



## Xing Ren 杏仁 (Apricot Kernel)

Xing Ren is the mature seed of *Prunus armeniaca* L. var. *ansu* Maxim, *P. armeniaca* L., *P. mandshurica* (Maxim.) Koehne or *P. sibirica* L., family Rosaceae.

### Main ingredients

Xing Ren contains 50% of fatty oils (including oleic, linoleic, palmitic, stearic and linolenic acids), as well as amygdalin, amygdalase and prunase. Hydrolysing amygdalin generates benzaldehyde and hydrocyanic acid, which is toxic.

### Properties

Taste: bitter; nature: slightly warm; slightly toxic.

**Channels entered** Lung and Large Intestine.

**Functions and indications** Stops coughing and calms wheezing, moistens the Intestines and frees the bowels. It is indicated for coughing and wheezing, sore throat and constipation.

**Common dosage** 3-10g, decocted for a short time only.

### Precautions and contraindications

1. As Xing Ren is slightly toxic, large dosages should be avoided, especially when treating infants.
2. Contraindicated in cases of weak constitution and profuse sweating.

### Remarks

**Ku Xing Ren** (*Semen Pruni Armeniacae Amarum*), or bitter apricot kernel, is normally used for this herb.

In China, people who can afford to buy apricot as a fresh fruit generally throw the stones away. Servants and the less fortunate children gather the stones and sell them to collectors who use cheap labor to crack the shells (endocarp) and free the seeds (kernel) with the brown seed coat tightly covering the embryo (two cotyledons with the small radical and plumule).

In Chinese prescriptions, an apricot seed with



the brown seed coat intact is called bei-xing-ren (northern apricot seed). All Chinese apothecaries keep a supply of apricot seeds in this state.

Detoxified apricot seed: The major portion of the annual production of apricot seed is detoxified, processed by being first subjected to boiling water to loosen the seed coat, which can then be rubbed off by hand, followed by soaking the white cotyledons in cold water with several changes to eliminate the bitter element and to detoxify them. Then the detoxified white cotyledons are dried for the market. In Chinese prescriptions, this decoated and detoxified material is called nan-xing-ren (southern apricot seed) or **tian-xing-ren** (sweet apricot seed), which is also available in apothecaries. However, a greater portion of the detoxified material is used in pastry and for food.

**Toxicity** The LD for intravenous injection of amygdalin in mice or rats is 25g/kg; for intraperitoneal injection, it is 8g/kg; and for oral administration, it is 0.6g/kg. Oral administration of 55 pieces (the equivalent of about 60g) of Ku Xing Ren, containing 1.8g of amygdalin, can cause death in humans. The main symptoms of toxic reaction include a bitter taste in the mouth, dizziness, nausea, vomiting, pain in the abdomen, diarrhoea, agitation, vexation and restlessness, palpitations, and weakness of the limbs, and in severe cases, oppression in the chest, difficulty in breathing, loss of consciousness, a reduction in blood pressure and even coma. Ku Xing Ren should therefore not be used raw and overdose must be avoided.

#### **Modern Research**

1. Inhibits the respiratory centre to stop coughing and calm wheezing.
2. Affects digestion by inhibiting the activity of pepsins.
3. Reduces the level of blood fats.
4. Inhibits inflammation and alleviates pain.
5. Inhibits carcinoma

**Notes -**