



UNIVERSITY OF HAWAII SYSTEM

‘ŌNAEHANA KULANUI O HAWAII

Legislative Testimony

Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
House Committee on Agriculture & Food Systems
Wednesday, February 5, 2025 at 9:30 a.m.

By

Don Drake

Interim Director

Harold L. Lyon Arboretum

And

Michael Bruno, PhD

Provost

University of Hawai'i at Manoa

HB 1337 – RELATING TO ENDEMIC PLANTS

Chair Kahaloa, Vice Chair Kusch, and Members of the Committee:

The University of Hawai'i offers comments on HB 1337, which proposes the establishment of a seed bank at the University of Hawai'i to store seeds of endemic Hawaiian plants for conservation purposes.

The Harold L. Lyon Arboretum, an Organized Research Unit of the University of Hawai'i at Mānoa, maintains a seed bank of native Hawaiian plants (both endemic and indigenous) as part of its Hawaiian Rare Plant Program (HRPP). The mission of the HRPP is to aid in the prevention of further extinction of Hawaiian plant species by maintaining living material through the use of seed banking, tissue culture, and cryopreservation. The plants in these collections are intended to be grown out and placed back on the land when and where conditions are appropriate to restore native vegetation.

One of the HRPP's facilities is the Seed Science Laboratory, which includes a seed bank containing over 34 million seeds of native plants from nearly 13,000 accessions. These accessions represent more than 650 species (or subspecies), which is over 45% of the native Hawaiian flora (of seed plants and ferns). Seed banking is the most cost-effective means to store living plants in collections. However, not all plant species can be stored in seed banks.

The HRPP also has a Micropropagation and Cryopreservation Laboratory, which conserves species that either do not produce seeds, such as ferns, or that have seeds that cannot be stored in a seed bank. The micropropagation collection uses tissue culture to maintain over 45,000 plants of more than 200 native plant species (or subspecies) and traditional Polynesian crops. In addition, ongoing research in the lab is

leading to an increasing number of species being stored using cryopreservation (freezing in liquid nitrogen).

The plant collection in the HRPP is continually increasing to meet the state's needs to conserve native plants for use in restoring native vegetation on the land. Over 70% of the plant species (and subspecies) in the HRPP's collections are federally listed as threatened or endangered. It is currently the world's largest conservation collection of native Hawaiian plants and the world's largest conservation collection of endangered US plants. In 2024, Botanic Gardens Conservation International recognized Lyon Arboretum's seed bank as "conserving the greatest proportion of threatened species in their collection," more than any other institution in the world.

The HRPP laboratories are currently staffed and operated entirely through external grants. Personnel include 5.5 staff members and numerous UH student hires, interns, and volunteers.

The University of Hawai'i appreciates the opportunity to engage in a thoughtful conversation about the future of Hawaiian endemic plants, which are vital to the islands' unique ecosystem and cultural heritage. Thank you for allowing us to provide comments on this measure.