

Botanicals with Potentially Toxic Ingredients

Botanicals	Scientific name, part	Purported Applications	Safety/Efficacy/Comments
Borage	<i>Borago officinalis</i> leaves & tops	Diuretic, antidiarrheal	Contains toxic pyrrolizidine alkaloids.
Calamus	<i>Acorus calamus</i> rhizome	Febrifuge, digestive aid	Some chemovars contain the carcinogen cis-iso-asarone.
Chaparrel	<i>Larrea tridentata</i> leaves & twigs	Anticancer	Purported but not proven to induce liver toxicity; efficacy not proven, further investigations needed.
Coltsfoot	<i>Tussilago farfara</i> leaves, flowerheads	Antitussive, demulcent	Contains carcinogenic pyrrolizidine alkaloids.
Comfrey	<i>Symphytum</i> species, rhizome, roots, leaves	Wound healing	Contains large numbers of pyrrolizidine alkaloids, which vary according to species. Unsafe for internal use.
Ephedra	<i>Ephedra sinica</i> and other species; green stems	Anorectic, bronchodilator	Effective as a bronchodilator, relatively ineffective as an anorectic. Sympathomimetic action makes unsafe for those with hypertension, diabetes, or thyroid disease; should not be consumed with caffeine.
Germander	<i>Teucrium chamaedrys</i> ; (leaves & tops)	Anorectic	Contains hepatotoxic diterpenes.
Licorice	<i>Glycyrrhiza glabra</i> ; rhizomes and roots	Expectorant, antiulcer	Effective, and safe for short periods in small doses. High doses over long periods cause pseudoaldosteronism (characterized by sodium and water retention and potassium depletion).
Life root	<i>Senecio aureus</i> ; whole plant	Emmenagogue	Contains hepatotoxic pyrrolizidine alkaloids; no proven efficacy.
Poke root	<i>Phytolacca americana</i> ; root	Tonic, antirheumatic, anticancer	Unsafe and ineffective; should not be sold or used except under the supervision of an experienced, qualified medical herbalist; may be fatal in children. Contains antiviral proteins, saponins, and mitogenic lectins.
Sassafras	<i>Sassafras albidum</i> ; root bark	Stimulant, antispasmodic, antirheumatic, tonic	Volatile oil contains carcinogenic safrole.

Modified from Tyler, VE (1996). What pharmacists should know about herbal remedies. *J. Am. Pharm. Ass.* Vol NS36: 29-37.