep longitudinal groove on ventral side

Surface is milky white, smooth and occasionally has observable remains of yellowish-brown testa



The other end is relatively broad, slightly dented and has 1 light brown dotted hilum



Fracture is white and starchy

◆ Hard

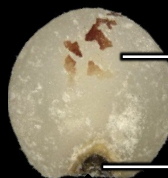
◆ Slight odour, slightly sweet taste

2 mm

### Photo of crude Sorghi Semen



5 mm



Elliptical and slightly flat, about 5 mm long

With observable fruit stalk scar



Fracture is white and starchy

◆ Hard

◆ Slight odour, weak taste

1 mm



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