

Raspberry

Species (Family)

Rubus idaeus L. (Rosaceae)

Synonym(s)

Rubus

Part(s) Used

Leaf

Pharmacopoeial and Other Monographs

BHP 1996^(G9)
Martindale 32nd edition^(G43)
PDR for Herbal Medicines 2nd edition^(G36)

Legal Category (Licensed Products)

GSL^(G37)

Constituents^(G2,G59,G62,G64)

Limited phytochemical information is available for raspberry. Documented constituents include acids, polypeptides, tannins and flavonoids (e.g. rutin).⁽¹⁾

Food Use

Both the leaf and fruit are listed by the Council of Europe as natural sources of food flavouring (categories N2 and N1, respectively). Category N2 allows the addition of the leaf to foodstuffs in small quantities, with a possible limitation of an active principle (as yet unspecified) in the final product. Category N1 indicates that no restrictions apply to the fruit.^(G16) Raspberry fruit is commonly used in foods.

Herbal Use

Raspberry is stated to possess astringent and *partus praeparator* properties. Traditionally, it has been used for diarrhoea, pregnancy, stomatitis, tonsillitis (as a mouthwash), conjunctivitis (as an eye lotion), and specifically to facilitate parturition.^(G2,G7,G64)

Dosage

Dried leaf 4–8 g or by infusion three times daily.^(G7)

Liquid extract 4–8 mL (1:1 in 25% alcohol) three times daily.^(G7)

Pharmacological Actions

In vitro and animal studies

Utero-activity has been documented for a leaf infusion in both pregnant and non-pregnant rat and human uteri.⁽²⁾ The extract was reported to have little or no effect on the uterine strips from non-pregnant rats, but inhibited contractions of those from pregnant rats. Similarly, the extract had no effect on strips from non-pregnant human uteri, but initiated contractions in strips from human uteri at 10–16 weeks of pregnancy. The intrinsic rhythm of the uteri in which a pharmacological effect was observed (pregnant rat and human uteri) was reported to become more regular, with contractions, in most cases, less frequent.⁽²⁾ Aqueous extracts of raspberry leaves have been reported to contain a number of active constituents, including a smooth muscle stimulant, an anticholinesterase, and an antispasmodic that antagonised the stimulant actions of the two previous fractions. The smooth muscle stimulant fraction was more potent towards uterine muscle.⁽³⁾

Hypoglycaemic activity has been documented for a related species, *Rubus fruticosus* L., in both non-diabetic and diabetic (glucose-induced and alloxan-induced) rabbits.⁽⁴⁾ Greatest activity was observed in the glucose-induced diabetic rabbits. The authors concluded that *R. fruticosus* possesses slight hypoglycaemic activity, which, in part, results from an increase in the liberation of insulin. Tannins are known to possess astringent properties.

In vitro antiviral activity documented for raspberry fruit extract has been attributed to the phenolic constituents, in particular to tannic acid.⁽⁵⁾

Side-effects, Toxicity

None documented.

Contra-indications, Warnings

The excessive ingestion of tannins is not recommended. Hypoglycaemic activity *in vivo* has been documented for a related species.

Pregnancy and lactation Raspberry is traditionally recommended for use during labour to help ease parturition. Animal studies (*in vitro*) have reported that raspberry can reduce and initiate uterine contractions. In view of this, raspberry should not be used during pregnancy and, if taken during labour, should only be done so under medical supervision.

Pharmaceutical Comment

Limited phytochemical information is available for raspberry leaf. However, the documented presence of tannin constituents supports some of the reputed herbal uses, although it is unsuitable to use as a herbal remedy to treat eye infections such as conjunctivitis. Raspberry leaf is widely recommended to be taken during pregnancy to help facilitate easier parturition. Utero-activity has been documented for raspberry leaf and in view of this it should not be

taken during pregnancy, unless under medical supervision.

References

See also General References G2, G9, G11, G16, G31, G32, G36, G37, G43, G59, G62 and G64.

- 1 Khabibullaeva LA, Khalmatov KK. Phytochemical study of raspberry leaves. *Mater Yubileinoi Resp Nauchn Konf Farm Posvyashch* 1972; Sept: 101-102.
- 2 Bamford DS *et al.* Raspberry leaf tea: a new aspect to an old problem. *Br J Pharmacol* 1970; 40: 161-162P.
- 3 Beckett AH *et al.* The active constituents of raspberry leaves. A preliminary investigation. *J Pharm Pharmacol* 1954; 6: 785-796.
- 4 Alonso R *et al.* A preliminary study of hypoglycaemic activity of *Rubus fruticosus*. *Planta Med* 1980; 40(Suppl.): 102-106.
- 5 Konowalchuk JK, Speirs JI. Antiviral activity of fruit extracts. *J Food Sci* 1976; 41: 1013-1017.