

**Chenopodium ambrosioides L. (Chenopodiaceae)**  
**Epazote, Mexican Tea, Wormseed**

**Description.** Annuals or biennials, sometimes persisting longer, 2-23 dm tall, erect, with an unpleasant, often strong odor; stem branches ascending to spreading or decumbent near the base, glandular. Leaves alternate, lower and middle cauline ones 2-8 (24) cm long, petiolate, blades oblong to lanceolate, margins toothed to undulate or shallowly pinnatifid, often densely glandular, the upper ones smaller, narrower, often with a tapered base or sessile. Inflorescences terminal or in upper axils, spike-like, leafy, flowers in small spherical, axillary clusters. Sepals 5, ovate, glabrous to sparsely glandular, enclosing the fruit at maturity; corolla absent; stamens 5; ovary superior, with 2 stigmatic branches. Fruits either vertical (compressed side parallel to floral axis) or horizontal (compressed side perpendicular to floral axis), ca. 0.5-1 mm in diameter, with 1 seed, the outer fruit wall peeling readily from the seed proper. Seeds dark brown to black. In California, flowering from May to November. (Abrams 1944, Aellen and Just 1943, Brenan 1964, Crawford and Wilson 1986, Gleason and Cronquist 1991, Munz 1959, Wahl 1954, Wilken 1993).

**Note:** Perennial forms have been called var. *suffruticosum* (Willd.) Aellen, but no other differences are apparent (Gleason and Cronquist 1991). Other similar species include *C. multifidum*, which has a sprawling habit, and a 3-5-toothed tubular calyx.

*Chenopodium ambrosioides* has been used extensively as a vermifuge by native cultures in North and Central America (Moerman 1986). It has been investigated for a number of biological properties useful in treating intestinal worms (for which it is cultivated in Mexico and Central America), other human diseases, and as a fungicide (e.g., Cacerse et al. 1991, Dubey and Kishore 1987, Kishore et al. 1989, Pare et al. 1993, Peterson et al. 1989, Su 1991).

**Geographic distribution.** A native of subtropical America, epazote is also widespread in most of North America except Canada and the Pacific northwest, and has become naturalized in Mediterranean Europe, Japan, New Zealand, southern Africa, and Hawaii (Brenan 1976, Chapman 1991, Crawford and Wilson 1986, Furlan 1983, Gleason and Cronquist 1991, Munz 1959, Ohwi 1965, Wagner et al. 1990, Webb et al. 1998).

Epazote was apparently first collected in California ("Salinas River") in the 1850s (Robbins 1940) and was reported from salt marshes and waste places as early as 1865 by Brewer et al. (1876). It is reported only from Santa Cruz and Santa Rosa islands (Junak et al. 1997), but is widespread throughout much of the California mainland west of the Sierra Nevada (Anonymous 1998, Munz 1959, Wilken 1993).

**Reproductive and vegetative biology.** No literature discussing the reproductive biology of *Chenopodium ambrosioides* was found. However, most *Chenopodium* species are self-compatible, and wind-pollinated (Richards 1986, Proctor et al. 1996). Seeds of *Chenopodium album* have been reported to remain viable for as long as 1,600 years (Odum 1965). Seed germination of epazote is apparently stimulated by light and close proximity to the soil surface (Vazquez-Yanes and Orozco-Segovia 1990). Water soluble extracts of vegetative parts have a significant allelopathic effect on seed germination (Datta and Ghosh 1987).

**Ecological distribution.** Other than under cultivation, epazote has been reported to occur on or in sandy flats, floodplains, fields, waste places, and disturbed sites (Brenan 1976, Crawford and Wilson 1986, Furlan 1983, Gleason and Cronquist 1991, Munz 1959, Robbins et al. 1970).

**Weed status.** *Chenopodium ambrosioides* is not considered a noxious weed in agricultural or horticultural practice, at least at a global level (not listed by Holm et al. 1977), nor is it considered a noxious weed by the State Dept. of Food and Agriculture (Anonymous 1996). However, it is listed as a weed in the United States by Lorenzi and Jeffery (1987).

**Fungal and insect pathogens.** No literature was found that reported *Chenopodium ambrosioides* as a host of detrimental fungal or insect pathogens. It is especially noteworthy that this species apparently possesses known antifungal biochemicals (Dubey and Kishore 1987, Kishore et al. 1989, Pare et al. 1993, Peterson et al. 1989), some of which are also known to repel insects (Su 1991).

**Herbicide control.** No literature was found that reported herbicide treatments specifically for epazote. Although not specifically tested, atrazine, hexazinone, simazine, and sulfometuron are among several herbicides recommended by Lorenzi and Jeffery (1987).

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