

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
Honolulu, Hawai'i

and the

COLLEGE OF TROPICAL AGRICULTURE AND HUMAN RESOURCES
UNIVERSITY OF HAWAII AT MANOA
Honolulu, Hawai'i

NOTICE OF RELEASE OF KAMILOLOA GERMPLASM 'A'ALI'I SOURCE
IDENTIFIED CLASS OF NATURAL GERMPLASM

The Natural Resources Conservation Service (NRCS) U.S. Department of Agriculture and the College of Tropical Agriculture and Human Resources, University of Hawai'i at Manoa, announce the release of a source identified ecotype of 'a'ali'i (*Dodonaea viscosa* Jacq.) for the Maui Nui group of Hawaiian islands. The Maui Nui group is comprised of the islands of Maui, Moloka'i, Lana'i, and Kaho'olawe which were connected by land in the past.

As a source identified release, this plant will be referred to as Kamiloloa Germplasm 'A'ali'i to document its original collection location. It has been assigned the NRCS accession number 9079682.

This alternative release procedure is justified because there are no existing commercial seed sources of 'a'ali'i. Propagation material of specific ecotypes from the Maui Nui group is needed for revegetation and ecosystem restoration. The potential for immediate use is high for these purposes on the island of Kaho'olawe.

Collection Site Information: The collection site is located in the upper Kamiloloa heights area on the island of Moloka'i at approximately 21°6'5" north latitude and 157°57'30" west longitude. The elevation is approximately 1,450 feet above sea level. The land is owned by the State of Hawai'i Department of Hawaiian Home Lands and is located in the County of Maui.

Soils at the collection site are classified as Very Stony Land. Stones and boulders are underlain by soft weathered rock and bedrock. In a few places there is shallow clayey soil among the stones and boulders. The soil pH is 6.1. The 'a'ali'i plants at the collection site are growing on a 7-30% south-facing slope. The climate at the site is relatively hot and dry with a mean annual temperature of approximately 73° Fahrenheit and precipitation of 24 inches. Associated plants include piligrass (*Heteropogon confortus*), kakonakona (*Panicum torridum*), 'iliahi (*Santalum freycinetianum*), naio (*Myoporum sandwicense*), ko'oko'olau (*Bidens degeneri*), aweoweo (*Chenopodium oahuense*), ilima (*Sida fallax*), and nehe (*Lipochaeta sp.*).

Ecotype Description: Kamiloloa Germplasm 'A'ali'i is a many-branched shrub approximately 10 feet in height at maturity with plants at the collection site ranging from 3 to 10 feet. The leaves are elliptical and glossy green. They are alternate and range in size from 1 to 4 inches long by 1/4 to 1-1/4 inches wide. The bark is brown and finely fissured. The inconspicuous flower clusters are produced at branch tips, with male and female flowers usually found on separate plants. A few perfect (bisexual) flowers may be found on plants of both sexes. The flowers have no petals. Female flowers develop into attractive reddish tan papery fruit capsules (each about 1/2 inch in diameter) with two to four broad wings. The fruits contain two to four cells with one to four small black ovate seeds approximately 1/16 inch in diameter. Male flowers are about 1/4 inch wide. Pollination is primarily by wind. Both the breeding system and morphological features of *Dodonaea viscosa* are very polymorphic.

Environmental Impact Assessment: Kamiloloa Germplasm 'A'ali'i is a collection of naturally occurring germplasm and has been unaltered. Kamiloloa Germplasm 'A'ali'i did not meet the assessment of a plant which could become invasive based on guidelines adopted by the NRCS Plant Materials Program.

Anticipated Conservation Use: The potential uses of Kamiloloa Germplasm 'A'ali'i include ecosystem restoration, revegetation of eroded areas, wildlife cover and food, increasing diversity in riparian communities, landscaping, and windbreak. It is a tough plant with a strong root system and is very drought and wind tolerant once established. Marie Neal (1965) quoted a boast of the people of Ka'u, Hawai'i: "I am an 'a'ali'i shrub; no wind can push me over." In the landscape it would make a useful specimen

shrub or hedge, responds well to pruning, and is moderately salt tolerant. Hawaiians used the wood for house posts and spears. They made a red dye from the capsules and medicine from the leaves and flowers. The colorful capsules are used for haku leis.

Potential Area of Adaptation: Until recently, 'a'ali'i was considered indigenous to all the main Hawaiian Islands except Kaho'olawe. However, it has since been observed on that island, possibly as a result of the removal of the feral goats. It inhabits a wide range of habitats including lava fields, exposed ridge crests, dry, semi-dry to wet forests, and from dunes at sea level to nearly 8,000 feet. It is widespread throughout the tropics.

Availability of Plant Materials: Seeds and plants of Kamiloloa Germplasm 'A'ali'i will be maintained by the Natural Resources Conservation Service Plant Material Center, Ho'olehua, Moloka'i, Hawai'i. To make collections from the original collection site, contact the Plant Materials Center.

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Prepared by:

R.J. Joy and G.S. Sakamoto, USDA-NRCS Plant Materials Center, P.Q. Box 236, Ho'olehua, Hawaii 96729 and C.I. Evensen, University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources, Department of Agronomy and Soil Science, G. Donald Sherman Laboratory, 1910 East-West Road, Honolulu, Hawaii 96822.

Signatures for release of:

Kamiloloa Germplasm 'A'ali'i (*Dodonaea viscosa* Jacq.)



KENNETH M. KANESHIRO
State Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
Honolulu, Hawai'i

10/31/99

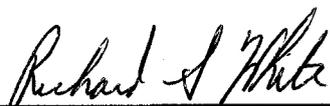
Date



H. MICHAEL HARRINGTON
Interim Dean
College of Tropical Agriculture and
Human Resources
University of Hawai'i at Manoa
Honolulu, Hawai'i

OCT 25 1999

Date



for DIANE GELBURD
Director, Ecological Sciences Division
United States Department of Agriculture
Natural Resources Conservation Service
Washington, D.C.

3/24/00

Date