



United States Department of Agriculture
Natural Resources Conservation Service
Plant Materials Program

'Kuiaha' Desmodium

Desmodium intortum (Mil.) Urb.

A Conservation Plant Release by USDA NRCS Hoolehua Plant Materials Center, Hoolehua, Hawaii



'Kuiaha' desmodium (*Desmodium intortum* (Mil.) Urb.) is a cultivar released in 1969 in cooperation with the Hawaii Agriculture Experiment Station.

Description

'Kuiaha' desmodium is a perennial decumbent plant with long trailing stems that root at the nodes. The main stems are predominantly green with some red, from 5-25 feet long, and about 5/16 inch in diameter. The leaflets are ovate, 2-3 inches wide and 3-5 inches long when mature. The upper leaf surface may be lighter in color and is covered with fine hairs.



Ian Partridge, Better Pastures for the Tropics and Subtropics,
15 Jan 2003, (date website visited: June 2012)

<http://www.tropicalgrasslands.asn.au/pastures/desmodium.htm>

The pea-type flowers are usually pink and are born on terminal racemes. The hairy seed pods, which adhere to clothing, are indented around the seed; the lower edge of the pod has larger indentions. Flower initiation is regulated by a short photoperiod. Most of the flowering occurs from later November through December. The seeds are kidney shaped, light brown or tan, about 2.0 mm long and about 1.5 mm wide. There are approximately 350,000 seeds per pound.

Source

The Hawaii Agriculture Experiment Station (HAES) first introduced *Desmodium intortum* (Mill.) Urb. to Hawaii in 1947. Since its introduction, a number of different strains of *Desmodium intortum* had been observed. Some of those were quite variable in form, growth habit, and production. Of the early introductions, two strains were outstanding in yield trials and field plantings, HAES-4331 and HAES-4247. These two strains were increased by the Soil Conservation Service (SCS) for further evaluation. Since the HAES-4247 strain varied greatly from extremely stemmy to fine-leafed, the HAES-4331 strain was selected for increase. This strain is called 'Kuiaha' desmodium.

'Greenleaf' desmodium, a cultivar of the same species was released by Commonwealth Scientific and Industrial Research Organization (CSIRO) in Australia. The 'Greenleaf' desmodium of Australia originated from the HAES-4331 strain and other strains similar in appearance.

Conservation Uses

'Kuiaha' desmodium is recommended for pasture, conservation cover, and critical area planting.

Area of Adaptation and Use

'Kuiaha' desmodium is adapted to areas in Hawaii with an annual rainfall of more than 60 inches and elevation ranging from sea level to more than 2,500 feet. According to the New Soil Classification System, the soils in the Great Groups for the major areas of adaptation are Dystrandrepts, Histosols, Humitropepts, Hydrandrepts, and Tropohumults. In the old classification, Great Soil Groups, these soils were classified as Humic Latosols, Humic Ferruginous Latosols, and Hydrol Humic Latosols.

Establishment and Management for Conservation Plantings

'Kuiaha' desmodium may be established from seed or from stem cuttings. To ensure success, seeds should be planted in a well-prepped seedbed either by broadcasting or drilling in rows. Any width of row up to 3 feet may be used. As the distance between rows increases, the seeding

rate per acre may be decreased. The suggested broadcast seeding rate for pasture is 5 lbs. of pure live seed per acre.

'Kuiaha' desmodium seed must be inoculated with the proper *rhizobium* to ensure effective nodulation. Keep inoculums and inoculated seeds out of direct sunlight. Improper nodule formation may severely limit the growth of this crop. It is recommended that the grower use a desmodium inoculum which is commercially available. Adequate levels of available phosphorous, potassium and calcium increase seedling vigor and promote rapid establishment.



Photo by S. G. Reynolds. *Desmodium intortum* close-up.

Weeds can be controlled in recently seeded pastures by controlled animal grazing. This is done by stocking the pasture with enough animals to remove the top growth of all weedy plants in 7 days or fewer. The animals must be removed before 'Kuiaha' desmodium seedlings are permanently damaged.

'Kuiaha' desmodium is generally grown with pangola grass (*Digitaria eriantha*). It will also grow well with California grass (*Urochloa mutica*) and kikuyu grass (*Pennisetum clandestinum*).

Management of a 'Kuiaha' desmodium/grass mixture is governed by the growth of the legume. Rotational grazing must be controlled carefully. The legume must be given the opportunity to make enough top-growth for root development. Care must be taken to prevent excessive stem damage because the new growth comes from buds in the leaf axils on the stems as well as from the crowns. Remove all livestock from the pasture as soon as possible after the leaves have been stripped from the stems.

'Kuiaha' desmodium has a 60 to 90-day regrowth cycle. Applications of phosphate, and sometimes potassium and lime, are needed for good, vigorous plant growth. A good stand of this legume may provide enough nitrogen for

adequate grass growth, so a nitrogenous fertilizer should not be used. A good, well-managed 'Kuiaha' desmodium/grass pasture should produce up to 80 tons of green forage per acre per year.

Availability

For seed or plant increase: Foundation seed is maintained by the Hoolehua Plant Materials Center. Contact the Hoolehua PMC for current commercial sources with available planting material.

For more information, contact:
Hoolehua Plant Materials Center
4101 Maunaloa Highway, P.O. Box 236
ph(808) 567-6885, fax(808)567-6537
<http://plant-materials.nrcs.usda.gov/hipmc/index.html>

Citation

Release Brochure for 'Kuiaha' Desmodium (*Desmodium intortum* (Mil.) Urb.). USDA-Natural Resources Conservation Service, Hoolehua PMC. Hoolehua, Hawaii 96729. Published [July, 2012]

For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office, or Conservation District <<http://www.nrcs.usda.gov/>>, and visit the PLANTS Web site <<http://plants.usda.gov/>> or the Plant Materials Program Web site <<http://www.plant-materials.nrcs.usda.gov/>>

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