Yarrow

**Latin Name:** Achillea millefolium  
**Pharmacopeial Name:** Millefolii herba, yarrow herb; Millefolii flos, yarrow flower  
**Other Names:** Achillea, milfoil, millefolium

- **Overview**  
- **Description**  
- **Chemistry and Pharmacology**  
- **Uses**  
- **Contraindications**  
- **Side Effects**  
- **Use During Pregnancy and Lactation**  
- **Interactions with Other Drugs**  
- **Dosage and Administration**  
- **References**  
- **Additional Resources**

**Overview**

Yarrow is a chemically polymorphic perennial herb from a genus of complex taxonomy, native to Europe, Asia, and North America, now distributed in the temperate zone worldwide. Many species, subspecies, and microspecies have been recognized and named (Bruneton, 1995; Budavari, 1996; Leung and Foster, 1996; Wichtl and Bisset, 1994). Yarrow adapts itself to new surroundings and can change its morphology and chemical composition significantly, depending on its environment. New subspecies evolve by polyploidy (changes in chromosome number). The subspecies can be differentiated by their chromosome numbers, determined by microscopic examination (Bradley, 1992; Zeylstra, 1997). The material of commerce comes mostly from southeastern and eastern European countries and the United Kingdom (BHP, 1996; Wichtl and Bisset, 1994). In Germany, a small amount of yarrow is cultivated (Lange and Schippmann, 1997). The material used in Ayurvedic medicine grows wild in the Himalayan mountains from Kashmir to Kumaon (Nadkarni, 1976).

Yarrow has been used as medicine by many cultures for hundreds of years (Budavari, 1996; Zeylstra, 1997). Its English common name is a corruption of the Anglo-Saxon name gearwe; the Dutch, yerw. The genus name *Achillea* may have been derived from the *Achilles* of Greek mythology, who was fabled to have had his wounds treated by topical use of the herb. The species name *millefolium* is derived from the many segments of its foliage. The ancient Europeans called it *Herba Militaris*, the military herban ointment made from it was used as a vulnerary drug on battle wounds (Grieve, 1967). Yarrow flower was formerly official in the *United States Pharmacopeia*. Today, it is official in the national pharmacopeias of Austria, the Czech Republic, France, Germany, Hungary, Switzerland, and Romania. Additionally, it is listed in the Indian *Ayurvedic Pharmacopoeia* for fevers and wound healing (Karnick, 1994).

Its uses in North American aboriginal medicine are well documented. Yarrow tea is used by healers of the Micmac nation as a diaphoretic remedy to treat fevers and colds. The stalks are also pounded into a pulp and applied topically to bruises, sprains, and swellings (Lacey, 1993). Yarrow has been the subject of an ongoing study of herbal drugs used by people of the Micmac and Malecite nations of the Canadian Maritime provinces. The study began with an examination of the observations and writings of early European settlers and missionaries. Modern phytochemical studies, using techniques including nuclear magnetic resonance spectroscopy and combined gas chromatography-
mass spectrometry, have identified a range of phytosterols and triterpenes occurring in yarrow, which may help explain its successful therapeutic applications in Micmac and Malecite medicines (Chandler et al., 1979; Chandler et al., 1982; Chandler and Hooper, 1982; Chandler, 1983; Hooper and Chandler, 1984). The Abnaki people use yarrow tea as a drug to treat colds, fevers, and grippe (Rousseau, 1947). People of the Algonquin and Quebec nations use it internally to treat colds and other respiratory disorders. The powder is also used as an analgesic snuff for headaches (Black, 1980). Yarrow infusions and decoctions are used as a gastrointestinal aid by the Cherokee, Gosiute, Iroquois, and Mohegan nations (Chamberlin, 1911; Hamel and Chiltoskey, 1975; Herrick, 1977; Tantaquidgeon, 1928, 1972).

In Germany, yarrow flower is licensed as a standard medicinal tea. It is also used as a cholagogue component in numerous prepared biliary and/or gastrointestinal medicines. It is also used externally as a sitz bath to treat vegetative pelvipathia (Bradley, 1992; Braun et al., 1997; Wichtl and Bisset, 1994). In the United States, yarrow is used as adiaphoretic or febrifuge component of traditional cold and flu/fever compounds marketed as dietary supplement products, often used in combination with echinacea herb, elder flower, ginger rhizome, and peppermint leaf. It is also used as a component of topical styptic preparations.

The approved modern therapeutic applications for yarrow flower are supportable based on its long history of use in well-established systems of traditional medicine, on phytochemical investigations, and on pharmacological studies in animals.

German pharmacopeial grade yarrow flower must be composed of the dried aerial parts (capitulums with maximum 5% stems) harvested during the flowering period, containing not less than 0.2% (v/m) volatile oils with minimum 0.02% proazulene, calculated as chamazulene on a dry-weight basis. It must have a bitter value of maximum 5000. Botanical identity must be confirmed by thin-layer chromatography (TLC) as well as macroscopic and microscopic examinations (DAB, 1997; DAC, 1986; Wichtl and Bisset, 1994). The Swiss Pharmacopoeia also requires not less than 0.2% volatile oils, though not more than 10% peduncles of inflorescences (Ph.Helv.VII, 1987; Wichtl and Bisset, 1994). The British Herbal Pharmacopoeia requires not less than 15% water-soluble extractive, among other quantitative standards and identity tests (BHP, 1996).

Both the Austrian Pharmacopoeia and the French Pharmacopoeia require >0.3% volatile oil and the characterization of azulenes (Bruneton, 1995; AB, 1981; Ph.Fr.X, 1990; Wichtl and Bisset, 1994). According to Bruneton, these requirements can only be fulfilled by the pink flower subspecies (sudetica, from mountain areas), or by other species entirely (e.g., A. collina), because the official species at best contains only traces of azulenes (Bruneton, 1995). The most widespread species [Achillea millefolium L. ssp. millefolium] is hexaploid and the volatile oil contains no chamazulene (Bradley, 1992).

Description

Yarrow herb consists of the fresh or dried aboveground parts of A. millefolium L. [Fam. Asteraceae], harvested at flowering season, and its preparations in effective dosage. Yarrow flower consists of the dried inflorescence of A. millefolium L. s.l. [Fam. Asteraceae] and its preparations in effective dosage. The preparation contains essential oil and proazulene.

Chemistry and Pharmacology
Yarrow contains 34% condensed and hydrolysable tannins; 0.31.4% volatile oils, mostly linalool, borneol, camphor, \( b \)-caryophyllene, 1,8-cineole, and sesquiterpene lactones composed of guaianolides, mainly achillicin (a proazulene), achillin, leucodin, and germacranolides (dihydroparthenolide, achillifolin, millefin); flavonoids (apigenin, luteolin, isorhamnetin, rutin); amino acids (alanine, histidine, leucine, lysine); fatty acids (linoleic, palmitic, oleic); phenolic acids (caffeic, salicylic); vitamins (ascorbic acid, folic acid); alkaloids and bases (achiceine, achilleine, betaine, choline); alkanes (tricosane); polyacetylenes; saponins; sterols (\( b \)-sitosterol); sugars (dextrose, glucose, mannitol, sucrose); and coumarins (Bradley, 1992; Bruneton, 1995; Leung and Foster, 1996; Newall et al., 1996; Wichtl and Bisset, 1994).

The Commission E reported choleretic, antibacterial, astringent, and antispasmodic activities.

The *British Herbal Compendium* reported diaphoretic, antipyretic, anti-inflammatory, spasmylytic, aromatic bitter, hemostatic, hypotensive, and emmenagogic activities (Bradley, 1992). Anti-inflammatory activity was reported in laboratory mice and rats with an aqueous extract of yarrow flower heads (Leung and Foster, 1996; Newall et al., 1996). It is possible that its anti-inflammatory and antispasmodic properties are due to its flavonoids content (Bruneton, 1995). Choleretic activity has been confirmed in animal experiments. Antimicrobial activity against a range of bacteria has been reported for aqueous and ether extracts of yarrow (Wichtl and Bisset, 1994).

**Uses**

The Commission E approved the internal use of yarrow flower for loss of appetite and dyspeptic ailments, such as mild, spastic discomforts of the gastrointestinal tract, and externally as a sitz bath for painful, cramp-like conditions of psychosomatic origin in the lower part of the female pelvis.

The *British Herbal Compendium* lists its internal use for feverish conditions, common cold, and digestive complaints; and its topical use for slow-healing wounds and skin inflammations (Bradley, 1992). The German Standard License for yarrow tea indicates its use for mild cramp-like or spasmodic gastrointestinal-bilious complaints, for gastric catarrh, and for appetite stimulation (Bradley, 1992; Wichtl and Bisset, 1994).

**Contraindications**

Allergy to yarrow and other composites.

**Side Effects**

None known.

**Use During Pregnancy and Lactation**

Not recommended during pregnancy (McGuffin et al., 1997; Newall et al., 1996). No restrictions known during lactation.
**Interactions with Other Drugs**

None known.

**Dosage and Administration**

Internal:

Unless otherwise prescribed: 4.5 g per day of cut herb, or 3 g of cut flower for teas and other galenical preparations; pressed juice of fresh plants.

Infusion: 1-2 g in 150 ml boiled water for 10 to 15 minutes, three times daily between meals.

Succus (pressed juice from fresh herb): 5 ml (1 teaspoon), three times daily between meals.

Fluidextract 1:1 (g/ml): 1-2 ml, three times daily between meals.

Tincture 1:5 (g/ml): 5 ml, three times daily between meals.

External:

Unless otherwise prescribed: Sitz baths.

Sitz bath: 100 g yarrow per 20 liters (5 gallons) of warm or hot water, just enough to cover the hips with the knees up; wrap upper body in towels; soak 10 to 20 minutes, rinse.

**References**


*Pharmacopoeia Francaise Xe dition* (Ph.Fr.X.). 19831990. Moulins-les-Metz: Maisonneuve S.A.


**Additional Resources**


1) The Overview section is new information.

2) Description, Chemistry and Pharmacology, Uses, Contraindications, Side Effects, Interactions with Other Drugs, and Dosage sections have been drawn from the original work. Additional information has been added in some or all of these sections, as noted with references.

3) The dosage for equivalent preparations (tea infusion, fluidextract, and tincture) have been provided based on the following example:

- Unless otherwise prescribed: 2 g per day of [powdered, crushed, cut or whole] [plant part]
- Infusion: 2 g in 150 ml of water
- Fluidextract 1:1 (g/ml): 2 ml
- Tincture 1:5 (g/ml): 10 ml

4) The References and Additional Resources sections are new sections. Additional Resources are not cited in the monograph but are included for research purposes.

This monograph, published by the Commission E in 1994, was modified based on new scientific research. It contains more extensive pharmacological and therapeutic information taken directly from the Commission E.