

33. *ANGELICA ARCHANGELICA* L. (APIACEAE) — Angelica, Garden Angelica, European Angelica

Cultivated primarily as a spice, seeds are used in preparing vermouth, benedictine, chartreuse,³⁷ and as a flavoring in wines and perfumes. Roots are used with juniper berries in gin. Oil from the seed is used to flavor custards and bread. It is cultivated also as a fresh vegetable, or cooked and prepared like rhubarb. Leaves used to flavor fish dishes and rhubarb jams. Stems are candied and used on cakes and buns, or made into jams and jellies. Ripe fruits are used to make teas (not known to contain xanthine alkaloids). The roots and rhizomes have a pungent aromatic taste and are used commercially in medicines and confections. Roots have been used to flavor cigarette tobacco. Oil extracted from the seeds or roots (fresh roots yield 0.10 to 0.37%, dried roots, 0.35 to 1.00%), is used as an insect attractant (e.g., for Mediterranean fruit fly).

The tea made from the rhizome is a folk remedy for stomach cancer. Dietary intake is said to alleviate indolent tumors.⁴ A decoction of the root is used for bronchial colds and indigestion. The plant juice is sometimes applied to dental caries. Medicinally, dried leaves and flowering tops are regarded as aromatic, carminative, diaphoretic, diuretic, and stimulant. Roots suggested to be abortifacient, carminative, diaphoretic, diuretic, emmenagogue, expectorant, spasmolytic, and stomachic. Angelica is useful for dyspepsia, enteritis, flatulence, gastritis, insomnia, meteorism, neuralgia, rheumatism, and ulcers.³³

Roots and fruits contain several furocoumarins, e.g., angelicin, bergapten and xanthotoxin, as well as umbelliprenin and various phenols. The main constituent of the root essential oil is beta-phellandrene; others include alpha-pinene, borneol, osthenele, osthole, angelicin, methyl ethyl acetic acid, diacetyl, methanol, ethanol, and furfural. The most important aroma compound is a lactone of 15-hydroxypentadecanoic acid. The flavonoid archangelone has recently been identified. Escher et al. identified five previously unknown phellandrene derivatives with a typical angelica smell from the root oil: 2-nitro-1,5-P-menthadiene, *cis* and *trans* 6-nitro-1(7), 2P menthadiene; *trans*-1(7)-5P menthadiene-2-yl-acetate, and 7-isopropyl-5-methyl-5-bicyclo(2.2.2.) octan-2-on.⁸⁶ The seed oil is said to contain 0.5% imperatorin, 0.1% bergaptene, 0.02% xanthotoxol, 0.04% umbelliprenin and a phenol. Phellandrene, methyl ethyl acetic acid, and hydroxymyristic acid are also reported.

Toxicity — Plant evokes photodermatitis (contains 5-methoxypsoralen and 8-methoxypsoralen). Confectioners have contracted recurrent vesicular dermatitis when gathering angelica.