



# 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 and Food Systems  
Wednesday, February 7, 2024 at 9:30 a.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 Hawai'i at Mānoa

#### HB 2140 – RELATING TO ORNAMENTAL GINGER

Chair Gates, Vice Chair Kahaloe, and Members of the House Committee on Agriculture and Food Systems:

Thank you for the opportunity to provide testimony in support of HB 2140 which provides funding to continue studying the diseases affecting ornamental ginger on O'ahu and the neighbor islands.

Ornamental ginger is a valued plant that is one of Hawaii's most commonly used shrub and cut flower. 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 Hawai'i 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 O'ahu, Kaua'i, Maui and Hawai'i 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
<b>Mileage</b> (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
<b>Travel</b> (Principal Investigator will be required to perform lab work at UH Mānoa campus, and perform outreach statewide. This requires overnight travel.)	\$ 12,400
<b>Tissue Culture Lab Fees</b> (Fees are required for mass propagation of red ginger. Labs to be utilized to be determined.)	\$ 35,200
<b>Supplies</b> (Supplies include lab supplies, supplies for graduate student research and insect exclusion houses for virus free production.)	\$ 19,000
<b>Student Hire</b> (Student hire required to carry out research and extension objective, 6 hours a week.)	\$ 10,600
<b>Plot Allocation</b> (Pays for a long-term plot for the red ginger trials at a Hawai'i Island UH Mānoa CTAHR research station.)	\$ 7,000
<b>Plot Allocation</b> (Pays for a casual hire employee to perform trials on red ginger production.)	\$ 38,000
	<b>\$125,000</b>

Thank you for the opportunity to submit testimony in support of HB 2140 provided that its passage does not replace or adversely impact priorities as indicated in our Board of Regents Approved Budget.

**JOSH GREEN, M.D.**  
Governor

**SYLVIA LUKE**  
Lt. Governor



**SHARON HURD**  
Chairperson, Board of Agriculture

**DEXTER KISHIDA**  
Deputy to the Chairperson

State of Hawai'i  
**DEPARTMENT OF AGRICULTURE**  
KA 'OIHANA MAHI'AI  
1428 South King Street  
Honolulu, Hawai'i 96814-2512  
Phone: (808) 973-9600 FAX: (808) 973-9613



**TESTIMONY OF SHARON HURD**  
**CHAIRPERSON, BOARD OF AGRICULTURE**

**BEFORE THE HOUSE COMMITTEE ON AGRICULTURE**

**FEBRUARY 7, 2024**  
**9:30 AM**  
**CONFERENCE ROOM 325**

**HOUSE BILL NO. 2140**  
**RELATING TO ORNAMENTAL GINGER**

Chair Gates, Vice Chair Kahaloa and Members of the Committees:

Thank you for the opportunity to testify on House Bill 2140 relating to ornamental ginger. This bill appropriates funds for statewide research into ornamental ginger pathogens, prevention of the spread of ornamental ginger pathogens, production and distribution of pathogen-free plants and outreach to ornamental ginger growers. The department strongly supports this bill and offers the following comments.

Commercial production of ornamental ginger has been in decline for several years. In 2018, a team from the College of Tropical Agriculture and Human Resources (CTAHR), the Hawaii Farm Bureau and HDOA did site visits. CTAHR virologists identified three plant viruses affecting and the HDOA Pathology Unit of the Plant Pest Control Branch, working with the US Department of Agriculture's National Identification Services (NIS) identified 12 other diseases including fungal and bacterial pathogens. The Department dedicated funding through a contract (Contract number 67623) for delimiting the distribution of the viral diseases, associate the viral symptoms with viral infections and the effects of multiple viral infections, identify viral vectors, and determine the cause of decline of ornamental ginger. Subsequent to this funding support to the University in 2019, the Plant Pest Control Branch lost the Plant Pathologist responsible



for supporting this work through retirement and the position was subsequent deleted by the Legislature during the 2021 session.

The Department supports the allocation of funds for the University. This support will be vital for the industry to reverse its negative growth trend and thrive through the development of virus-free ginger plants, mass-production of virus-free plants, improve diagnostics and better management techniques.

Thank you for the opportunity to provide testimony on this bill.



February 5, 2024

Representative Cedric Asuega Gates, Chair  
Representative Kirstin Kahaloa, Vice Chair  
House Committee on Agriculture & Food Systems

**Testimony in Support of HB 2140 (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 7, 2024 at 9:30 a.m.; State Capitol, Conference Room 325 Via 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 HB 2140**.

**HB 2140.** 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 State 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 HB 2140** and respectfully urges your favorable consideration.

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



**HOUSE OF REPRESENTATIVES  
THE THIRTY-SECOND LEGISLATURE  
REGULAR SESSION OF 2024**

**COMMITTEE ON AGRICULTURE & FOOD SYSTEMS**

Rep. Cedric Asuega Gates, Chair

Rep. Kirstin Kahaloa, Vice Chair

**Wednesday, February 7, 2024**

**9:30 AM**

**VIA VIDEOCONFERENCE**

**Conference Room 325**

**State Capitol**

**415 South Beretania Street**

**RE: HB2140 RELATING TO ORNAMENTAL GINGER**

My name is Eric S. Tanouye and I am the President for the Hawaii Floriculture and Nursery Association. HFNA is a statewide umbrella organization with approximately 350 members. Our membership is made up with breeders, hybridizers, propagators, growers, shippers, wholesalers, retailers, educators, and the allied industry, which supports our efforts in agriculture.

The Hawaii Floriculture and Nursery Association (HFNA) **STRONGLY SUPPORTS House Bill 2140**

Ornamental ginger is a popular tropical flower that could be considered as a symbol of the beauty of Hawaii. For our Nurserymen and women to continue to grow and provide this product it is important we find solutions to the pathogens that threaten the ornamental ginger and avoid the spreading of these viruses to growers statewide. Currently there is no cure for infected plants and the best option would be to have virus free ginger plants available for our industry.

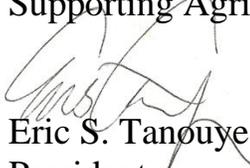
An important way to combat these threats is to have and share the knowledge with growers on how to contain this virus through best



management practices. We ask that you support our industry and agriculture by supporting these efforts for statewide research into pathogens, production and distribution of pathogen-free ornamental ginger plants and outreach to our ornamental producers.

If you have any questions at this time, I would be happy to discuss them and can be reached by phone at 808-959-3535 ext 2627, cell 960-1433 and email [eric@greenpointnursery.com](mailto:eric@greenpointnursery.com).

Supporting Agriculture and Hawaii,



Eric S. Tanouye  
President

Hawaii Floriculture and Nursery Association



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

February 5, 2024

Representative Cedric Asuega Gates, Chair  
Representative Kirstin Kahaloe, Vice Chair  
House Committee on Agriculture and Food Systems  
State Capitol, 415 S. Beretania St.  
Honolulu, Hawai'i 96813

Dear Chair Gates, Vice Chair Kahaloe, and Members of the Committee,

The East O'ahu County Farm Bureau, which represents approximately 420 farmers and supporters of agriculture from Waimanalo to Kahuku, **strongly supports HB 2140**, "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. HB 2140 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 committee approve the appropriation proposed by HB 2140, 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,

A handwritten signature in black ink that reads "Frederick M. Mencher". The signature is written in a cursive style with a large, stylized initial 'F'.

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



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

February 7, 2024

HEARING BEFORE THE  
HOUSE COMMITTEE ON AGRICULTURE & FOOD SYSTEMS

**TESTIMONY ON HB 2140**  
RELATING TO ORNAMENTAL GINGER

Conference Room 325 & Videoconference  
9:30 AM

Aloha Chair Gates, Vice-Chair Kahaloa, and Members of the Committee:

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

**The Hawai'i Farm Bureau supports HB 2140**, 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 Hawai'i 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.

**HB-2140**

Submitted on: 2/6/2024 6:43:03 AM

Testimony for AGR on 2/7/2024 9:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
John R. Gordines	Individual	Support	Written Testimony Only

Comments:

Ornamental ginger is a signature flower in Hawaii widely used by local florists and wedding planners as well as floral arrangements for hotels. Red gingers are also exported to the mainland.

Resources are necessary to address the viruses present and provide clean material that is virus free to support our ornamental farmers.

mahalo!

## **HB2140- RELATING TO ORNAMENTAL GINGER.**

Chair Gates, Vice Chair Kahaloa, and members of the House Committee on Agriculture and Food Systems. Thank you for this opportunity to provide personal testimony in **strong support of HB 2140** 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 such as Waihole and Waikane Valley.

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 HB 2140 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 our strong support for HB 2140.**

Jari Sugano, Personal testimony, UH CTAHR, O'ahu County Administrator

**LATE**

**HB-2140**

Submitted on: 2/6/2024 4:45:58 PM

Testimony for AGR on 2/7/2024 9:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
J Ashman	Individual	Support	Written Testimony Only

Comments:

I support this measure. Thank you.

**LATE**

**HB-2140**

Submitted on: 2/6/2024 5:07:21 PM

Testimony for AGR on 2/7/2024 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Nancy Jones	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Gates, Vice-Chair Kahaloe, and Honorable Committee Members:

I respectfully present this testimony to SUPPORT HB 2140, which would fund the Hawai`i floriculture industry’s research into ornamental ginger’s pests and diseases, prevent the spread of infection and ultimately, make it possible to produce and distribute disease-free ornamental ginger plants all in coordination with Hawai`i’s ginger producers. With two (2) incurable viruses identified that have caused a severe decline in Hawai`i’s ornamental ginger production, HB2140 is the most effective way to help save this industry so that we can all continue to enjoy fragrant floral displays of ginger in arrangements and flower lei.

For all of the above reasons and in the interest of preserving Hawai`i’s ginger production and virus-free plant propagation abilities, we urge your Committee to please pass HB2140 and allow it to move forward during this Session.

Mahalo for this opportunity to present this testimony supporting HB2140.

Nancy A. Jones

PO Box 1462, Wai`anae, HI 96792 / Email: nancyhydroalt@gmail.com

**LATE**

**HB-2140**

Submitted on: 2/6/2024 5:26:52 PM

Testimony for AGR on 2/7/2024 9:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Zeb Jones	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Gates, Vice-Chair Kahaloa, and Honorable Committee Members:

I respectfully present this testimony in SUPPORT of HB 2140, to fund the Hawai`i floriculture industry's research into ornamental ginger's pests and diseases, prevent the spread of infection and ultimately, make it possible to produce and distribute disease-free ornamental ginger plants while coordinating with Hawai`i's ginger producers. Since two (2) incurable viruses have already been identified that have caused a severe decline in Hawai`i's ornamental ginger production, HB2140 can effectively help save this industry so that we can all continue to enjoy fragrant ginger floral displays in arrangements and lei.

For these above reasons, since I am also a formal ornamental plant grower/seller (now vegetable grower/seller) and in order to preserve Hawai`i's ginger production and virus-free plant propagation abilities, we urge your Committee to please pass HB2140 and allow it to move forward during this Session. Mahalo for this opportunity to present this testimony supporting HB2140.

Zebuel "Zeb" C. Jones

PO Box 1462, Wai`anae, HI 96792 / Email: [zebbe3442@gmail.com](mailto:zebbe3442@gmail.com)

**LATE**

**HB-2140**

Submitted on: 2/6/2024 5:34:54 PM

Testimony for AGR on 2/7/2024 9:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Alberto Ricordi	Individual	Support	Written Testimony Only

Comments:

Chair Gates, Vice Chair Kahaloa, and members of the House Committee on Agriculture and Food Systems. Thank you for this opportunity to provide personal testimony in strong support of HB 2140 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 such as Waihole and Waikane Valley. Recent research confirmed that the virus affects production state-wide.

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 HB 2140 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 our strong support for HB 2140.

Alberto Ricordi, Personal testimony, UH CTAHR, Landscape and Ornamental Crops Assistant Extension Agent