



## BLOODROOT

(*Sanguinaria canadensis*)

**Family:** Papaveraceae

**Synonyms:** Indian Paint, Tetterwort, Red Puccoon, Red Root, Paucon, Coon Root, Snakebite, Sweet Slumber (10), Pauson (13).

### Plant characteristics

Bloodroot is a perennial herb in the poppy family (17). It grows in the forests of the eastern United States and Canada in sheltered locations (12). Bloodroot flowers early in the spring, before the trees leaf out (9). The first bloodroot leaves appear wrapped around the flower buds in the spring (12). As the flowers unfold into white, waxy star shapes with golden stamens, the leaves become distinctive and palmate with 5-9 lobes (9, 10). The entire plant stands 6-8 inches high with a similar spread (14).

Bloodroot is on the United Plant Saver's list of species at risk from over-collection or deforestation (21). Bloodroot can be propagated by seed or division. The seed matures 4-5 weeks after the flowers die and should be planted immediately, though they may not germinate until spring. Divide the rhizome in the fall, making sure to have a root bud on each division and replant right away. Grow in full shade and harvest the root in the 5<sup>th</sup> fall (19).

### Herb chemical constituents and properties

**Biologically-active chemicals:** isoquinoline alkaloids- chiefly sanguinarine and opiate alkaloids.

**Herbal properties:** alterative, antimicrobial, anti-inflammatory, antispasmodic, cathartic, diuretic, expectorant, diuretic, febrifuge, sedative, and stimulant (9, 11, 22).

### How herb used traditionally

Native Americans used bloodroot as a dye for their skin (10) and, in small doses, as a tonic for the blood (12).

Herbalists use bloodroot in small doses to stimulate the appetite and to treat acute and chronic coughs (9, 22). Herbalists also find it useful for treating a variety of skin conditions, ranging from fungal skin infections and warts to skin cancers and varicose ulcers (7, 10, 22). Use of bloodroot as for treating skin cancers was popularized by Frederick Mohs, M.D., who used a bloodroot paste prior to a surgical excision (2). Harry Hoxsey used a paste containing bloodroot as well as an herb cocktail to be taken internally, to treat skin cancers in the 1930's and '40s. In recent years, dentists have recommended mouthwashes containing bloodroot's chief alkaloid, sanguinarine, because it reduces plaque formation (7).

### How used today (based on scientific evidence)

Studies have shown that mouthwash containing sanguinarine and zinc is effective in reducing plaque formation, but unproven in the treatment of gingivitis (8). The safety of using bloodroot in the mouth is questionable, though- it may cause precancerous lesions known as leukoplakia (15). Mouthwashes containing chlorhexidine are more effective than sanguinarine, but have limited long-term usefulness, because they stain the teeth (20).

No scientific studies have examined the effectiveness of bloodroot as a treatment for cancer, although research does show that sanguinarine, a constituent of bloodroot, kills cultured skin cancer cells (1). Dermatologists published four case studies documenting treatment failures or complications with their use. They contend that bloodroot, even when combined with surgery, affords no advantages over surgery alone for skin cancers (16).

<p>Bloodroot has shown promise in animal husbandry as a substitute for antibiotics in cattle, especially in Europe. Phytobiotics GmbH, a German company, produces livestock feed to fatten animals using bloodroot rather than synthetic antibiotics. (4).</p>	
<p><b>Preparation and dosage:</b>                  The usual dose of ground dried root capsules is 60-500 mg three times daily.                  Herbalists use 0.3-2 ml of the tincture (1:5 in 60% alcohol) or 0.06-0.3 ml of the 1:1 fluid extract (13).</p>	
<p><b>Safety issues</b></p>	<p><b>Consumer marketing issues</b></p>
<p><b>Side effects:</b> nausea and vomiting, dizziness, vertigo, and edema (5). The mouth wash containing sanguinarine can cause a burning sensation of the gums (18). If ingested, bloodroot may result in a positive urine screen for opiates.</p> <p><b>Adverse events:</b> Fresh bloodroot can cause irritation of the skin. Can cause precancerous lesions in the mouth when used in mouthwashes over long periods of time (15).</p> <p><b>Precautions/contraindications:</b></p> <ul style="list-style-type: none"> <li>• Avoid in pregnancy, because it can stimulate uterine contractions (3)</li> <li>• Avoid contact with the eyes (3)</li> <li>• Do not give with other substances that cause gastric irritation (3)</li> <li>• Avoid with gastro-intestinal inflammatory diseases and glaucoma (13)</li> </ul>	<p>In 2001, bloodroot products sold for approximately \$1.8 million. Growers harvested 135,000 pounds of root. The dried root sold for \$ 12-16 per pound of dried root. The demand for wild indigo root exceeds the supply. Demand is expected to increase by 5-10% annually (6).</p> <p>In North Carolina, Bloodroot grows best in the western regions of the state (6).</p>

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