

## Elderberry

*Sambucus nigra*, *Sambucus spp.*

**Plant family:** Adoxaceae

**Other common names:**

Elder, Black Elderberry

**Parts used:**

Ripe berries (Adaptogen companion), both flowers and leaves can be used as diaphoretics and mild diuretics

### Overview and Author's Commentary

Elderberry (*Sambucus spp.*) grows all over the American Northwest where I live and has long been used in traditional Western medicine. Elder flower and elder leaf are in classic diaphoretic teas, and together with elder berries are ingredients in my Flew Away formulation, a classic formula for colds and flu. Elderberry is also in Vital Adapt, my general adaptogenic tonic formula.

Elderberry is used as a general nutritive tonic, providing a high concentration of flavonoids. It is also used as an immune tonic to prevent and alleviate many cold and flu symptoms, including runny nose, cough, sore throat, fever, and muscle pain. Elderberry is especially great for children in the fall and winter as an overall immune tonic.

### Therapeutic dosing range

- Fluid extract 1:1: 2 to 5 ml, once or twice daily
- Standardized extract (5 percent total flavonoids): 500 to 2000 mg daily
- Tea (may be mixed with elder leaf and elder flower): 2 to 6 cups daily

### Safety Profile

There are no known adverse reactions to ripe elderberries and elder flowers. The leaves, bark, and unripe berries contain a toxic cyanide-producing glycoside and ingestion should be avoided. However, there are certain instances where they may be used, generally under the supervision of a qualified healthcare provider, such as the leaves in tea form or in certain topical applications.

### Habitat and Cultivations

Elderberry grows widely throughout the U.S., generally in large, dense stands in moist habitats. The black or common elder (*S. Canadensis*, *S. mexicana*) is a small tree or shrub bearing large clusters of lacy white or creamy flowers, followed by tiny dark purple berries. It blooms in June and July, and the berries mature in September and October. The flowers, berries, and inner bark are used as medicine. *S. nigra* is indigenous to Europe, growing in conditions similar to those in which the American variety. The plants possess similar medicinal properties.

## Key Constituents

The berries are rich in vitamin C and a wide range of important flavonoids, including quercetin and anthocyanins, which are believed to account for the therapeutic effects. The leaf and flowers contain flavonoids, anthocyanins, carotenoids, essential oil, mucilage, and tannins. The main active compounds include anthocyanins cyanidin 3-glucoside and cyanidin 3-sambubioside as well as, quercetin and kaempferol.<sup>1</sup>

(K. Brønnum-Hansen, S.H. Hansen:

Highperformance liquid chromatographic separation of anthocyanins of *Sambucus nigra* L. *J Chromatogr* 1983; 262: 385 – 392).

## Traditional Use

Elderberries have long been used as food, particularly in dried form. Elderberry wine, pie, and lemonade are some of the popular ways to prepare this plant. The leaves are touted as being pain-relieving and they promote healing of injuries when applied as a poultice. Native Americans have traditionally used the plant for infections, coughs, and skin conditions. In a warm infusion elder flowers are diaphoretic and gently stimulating. In a cold infusion they are diuretic, alterative, and cooling. The flowers and expressed juice of the berries have been beneficially employed in scrofula, cutaneous diseases, syphilis, and rheumatism. The inner bark of *Sambucus nigra* is an emetic and cathartic and has been successfully used to treat epilepsy.<sup>2</sup>

## Modern Research

- Elderberry extract possesses significant antioxidant activity and has been shown to impair angiogenesis.<sup>3</sup>
- *Sambucus nigra* provides nonspecific immune enhancement and boosts cytokine production.<sup>4</sup> A unique protein found in elderberry acts as a messenger, regulating immune response.<sup>5</sup>
- Elderberry is a potent viral inhibitor. Its anti-influenza ability has been much researched in both Israel and Switzerland. As well, elderberry extract has demonstrated an ability to inhibit herpes virus and HIV in cell culture.<sup>6</sup>

The H1N1 inhibition activities of the elderberry flavonoids compare favorably to the known anti-influenza activities of oseltamivir (Tamiflu®) and amantadine.<sup>7</sup>

- The anthocyanins present in elderberries protect vascular epithelial cells against oxidative insult, preventing vascular disease. Elderberry has been shown to reduce LDL cholesterol and atherosclerosis.<sup>8</sup>

- Elderberry could improve bone properties by inhibiting the process of bone resorption and stimulating the process of bone formation.<sup>9</sup>

## References

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