***Indigofera suffruticosa* P. Mill.** wild indigo
FABACEAE

Synonyms: *Indigofera anil* L.
Indigofera truxillensis HBK.
Indigofera divericata Jacq.
Anila tinctoria vera Kuntze

General Description.—Wild indigo, also known as indigo, Guatamala indigo, añil, añil de pasto, and ti cafe, is a short-lived shrub that reaches 1 to 2 m in height and 1 to 2 cm in stem diameter. The shrub may have multiple stems, especially if it has been disturbed by grazing or fire. The stems are gray-brown, pubescent, and more or less straight. The light green leaves are pinnately compound with 9 to 17 narrowly oblong, pubescent leaflets that are 1.5 to 2.5 cm long and about 9 mm wide. There are 6- to 8-mm lanciolate stipules at the base of the leaves. Crimson to rust-red flowers grow in short, many-flowered racemes. The curved legumes are short (1.1 to 2.5 cm) and contain three to seven seeds that are 1.5 mm wide and 1 mm thick (Howard 1988, Liogier 1988).

Range.—Wild indigo is native to Southern United States through tropical and subtropical South America as well as the Caribbean Islands (Howard 1988). The species has naturalized in Hawaii (Neal 1965) and is present in American Samoa, Guam, and a large number of the Pacific Island groups (Pacific Island Ecosystems at Risk 2001). Wild indigo has been introduced into tropical regions of the Old World (Liogier 1988).

Ecology.—In Hawaii, wild indigo has naturalized in dry, highly disturbed areas from near sea level to 1,160 m in elevation (Pacific Island Ecosystems at Risk 2001). In Puerto Rico, the species grows from near sea level to about 700 m in elevation in areas that receive from about 750 to 1800 mm of precipitation annually. Soils derived from volcanic and sedimentary rocks in a wide range of soil textures are colonized. Good drainage is required, but not high fertility. Wild indigo is not shade tolerant and will not grow under a closed forest stand.

Reproduction.—In Texas, wild indigo flowers from July through November (Everitt and Drawe 1993). In Mexico, fruiting occurs between October and February (Moreno-Casasola and others 1994). The pods remain open on the branches, exposing but not expelling the seeds. Mechanisms of transport have not been reported. The seeds in a collection of fruits in Puerto Rico had been partially consumed by an unknown insect and averaged only 0.9 undamaged seeds per pod. These seeds averaged 0.0039 g/seed or about 257,000 seeds/kg. Of these, 17 percent germinated in 7 to 24 days after sowing. Seed from a Mexican collection gave more than 90 percent germination (in the field) when a mechanical scarification was used and nearly 100 percent when wet-dry cycles were combined with scarification (Moreno-Casasola and others 1994).

Growth and Management.—Neal (1965) reports that in Hawaii, 20,400 kg of wild indigo can be

produced per hectare from which 227 kg of indigo paste can be separated. Wild indigo tested for revegetation of soil-lignite overburden varied in biomass yield from 162 to 2,432 kg/ha and maintained from 8 to 30 percent cover over a 3-year period (Skousen and Call 1987). Surface sowing at the start of the rainy season on freshly tilled ground is recommended. Plants usually live 2 or 3 years in Puerto Rico.

Benefits.—Although indigo obtained from other species of *Indigofera* was used in the Old World, the use of wild indigo by pre-Columbian natives of Mexico to dye cloth and paint in various shades of blue was passed down to the Spanish colonists (Haude 1997). *Indigofera* species became important commercial crops in various tropical and subtropical areas. The blue dye was produced by fermentation of the leaves, usually with caustic soda or sodium hydrosulfite, and the exudates processed into dry cake. The blue color developed as the cake was exposed to the air (Simon and others 1984). Indigo was used as a bluing to counter the yellowing in clothes from washing with soap (Vélez and van Overbeek 1950). In the last few decades, natural indigo has been almost wholly replaced by synthetic dyes. Poultices and extracts of wild indigo leaves, alone or in combination with other ingredients, are used in herbal medicine to treat fever, headaches, hemorrhages, convulsions, acute cough, skin parasites, and boils (HealthLink 2001, Liogier 1990). Domestic and wild ruminant animals browse wild indigo plants. It and another *Indigofera* species are reported to be the sole hosts of the false dusky wing butterfly [*Gesta gesta* (Herrich-Schäffer)] (Opler and Malikul 1992). Wild indigo is useful as a natural cover plant in disturbed areas. The species may become weedy, but is seldom aggressive or common enough to cause difficulties in croplands.

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