UNIVERSITY OF HAWAIʻI SYSTEM
ʻŌNAEHANA KULANUI O HAWAIʻI

Legislative Testimony
Hōʻike Manaʻo I Mua O Ka ʻAhaʻōlelo

Testimony Presented Before the
Senate Committee on Agriculture and Environment
Senate Committee on Higher Education
Wednesday, February 14, 2024 at 1:00 p.m.
By
Anna Wieczorek, Interim Dean
Walter Bowen, Associate Dean of Research
College of Tropical Agriculture and Human Resources
And
Michael Bruno, Provost
University of Hawaiʻi at Mānoa

SB 2362 – RELATING TO ORNAMENTAL GINGER

Chairs Gabbard and Kim, Vice Chairs Richards and Kidani, and Members of the Committees:

Thank you for the opportunity to provide testimony in support of SB 2362 which provides funding to continue studying the diseases affecting ornamental ginger on Oʻahu and the neighbor islands.

Ornamental ginger is a valued plant that is one of Hawaii's most commonly used shrub and cut flowers. Red ginger production has declined significantly over the past 10 years due to what is now known to be viral pathogens. The College of Tropical Agriculture and Human Resources' scientists have been able to identify six different viruses and one fungal pathogen that are infecting ornamental ginger. In addition, the Hawaiʻi Department of Agriculture (HDOA) experts have established the existence of 14 additional pathogens.

What has been achieved so far is as follows:

- The islands of Oʻahu, Kauaʻi, Maui and Hawaiʻi have been surveyed multiple times in order to document the magnitude and spread of the decline. This has resulted in the discovery of two new viruses never before identified.
- Symptoms have been characterized based on visual identification and genetic sequencing. Symptom characterization has been presented to stakeholders.
- Two Extension publications were produced outlining the current information and the research publication is ready for submission.
- Outreach efforts with HDOA and industry groups continue; thus far, 764 stakeholders have been contacted directly as the demand for assistance grows.

- Virus-free plants have been identified and a quarantine facility was built to house them at Komohana Research and Extension Center, USDA Pacific Basin Ag Research Center and Hawai‘i Agriculture Research Center.
- The impact of co-infection by two dominant viruses is being investigated, and requires funding to support full investigation.
- Vectors of the viruses are being investigated. While not definitive, mealy bugs and aphids are suspected. More investigation is required.
- It is still unclear which viruses, and how the presence of co-infections can affect yield of plants. More investigation is required.

We respectfully request the appropriation of $125,000 to support the following budget which would promote a better understanding and mitigation of the disease.

Budget Item	FY24-25
Mileage (Mileage is required for farm visits, average farm travel is 50 miles round trip. This would fund 7 farm visits a month at the current mileage rate of 0.67/mile.)	$ 2,800
Travel (Principal Investigator will be required to perform lab work at UH Mānoa campus, and perform outreach statewide. This requires overnight travel.)	$ 12,400
Tissue Culture Lab Fees (Fees are required for mass propagation of red ginger. Labs to be utilized to be determined.)	$ 35,200
Supplies (Supplies include lab supplies, supplies for graduate student research and insect exclusion houses for virus free production.)	$ 19,000
Student Hire (Student hire required to carry out research and extension objective, 6 hours a week.)	$ 10,600
Plot Allocation (Pays for a long-term plot for the red ginger trials at a Hawaii Island UH Manoa CTAHR research station.)	$ 7,000
Plot Allocation (Pays for a casual hire employee to perform trials on red ginger production.)	$ 38,000
	$125,000

Thank you for the opportunity to submit testimony in <u>support</u> of SB 2362, provided that its passage does not impact priorities as indicated in our Board of Regents Approved Budget.

SB-2362
Submitted on: 2/13/2024 4:13:40 PM
Testimony for AEN on 2/14/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Warren Watanabe	Testifying for Maui County Farm Bureau	Support	Written Testimony Only

Comments:

Maui County Farm Bureau supports SB 2362

EAST OAHU COUNTY FARM BUREAU
910 CALIFORNIA AVE., WAHIAWA, HI 96786

February 12, 2024

Senator Mike Gabbard, Chair, and Senator Herbert M. "Tim" Richards, Vice Chair
Senate Committee on Agriculture and the Environment, and
Senator Donna Mercado Kim, Chair, and Senator Michelle N. Kidani, Vice Chair
Senate Committee on Higher Education
State Capitol, 415 S. Beretania St.
Honolulu, Hawai'i 96813

Dear Chairs Gabbard and Kim, Vice Chairs Richards and Kidani, and Members of the Committees,

The East O'ahu County Farm Bureau, which represents approximately 420 farmers and supporters of agriculture from Waimanalo to Kahuku, **strongly supports SB 2362,** "Relating to Ornamental Ginger," which would provide funding to the University of Hawai'i for research and prevention of the spread of ornamental ginger pathogens.

As the bill's preamble notes, an emerging disease of red ginger has devastated fields of this valuable ornamental plant in Windward O'ahu and threatens to spread to other growing sites throughout the islands. CTAHR researchers initiated studies which identified the causal agents. At last year's legislative session, CTAHR requested funding for a two-year project to collaborate with the Hawai'i Agriculture Research Center to produce virus-free plants for distribution to farmers, to develop strategies to manage infected plants, and to provide outreach to ornamental growers. HB 306 (2023) ultimately passed, but with funding for only the first year of the project. SB 2362 would provide funding for the second year's work, without which the project would be incomplete.

With the first year's funding, CTAHR researchers have accomplished or are accomplishing the following:

- Starting red ginger plants in tissue culture and performing clean-up to ensure that they are free of viruses.

- Ordering insect exclusion environments to support experimental trials.

- Retrofitting a greenhouse at Komohana Extension Center as a virus-free production facility.

- Giving two seminars on O'ahu to 27 attendees on virus identification and management, with seminars planned for each island during spring and summer 2024, and advertising for interest among growers in receiving virus-free plants.

- When the plants are guaranteed to be virus-free, beginning mass production and starting to release the plants to growers.

- Planning to set up virus-free vegetative propagation environments on each island if possible.

The second year's funding would support:

- Testing virus-free plants in the field to determine performance compared to infected plants.

- Testing methods to reduce the risk of virus spread to virus-free plants.

- Continuing tissue culture of virus-free plant material.

- Continuing extension outreach to stakeholders.

We therefore respectfully request that your committees approve the appropriation proposed by SB 2362, so that Hawai'i's farmers can continue to grow this beautiful tropical flower.

Thank you for the opportunity to testify on this matter of great importance to Hawai'i's ornamental growers.

Sincerely,

Frederick M. Mencher

Frederick M. Mencher
for Grant Hamachi, President
East O'ahu County Farm Bureau

LAND USE RESEARCH
FOUNDATION OF HAWAII
1100 Alakea Street, Suite 408
Honolulu, Hawaii 96813
(808) 521-4717
www.lurf.org

February 9, 2024

Senator Mike Gabbard, Chair
Senator Herbert M. "Tim" Richards, Vice Chair
Senate Committee on Agriculture and Environment

Senator Donna Mercado Kim, Chair
Senator Michelle N. Kidani, Vice Chair
Senate Committee on Higher Education

Testimony in Support of SB 2362 (Appropriate funds for statewide research into ornamental ginger pathogens, prevention of the spread of ornamental ginger pathogens, production and distribution of pathogen-free ornamental ginger plants, and outreach to ornamental ginger producers.)

Wednesday, February 14, 2024, 1:00 p.m.; State Capitol, Conference Room 224 & Videoconference

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers, and utility companies. LURF's mission is to advocate for reasonable, rational, and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources, and public health and safety.

LURF appreciates the opportunity to express its **support of SB 2362.**

SB 2362. This bill proposes to appropriate funds to the University of Hawaii for statewide research and prevention of pathogens affecting ornamental ginger.

LURF's Position. LURF understands that production of ornamental ginger has been declining throughout the State since 2014, and that further decline has resulted in producers in affected areas clearing their lands as ornamental ginger can no longer be economically produced. Farmers are concerned about the spread of the disease pathogens and have consulted with the department of agriculture, University of Hawaii college of tropical agriculture and human resources (UHCTAHR), and various farm bureaus. Research conducted has identified a combination of different viruses as well as other pathogens as possible contributing causes that are infecting ornamental ginger, which is a highly valued plant. Virus-infected plants cannot be cured.

Plant diseases and invasive species such as insects, disease-bearing organisms, snakes, weeds, and other pests pose the greatest threat to Hawaii's economy, tourism, agriculture, the natural environment, native species and to the health and lifestyle of Hawaii's people.

Invasive species already cause millions of dollars in crop losses, the extinction of native species, the destruction of native wet, moist, and dry land forests, and the spread of disease, but even more harmful viral, fungal, and unidentified bacterial pathogens such as these unknown pathogens causing devastating crop decline in ornamental ginger, now threaten to invade plants throughout all of the Hawaiian Islands and wreak further uncontrolled damage.

Despite efforts by the UHCTAHR and the department of agriculture to address this critical situation, more research and a multi-agency outreach approach, including development of protocols amongst cultivators, producers and distributors; establishment of cultural management strategies for managing virus-infected plants; and educating growers about those strategies and the importance of virus-free plants, are necessary to avoid further damage to the profitability and long-term sustainability of local ornamental flora and landscape production industries.

For the above reasons, LURF **supports SB 2362** and respectfully urges your favorable consideration.

Thank you for the opportunity to present testimony regarding this matter.

SB-2362
Submitted on: 2/13/2024 6:33:47 AM
Testimony for AEN on 2/14/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
John R. Gordines	Testifying for Tropical Flowers Express	Support	Written Testimony Only

Comments:

My name is Johnny Gordines owner of Tropical Flowers Express on Kaua'i. My wife Theresa and I have been growing, exporting and designing tropical flowers and foliage at our farm for over 30 years.

we support and encourage funding "Distributing Virus Free Red Ginger Statewide using tissue culture technology to revive production" This will save our farms and industry businesses and continue to share Hawaiian red ginger by producing clean tissue culture plants for distribution. Vegetative propagation/ division will continue to spread the virus/disease.

CTAHR/CES are a valuable resource to the ornamental and landscape industries. Their knowledge,experience, and education capabilities in developing virus free tissue culture red ginger for distribution is critical! These efforts will save our local flower farms and business. Our visitors wil continue to enjoy signature Hawaiian flowers in their hotel lobbies and receiving our gift boxes at their homes on the mainland USA.

Mahalo

Johnny Gordines 808 651-9711

P.O. Box 253, Kunia, Hawai'i 96759
Phone: (808) 848-2074; Fax: (808) 848-1921
e-mail info@hfbf.org; www.hfbf.org

February 14, 2024

HEARING BEFORE THE
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT
SENATE COMMITTEE ON HIGHER EDUCATION

TESTIMONY ON SB 2362
RELATING TO ORNAMENTAL GINGER

Conference Room 325 & Videoconference
9:30 AM

Aloha Chairs Gabbard and Kim, Vice-Chairs Ricahrds and Kidani, and Members of the Committees:

I am Brian Miyamoto, Executive Director of the Hawaiʻi Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,800 farm family members statewide and serves as Hawaiʻi's voice of agriculture to protect, advocate, and advance the social, economic, and educational interests of our diverse agricultural community.

The Hawaiʻi Farm Bureau supports SB 2362, which appropriates funds for statewide research into ornamental ginger pathogens, prevention of the spread of ornamental ginger pathogens, production and distribution of pathogen-free ornamental ginger plants, and outreach to ornamental producers.

Alpinia purpurata, known commonly as ornamental ginger, is a popular plant that is commonly used in tropical landscape designs. Commercial production of ornamental ginger has been on the decline for over a decade on Oahu. Red ginger growers in Windward Oahu have recently experienced a further decline in the growth of their ornamental red ginger plant production due to a variety of unknown viruses and fungi

Producers in the affected areas are excavating their lands as they can no longer economically produce ornamental ginger in these areas. Neighboring farmers and off-island customers are concerned about the spread of pathogens. Reports of crop decline which originally started in the Kahaluu area of Oahu have spread to surrounding areas such as Waihole and Waikane Valley.

In response, researchers and extension agents at CTAHR performed a statewide survey and causal agent identification study. The study determined that a combination of six viruses, including two viruses never before identified, is the cause of the red ginger decline, with other pathogens and ornamental ginger genetic variation as possible contributing factors. The viruses are found statewide but are most prevalent on Oahu and Hawaiʻi Islands. Virus-infected plants cannot be cured, and virus-infected plants are

currently the main plants being propagated for more plantings, worsening the problem. Most large-scale operations have virus-infected plants.

Without more research and prevention protocols through a multi-agency outreach approach, these pathogens could spread further and impact the profitability and long-term sustainability of the local ornamental and landscape production industries.

Thank you for the opportunity to testify on this important subject.

SB-2362
Submitted on: 2/13/2024 1:36:59 PM
Testimony for AEN on 2/14/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
J Ashman	Individual	Support	Written Testimony Only

Comments:

I support this bill

Thank you for your continuing support for Hawaii agriculture.

SB2362- RELATING TO ORNAMENTAL GINGER.

Chairs Gabbard and Mercado Kim, Vice Chairs Richards and Kidani, and members of the Senate Committees on Agriculture and Environment and Higher Education. Thank you for this opportunity to provide personal testimony in **strong support of SB2362** relating to ongoing support for ornamental ginger research and Extension outreach by the University of Hawai'i, at Mānoa, College of Tropical Agriculture and Human Resources (CTAHR).

Commercial production of ornamental ginger has been on the decline for the past 10 years on Oahu. Flower producers brought their concerns to the attention of CTAHR, East County Hawaii Farm Bureau, Hawaii Farm Bureau, and the Department of Agriculture (DOA). Extension agents worked with CTAHR pathologist to learn that there are multiple plant viruses affecting ginger production (banana bract mosaic virus (BBrMV), canna yellow mottle virus (CaYMV) , and banana streak virus (BSV) and at least one fungal pathogen (*marasmus*) that attributes to crop decline and death. DOA pathologists detected the presence of *Phomopsis* sp., *Diaporthe* sp., *Glomerella* sp., *Colletotrichum* sp., *Phoma* sp., *Cladosporium* sp., *Fusarium* spp., *Cladobotryum* sp., *Alternaria* sp., *Acremonium* sp., *Monilinia* sp., *Macrophoma* sp., *Cephalosporium* sp., and an unidentified bacteria. At this time, we do not know which pathogen is the causal agent of the new and devastating crop decline on ornamental ginger in Windward Oahu.

Producers in the affected areas are excavating their lands as they can no longer economically produce ornamental ginger in these areas. Neighboring farmers and off island clientele are concerned about the spread of the pathogens (viral, fungal and unidentified bacterial) and asked DOA to quarantine the movement of plants from these areas. There is no cure for virus infected plants. Infected plants do not have the ability to return commercial yields. Reports of crop decline which originally started in the Kahaluu area of Oahu has spread to surrounding areas and neighboring islands.

Legislative support is needed to generate clean planting materials to sustain this culturally important crop in Hawaii for years to come.

I believe that bill SB 2362 has much merit. Ongoing funding to support CTAHR's research and Extension educational programs are crucial to the sustainability of Hawaii's diversified agriculture. Thank you for the opportunity to express my strong support for SB2362.

Jari Sugano, Personal testimony, UH CTAHR, Oʻahu County Administrator

SB-2362
Submitted on: 2/11/2024 3:52:50 PM
Testimony for AEN on 2/14/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Russell Galanti	Individual	Support	In Person

Comments:

I am in full support of Bill SB2362, and as the project lead, I am availble to answer any questions related to the project from the committee, Thank you for your time.

SB-2362
Submitted on: 2/13/2024 11:50:29 AM
Testimony for AEN on 2/14/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Randy Cabral	Individual	Support	Written Testimony Only

Comments:

Strong support

SB-2362
Submitted on: 2/13/2024 3:09:13 PM
Testimony for AEN on 2/14/2024 1:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jimmy Gomes	Individual	Support	Written Testimony Only

Comments:

I stand in support