Desmodium incanum

DC.

Fabaceae - Papilionoideae

LOCAL NAMES
English (creeping beggar weed,tick trefoil,Spanish clover,kaimi,kaimi clover); Portuguese (pega-pega); Spanish (pega-pega)

BOTANIC DESCRIPTION
Desmodium incanum is an erect perennial herb or low shrub growing to 60 cm tall, rarely to 3 m but more typically prostrate and below 20 cm under grazing. Fibrous trailing stems form a deep well-branched root system; stems root readily at the nodes.

Leaves trifoliate on petioles up to 3.5 cm long, with stipules 3–11 mm long by 1–3 mm wide; leaflets very variable, but mostly elliptical, terminal leaflet 2-9 cm x 1.5-4.5 cm, lateral ones up to 6 cm x 3 cm; leaves on upper branches are larger and more pointed than those on the lower branches. The upper surface of the leaf is dark green, often with a paler streak along the midrib, but paler and densely pilose on the under surface.

Inflorescence a terminal or axillary raceme, 5-20 cm long; flowers solitary or in fascicles of 3; blue, red or purple on standards up to 6 mm long.

Pod up to 4 cm long, the upper margin straight, the lower strongly indented, covered with hooked hairs. Seed light brown, kidney-shaped, 1 mm x 0.5 mm.

BIOLOGY
Initial growth is slow, but later improves, provided moisture is adequate. Trailing stems begin to develop some 6 months after sowing. At higher latitudes, flowering occurs when daylengths shorten. Seeds are spread by animals and humans because of the hooked hairs on the pods. Tick trefoil flowers over a long growing period, October to April.

Desmodium incanum is self-fertile, but some out-crossing is believed to occur.

Flowers at Mokolii, Oahu, Hawaii. (Forest & Kim Starr (USGS))

Habit at Mokolii, Oahu, Hawaii. (Forest & Kim Starr (USGS))

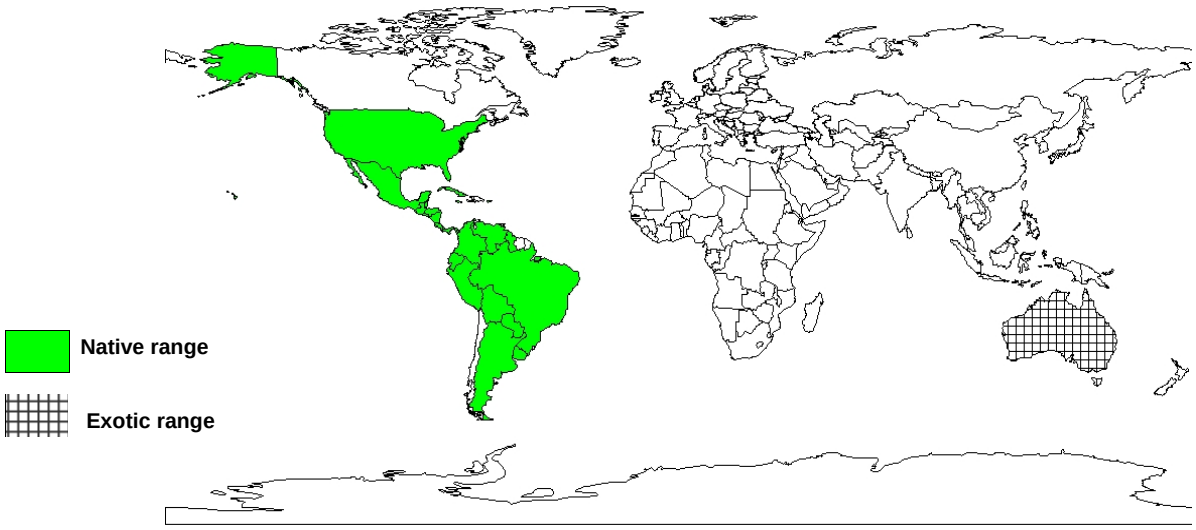
ECOLOGY
Where naturalized, tick trefoil is particularly common along roadsides, in pastures, open forest and lawns; wasteland and other disturbed ground; can grow from arid lowlands to moist uplands. A common species in sunny or shaded habitats, often in poor soil, tropical and subtropical America, and is considered a weed in coffee plantations in South America. Very tolerant of heavy grazing and frequently found with creeping grasses in heavily and continuously grazed swards. Associated species include stoloniferous or rhizomatous grasses including Pennisetum clandestinum, Brachiaria dictyoneura and B. mutica. The species is tolerant of light frosts and temporary flooding.

BIOPHYSICAL LIMITS
Altitude: 5-1500 m
Temperature: 25-30°C
Rainfall: 1000–3000 mm.
Soil type: Best adapted to fertile, neutral to alkaline soils but can be found on soil textures from sands to medium clays with pH 4-8. Prefers volcanic soils.

DOCUMENTED SPECIES DISTRIBUTION

Native: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Dominica, Ecuador, El Salvador, French Guiana, Guadeloupe, Guatemala, Guyana, Honduras, Jamaica, Martinique, Mexico, Montserrat, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Surinam, Uruguay, US, Venezuela

Exotic: Australia, Fiji, French Polynesia, Guam, Marshall Islands, Micronesia, New Caledonia, Niue, Palau, Solomon Islands



The map above shows countries where the species has been planted. It does neither suggest that the species can be planted in every ecological zone within that country, nor that the species can not be planted in other countries than those depicted. Since some tree species are invasive, you need to follow biosafety procedures that apply to your planting site.

PRODUCTS
Fodder: D. incanum is amongst the more persistent and tolerant legume species under heavy grazing. The stoloniferous habit of this species enables it to withstand heavy close continuous grazing. Kaimi can yield up to 6500 kg/ha/year of dry matter but is normally considered less productive than other species such as D. intortum. Seed yields can reach 200 kg/ha/year.

Medicine: Kaimi is used for the treatment of childhood diarrhea in Grenada.

SERVICES
Soil improver: A potentially useful legume in heavily grazed pastures and on low to moderate fertility soils, as in rundown Brachiaria pastures in the Amazon Basin. Desmodium incanum can increase soil nitrogen concentrations by 2.0–2.5% where grown.

TREE MANAGEMENT
A well-prepared seed-bed is recommended for the most reliable establishment, but seed may also be broadcast into an existing pasture. Recommended sowing rate is 5 kg/ha sown about 5 mm deep. Initial growth is slow, and trailing stems begin to develop some 6 months after sowing.

Kaimi clover requires phosphorus application, but is usually grown without fertilizer on moderately fertile soils. Application of low levels of lime (<6 t/ha) is recommended on oxisols; high levels temporarily depress growth.

Considered a weed in coffee plantations in South America but can be controlled with single application of either dalapon (8.0 kg/ha) or diquat (1.0 L/ha).

GERMPLASM MANAGEMENT
It is recommended that the seed be inoculated with the special strain of Bradyrhizobium.
Seeds also require pretreatment with concentrated sulphuric acid for 10 minutes before sowing.

PESTS AND DISEASES
Reported to be sensitive to Peanut (Groundnut) Mottle Virus and may be a source of this to cultivated peanuts and soybeans in southern USA. Several fungal diseases reported, as are little leaf and Desmodium mosaic virus. Seedlings may be damaged by cutworms; rose beetles and cyst nematodes, Heterodera trifolii, have been reported in Hawaii. Light infestations by Meloidogyne spp. nematodes under coffee in Cuba.

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SUGGESTED CITATION

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