Albizia

**HISTORICAL NOTE** It is believed that albizia received its name because Filipo del Albizi, an 18th century Florentine nobleman, introduced the species into cultivation (The Plants Database 2004). It has been used in Ayurvedic medicine for many years and is still a popular treatment for asthma, allergy and eczema.

**COMMON NAME**
Albizia

**OTHER NAMES**
Pit shirish shirisha

**BOTANICAL NAME/FAMILY**
*Albizia lebbeck* (family Fabaceae)

**PLANT PARTS USED**
Leaves and stem bark

**CHEMICAL COMPONENTS**
These are poorly understood, but albizia has been reported to contain albiziasaponins A, B and C, epicatechin, procyanidins and stigmastadiene.

**MAIN ACTIONS**
Albizia has not been significantly investigated in clinical studies; therefore, information is generally derived from in vitro and animal studies and is largely speculative.

**Stabilising mast cells**
Both in vitro and in vivo tests have reported significant mast-cell-stabilisation effects similar to those of cromoglycate (Johri et al 1985, Tripathi et al 1979). One study found that degranulation was inhibited by 62% (Tripathi et al 1979). The saponin fraction is believed to be the key group responsible for activity. A more recent in vitro study compared the effects of albizia leaf, albizia stem bark and disodium chromoglycate on mast-cell stabilisation. All three compounds were found to be equally potent (Shashidhara et al 2008).

**Altering neurotransmitter activity**
Albizia has an influence on GABA, serotonin and dopamine levels, according to in vivo studies (Chintawar et al 2002, Kasture et al 2000). It appears that different fractions within the herb exert slightly different effects on neurotransmitters. In one study, a saponin-containing fraction from the extract of dried leaves of albizia was shown to decrease brain concentrations of GABA and dopamine, whereas serotonin levels increased. Another study that tested the methanolic fraction of an ethanolic extract of albizia leaves found that it raised brain levels of GABA and serotonin (Kasture et al 2000). Additionally, anticonvulsant activity has been demonstrated in vivo for this fraction.

**Memory enhancement**
Saponins isolated from albizia have been shown to significantly improve the memory retention ability of normal and amnesic mice, compared with their respective controls (Une et al 2001).

**Reduces male fertility**
Three studies using animal models have demonstrated that albizia significantly reduces fertility in males (Gupta et al 2004, 2005, 2006).

Albizia saponins A, B and C (50 mg/kg) isolated from the stem bark have been shown to significantly reduce the weight of the testis, epididymides, seminal vesicle and ventral prostate of male rats (Gupta et al 2005). A significant reduction in sperm concentration was also noted and albizia reduced fertility by 100% after 60 days. A follow-up study administered oral doses of methanolic bark extract (100 mg/day) for 60 days (Gupta et al 2006). Testis, epididymides, seminal vesicle and ventral prostate weights along with sperm motility and density

were all significantly decreased compared to controls, also resulting in a 100% drop in male fertility. The methanolic extract of albizia pods (50, 100 and 200 mg/kg) was also shown to significantly decrease fertility and arrest spermatogenesis in rats after 60 days (Gupta et al 2004).

OTHER ACTIONS
Other actions seen in vitro and in vivo include antioxidant, antifungal and antibacterial actions, antispasmodic effect on smooth muscle, positive inotropy and an immunostimulatant effect (Barua 2000, Bone 2001, Kasture et al 2000, Resmi et al 2006). Cholesterol-lowering activity has been demonstrated in vivo (Tripathi et al 1979).

CLINICAL USE
Albizia has not been significantly investigated under clinical trial conditions, so evidence is derived from tradition, in vitro and animal studies.

Allergy and asthma
Albizia is mainly used to treat allergic rhinitis, urticaria and asthma in clinical practice. In vitro and in vivo evidence of mast-cell stabilisation provide a theoretical basis for its use in allergic conditions; however, the clinical significance is unknown.

OTHER USES
Traditionally, a juice made from the leaves has been used internally to treat night blindness. The bark and seeds have been used to relieve diarrhoea, dysentery and treat haemorrhoids, most likely because of their astringent activity. The flowers have been used as an emollient to soothe eruptions, swellings, boils and carbuncles. In Ayurvedic medicine, it is used to treat bronchitis, asthma, allergy and inflammation.

DOSAGE RANGE
As clinical research is lacking, the following dosages come from Australian manufacturer recommendations.
• Liquid extract (1:2): 3.5–8.5 mL/day or 25–60 mL/week.
• Dried herb: 3–6 g/day.

TOXICITY
This is unknown; however, research with the methanolic fraction of albizia extract has identified a median lethal dose of 150 mg/kg (Kasture et al 2000).

ADVERSE REACTIONS
Insufficient reliable information available.

SIGNIFICANT INTERACTIONS
Controlled studies are not available; therefore, interactions are based on evidence of activity and are largely theoretical and speculative.

!! Barbiturates
Additive effects are theoretically possible, as potentiation of pentobarbitone-induced sleep has been observed in vivo — use with caution.

Antihistamines and mast-cell-stabilising drugs
Additive effects are theoretically possible because both in vitro and in vivo tests have identified significant mast-cell-stabilisation activity similar to that of cromoglycate — potentially beneficial interaction.

Tricyclic and selective serotonin reuptake inhibitor antidepressant drugs
Increased risk of serotonin syndrome is theoretically possible, as albizia increases serotonin levels, according to in vivo studies — observe patient.

CONTRAINDICATIONS AND PRECAUTIONS
Significant reductions in male fertility have been reported in tests using animal models; however, it is not known whether the effects also occur in humans. Until further research is conducted, caution is advised.

PREGNANCY USE
Insufficient reliable information available. Based on animal studies indicating a significant effect on male fertility, males with low sperm counts or poor sperm motility should avoid this herb if attempting to father a child.

PRACTICE POINTS/PATIENT COUNSELLING
• Albizia is a traditional Ayurvedic herb used to treat allergies, asthma, eczema and inflammation.
• Preliminary research has shown that it has significant mast-cell-stabilisation activity comparable to cromoglycate, and has also identified memory enhancement activity and possible anticonvulsant effects.
• Overall, little clinical evidence is available; therefore, much information is speculative and based on in vitro and animal research.

PATIENTS’ FAQs
What will this herb do for me?
Albizia is a traditional Ayurvedic medicine used to reduce allergic conditions, such as allergic rhinitis and urticaria. It is also used for atopic conditions, such as eczema and asthma, when indicated. Controlled trials have not been conducted, so it is uncertain whether it is effective.

When will it start to work?
This is uncertain because insufficient research data are available.

Are there any safety issues?
This is uncertain because insufficient research data are available. It is advised that people with asthma be monitored by a healthcare professional. Males with low sperm counts or poor sperm motility should avoid this herb if attempting to father a child.

REFERENCES