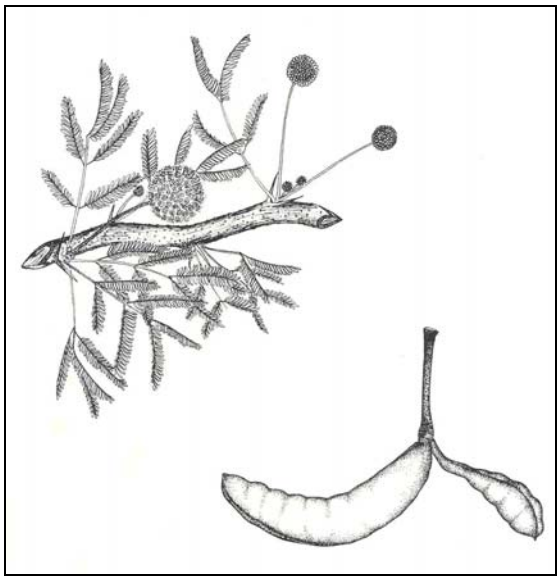
***Acacia farnesiana* (L.) Willd.** sweet acacia
FABACEAE

Synonyms: *Acacia cavenia* Bert.
A. leptophylla DC.
Vachellia farnesiana (L.) Wight & Arn.



General Description.—Sweet acacia, also known as cassie, aroma, huisache, cambrón, espino blanco, and many other common names (Little and Wadsworth 1964), is a medium-sized shrub with many spreading branches and basal stems. The leaves are alternate, bipinnately compound with two to six pairs of pinnae, each with 10 to 25 pairs of narrow leaflets 3 to 5 mm in length. The slightly zigzag twigs are dark brown with light-colored dots (lenticels) and paired spines 3 to 20 mm in length at the nodes. The older bark is also dark brown and smooth. Its bright yellow or orange flowers, produced over a period of 2 to 4 months, depending on locality, are very fragrant and used in the perfume industry in France and elsewhere.

Range.—Sweet acacia is believed to be native to the American tropics, although precise information is lacking about its range prior to the Spanish colonial era, during which it was introduced to numerous countries throughout the tropics and subtropics where it subsequently became naturalized. Today sweet acacia is found in the southern United States from California to Florida, throughout the West Indies, Mexico, Central America, in South America as far south as Chile and Argentina, and in many parts of the Old World tropics and subtropics. Present on all continents between 30° N. and 40° S. latitudes, it is the most widely distributed species of *Acacia* (Siegler and others 1986).

Ecology.—Sweet acacia is a drought-hardy, fire-resistant species that does not tolerate frost and grows well in areas receiving between 500 and 750 mm of rainfall with a dry season of 4 to 6 months (Webb and others 1980). Its best growth occurs on well-drained soils. It tolerates heavy clays to sands and a variety of soil conditions, including saline soils, at elevations up to 2,000 m. A light-demanding species, sweet acacia often forms dense thickets on disturbed sites and is associated with numerous other shrub and tree species in secondary thorn woodlands, shrublands, and dry forests in its tropical and subtropical American range (Rzendowski 1981). It is susceptible to attack by a number of insect species, leaf, stem, and root pathogens, though none appear to pose a serious threat to the species (Parrotta 1992).

Reproduction.—Sweet acacia produces small (to 5 mm in length) flowers that have functional male and female parts, borne in compact rounded heads 0.6 to 1.3 cm across. The flowers are very fragrant and are pollinated by bees and other insects. The thick, slightly flattened pods, 4 to 9 cm in length and 0.5 to 1.3 cm broad, are produced in abundance after about 3 years. They mature 4 to 6 months after flowering and contain a number of hard-coated, brown seeds embedded in a pulpy mesocarp. The species flowers and fruits between November and February in the Caribbean and between December and March in Central America (Hughes and Styles 1984, Little and Wadsworth 1964). Natural reproduction is abundant, particularly on disturbed sites and in active pastures where cattle readily consume the pods. In nurseries, sweet acacia is usually propagated from seed, although branch cuttings can also be rooted (Webb and others 1980). A collection

of seeds from Puerto Rico contained 7,600 seeds/kg, began germinating in 6 days, and achieved 57 percent germination after 13 days (Francis and Rodríguez 1993). Although pregermination treatment is not necessary, cold- or hot-water soaking, chemical scarification, and, particularly, seed-coat scarification by abrasion with sandpaper greatly increase germination rates (Parrotta 1992).

Growth and Management.—Early growth is relatively rapid. About 1 m of height growth can be obtained during the first year, although growth rates of 30 to 50 cm during the first year under semiarid field conditions are more typical (Foroughbakhch and others 1987). Depending on the environment, maximum heights of plants generally range from 3 to 5 m, with stem diameters up to 5 cm. Because sweet acacia is intolerant of shade and does not compete well with more aggressive woody vegetation such as *Prosopis* L., management activities for enhancing growth and natural regeneration in natural and plantation stands may include control of competing vegetation and periodic soil disturbance.

Benefits.—Sweet acacia is planted in many parts of its natural and introduced tropical and subtropical range for reforestation of degraded drylands, for fuelwood and small timber, livestock fodder, and for its flowers used in the perfume industry. In some areas, it is considered a pest due to its ability to colonize pastures and other disturbed habitats. The tannin-rich bark is used for tanning leather, the gum obtained from the cut bark is used as a substitute for gum arabic (from *Acacia nilotica* (L.) Delile), and a useful black dye is obtained from the pods. Various parts of the plant are used in traditional medicine (Liogier 1990, Parrotta 2001). In Mexico, for example, the flowers are used to treat headache and indigestion, whereas a decoction of the green pods is used to treat dysentery and skin inflammations. In India, the bark, heartwood, and leaves are all used medicinally to treat a variety of ailments (Parrotta 2001).

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John A. Parrotta, Biological Scientist, Research & Development, U.S. Department of Agriculture Forest Service, Washington, DC 20090-6090