

DAVID Y. IGE
Governor

JOSH GREEN
Lt. Governor



PHYLLIS SHIMABUKURO-GEISER
Chairperson, Board of Agriculture

MORRIS M. ATTA
Deputy to the Chairperson

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

**TESTIMONY OF PHYLLIS SHIMABUKURO-GEISER
CHAIRPERSON, BOARD OF AGRICULTURE**

**BEFORE THE SENATE COMMITTEES ON HIGHER EDUCATION
AND
AGRICULTURE AND THE ENVIRONMENT**

**MARCH 23, 2022
1:30 P.M.
CONFERENCE ROOM 224 & VIA VIDEOCONFERENCE**

**HOUSE BILL NO. 2305 HD1
RELATING TO THE UNIVERSITY OF HAWAII**

Chairpersons Kim and Gabbard, and Members of the Committees:

Thank you for the opportunity to testify on House Bill 2305, relating to the University of Hawaii. The bill appropriates funds from the general fund for fiscal year 2023-2024 to be expended by the University of Hawai'i College of Tropical Agriculture and Human Resources for statewide research and prevention of the spread of ornamental ginger pathogens. The Department supports the measure provided it does not impact the priorities of the Executive Supplemental Budget.

Invasive species are a primary threat to Hawai'i's agriculture, environment, and economy. Funding for research on infectious plant diseases, such as ornamental ginger pathogens, is critical to ensure that appropriate responses can be developed which mitigate the negative impacts on the State's agriculture, environment, and economy.

Thank you for the opportunity to testify on this measure.





UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Higher Education and
Senate Committee on Agriculture and Environment
Wednesday, March 23, 2022 at 1:30 p.m.

By
Nicholas Comerford, Dean
College of Tropical Agriculture and Human Resources
And
Michael Bruno, PhD
Provost
University of Hawai'i at Mānoa

HB 2305 HD1 – RELATING TO THE UNIVERSITY OF HAWAII

Chairs Kim and Gabbard, Vice Chairs Kidani and Nishihara, and members of the Senate Committee on Higher Education and Senate Committee on Agriculture and Environment:

Thank you for the opportunity to provide testimony in support of HB 2305 HD1 which provides funding to study the diseases affecting red ginger on Oahu and the neighbor islands.

Ornamental ginger is a valued plant that can be used as a shrub or as a cut flower. The College of Tropical Agriculture and Human Resources' scientists have been able to identify three different viruses and one fungal pathogen that are infecting ornamental ginger. In addition, the Hawai'i Department of Agriculture (HDOA) scientists have identified the presence of fourteen additional pathogens. The following has been accomplished:

- 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 categorization has been presented to stakeholders.
- The impact of co-infection by two dominant viruses is being investigated.
- Vectors of the viruses are being investigated. While not definitive, mealybugs and aphids are suspected. More investigation is required.
- It is still unclear which viruses, and how the presence of co-infections can explain the dieback. More investigation is required.
- An Extension publication was produced outlining the current information and potential mitigation strategies. More work is required.
- Outreach efforts with HDOA and industry groups continues. More is required.

Additional funding would promote the better understanding and mitigation of the disease and allow for:

- the development of virus-free plants to distribute to growers via tissue culture, which is a high priority;
- continued experimentation with the virus with respect to mitigation including vectors and major causal agents;
- continued survey of the extent and spread continue to be needed; and,
- continued outreach.

Thank you for the opportunity to submit testimony in support of HB 2305 HD1 provided that its passage is in addition to and does not replace or adversely impact priorities as indicated in our BOR Approved Budget.

DAVID Y. IGE
GOVERNOR



CRAIG K. HIRAI
DIRECTOR

GLORIA CHANG
DEPUTY DIRECTOR

EMPLOYEES' RETIREMENT SYSTEM
HAWAII EMPLOYER-UNION HEALTH BENEFITS TRUST FUND
OFFICE OF THE PUBLIC DEFENDER

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
P.O. BOX 150
HONOLULU, HAWAII 96810-0150

ADMINISTRATIVE AND RESEARCH OFFICE
BUDGET, PROGRAM PLANNING AND
MANAGEMENT DIVISION
FINANCIAL ADMINISTRATION DIVISION
OFFICE OF FEDERAL AWARDS MANAGEMENT (OFAM)

WRITTEN ONLY
TESTIMONY BY CRAIG K. HIRAI
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
TO THE SENATE COMMITTEES ON AGRICULTURE AND ENVIRONMENT AND
HIGHER EDUCATION
ON
HOUSE BILL NO. 2305, H.D. 1

March 23, 2022
1:30 p.m.
Room 224 and Videoconference

RELATING TO THE UNIVERSITY OF HAWAII

The Department of Budget and Finance (B&F) offers comments on this bill.

House Bill No. 2305, H.D. 1, appropriates an unspecified amount of general funds for FY 23 for the College of Tropical Agriculture and Human Resources to study the diseases affecting the production of red ginger on O'ahu and the neighbor islands and to develop mitigation strategies for any identified diseases.

B&F notes that, with respect to the general fund appropriation in this bill, the federal Coronavirus Response and Relief Supplemental Appropriations Act requires that states receiving Elementary and Secondary School Emergency Relief (ESSER) II funds and Governor's Emergency Education Relief II funds must maintain state support for:

- Elementary and secondary education in FY 22 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and

- Higher education in FY 22 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

Further, the federal American Rescue Plan (ARP) Act requires that states receiving ARP ESSER funds must maintain state support for:

- Elementary and secondary education in FY 22 and FY 23 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and
- Higher education in FY 22 and FY 23 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

The U.S. Department of Education has issued rules governing how these maintenance of effort (MOE) requirements are to be administered. B&F will be working with the money committees of the Legislature to ensure that the State of Hawai'i complies with these ESSER MOE requirements.

Thank you for your consideration of our comments.



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

March 23, 2022

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

TESTIMONY ON HB 2305, HD1
RELATING TO THE UNIVERSITY OF HAWAII

Conference Room 224 & Videoconference
1:30 PM

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

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 2305, HD1, which appropriates funds to the University of Hawai'i for the College of Tropical Agriculture and Human Resources to study diseases affecting the production of ornamental red ginger on Oahu and the neighbor islands.

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.



March 17, 2022

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

Senator Mike Gabbard, Chair
Senator Clarence K. Nishihara, Vice Chair
Senate Committee on Agriculture and Environment

Testimony in Support of HB 2305, H.D. 1, Relating to the University of Hawaii (UH), College of Tropical Agriculture and Human Resources (CTAHR) (Appropriates funds to UH for the CTAHR to study diseases affecting the production of ornamental red ginger on Oahu and the neighbor islands.)

Wednesday, March 23, 2022, 1:30 p.m.; 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 HB 2305, H.D. 1.**

HB 2305, H.D. 1. This bill proposes to make an appropriation for the CTAHR at the UH at Manoa for the study of diseases affecting the production of ornamental red ginger on Oahu and the neighbor islands and to develop mitigation strategies for any identified diseases.

LURF's Position. LURF understands that production of ornamental ginger has been declining on Oahu, and that further decline has recently been experienced in Windward Oahu and spreading to other areas due to a variety of unknown viruses and fungi. Research conducted by the CTAHR at UH 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.

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 in Windward Oahu, now threaten to invade all of the Hawaiian Islands and wreak further damage.

Despite efforts by the UH CTAHR and the Department of Agriculture to address this critical situation, more research and a multi-agency outreach approach is 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 2305, H.D. 1** and respectfully urges your favorable consideration.

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



HAWAII CROP IMPROVEMENT ASSOCIATION

In Support of HB2305 HD1
Relating to the University of Hawaii

Senate Committee on Agriculture and Environment
Senate Committee on Higher Education

Date: Wednesday, March 23, 2022
Time: 1:30pm
Place: Conference Room 224 & Videoconference

Chairs Gabbard and Kim, Vice Chairs Nishihara and Kidani, and members of the committees:

Thank you for allowing the Hawaii Crop Improvement Association the opportunity to provide testimony in **support** of HB2305 HD1, which appropriates funds to the University of Hawaii for the College of Tropical Agriculture and Human Resources to study diseases affecting the production of ornamental red ginger on Oahu and the neighbor islands.

HCIA supports this measure to protect the declining ornamental red ginger population. Virus-infected plants cannot be cured, yet they are being propagated for more plantings, leading to more virus-infected plants. The pathogen has spread most prevalently on Oahu and Hawaii Island, where neighboring farmers are concerned about further infections. CTAHR's research and prevention efforts can help mitigate the harmful spread of plant viruses that has affected the profitability and long-term sustainability of local growers and farmers.

Mahalo for this opportunity to testify in support of HB2305 HD1. If you have any questions, please contact me at your convenience.

Sincerely,

Pono Chong
Hawaii Crop Improvement Association

The Hawaii Crop Improvement Association is a Hawaii-based non-profit organization that promotes modern agriculture to help farmers and communities succeed. Through education, collaboration, and advocacy, we work to ensure a safe and sustainable food supply, support responsible farming practices, and build a healthy economy.



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

March 19, 2022

Senator Mike Gabbard, Chair and Senator Clarence K. Nishihara, Vice Chair
Senate Committee on Agriculture and the Environment
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 Nishihara 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 HB 2305 HD1**, "Relating to the University of Hawai'i," which would provide funding for CTAHR for research and prevention of the spread of ornamental ginger pathogens.

During the last several years, an emerging disease of red ginger has devastated fields of this valuable ornamental plant in Windward O'ahu. 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, are 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 O'ahu 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. Ornamental growers elsewhere on O'ahu and on the other Hawaiian islands are concerned that, like many other plant diseases and pests, the new disease will spread to their farms.

To follow up on their initial study, CTAHR researchers have proposed to develop strategies for mitigating the new disease and for producing virus-free plants so that growers can replant with clean stock. We respectfully request that your committee approve the appropriation proposed by HB 2305 HD1, so that CTAHR can help Hawai'i's farmers 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
for Grant Hamachi, President
East O'ahu County Farm Bureau



THE SENATE
THE THIRTY-FIRST LEGISLATURE
REGULAR SESSION OF 2022

COMMITTEE ON AGRICULTURE AND ENVIRONMENT

Senator Mike Gabbard, Chair
Senator Clarence K. Nishihara, Vice Chair

COMMITTEE ON HIGHER EDUCATION

Senator Donna Mercado Kim, Chair
Senator Michelle N. Kidani, Vice Chair

NOTICE OF HEARING

Wednesday, March 23, 2022 1:30 PM
Conference Room 224 & Videoconference

RE: HB2305 HD1 RELATING TO THE UNIVERSITY OF HAWAII

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 300 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 2305 HD1**

Ornamental ginger is a popular tropical flower that could be considered to be 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 gingers 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 by UH CTAHR to combat this disease, so that we may continue to bring the beauty of Hawaii to others through flowers and ornamentals.

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 22, cell 960-1433 and email eric@greenpointnursery.com.

Supporting Agriculture and Hawaii,



Eric S. Tanouye
President

Hawaii Floriculture and Nursery Association

HB-2305-HD-1

Submitted on: 3/19/2022 3:39:28 PM

Testimony for HRE on 3/23/2022 1:30:00 PM

Submitted By	Organization	Testifier Position	Testify
Susan Shaheen Mulkern	Testifying for Mulkern Landscaping & Nursery	Support	Written Testimony Only

Comments:

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

I support HB 2305, HD1, which appropriates funds to the University of Hawai'i for the College of Tropical Agriculture and Human Resources to study diseases affecting the production of ornamental red ginger on Oahu and the neighboring islands.

The disease recently discovered is a virus and has been found statewide but is 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.

Susan Mulkern

HB-2305-HD-1

Submitted on: 3/21/2022 5:34:23 PM

Testimony for HRE on 3/23/2022 1:30:00 PM

Submitted By	Organization	Testifier Position	Testify
John R. Gordines	Testifying for Hawaii Tropical Flowers and Foliage Association	Support	Written Testimony Only

Comments:

March 23, 2022

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

TESTIMONY ON HB 2305, HD1
RELATING TO THE UNIVERSITY OF HAWAII

Conference Room 224 & Videoconference
1:30 PM

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

I support HB 2305, HD1, which appropriates funds to the University of Hawai‘i for the College of Tropical Agriculture and Human Resources to study diseases affecting the production of ornamental red ginger on Oahu and the neighboring islands.

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.

Johnny Gordines

President

Hawai Tropical Flowers & Foliage Association



MAUI COUNTY FARM BUREAU

PO Box 148, Kula, HI 96790
mauicountyfarmbureau.org

March 23, 2022

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

TESTIMONY ON HB 2305, HD1

RELATING TO THE UNIVERSITY OF HAWAI'I
Conference Room 224 & Videoconference
1:30 PM

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

I am Warren Watanabe, Executive Director of the Maui County Farm Bureau. MCFB supports HB 2305, HD1, which appropriates funds to the University of Hawai'i for the College of Tropical Agriculture and Human Resources to study diseases affecting the production of ornamental red ginger on Oahu and the neighbor islands.

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 fung

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.

Continued research and prevention protocols are needed as these pathogens could spread further and impact the profitability and long-term sustainability of the local floriculture and landscape production industries.

Thank you for the opportunity to testify on this measure.

HB-2305-HD-1

Submitted on: 3/19/2022 7:13:44 AM

Testimony for HRE on 3/23/2022 1:30:00 PM

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

Comments:

Strongly support

HB-2305-HD-1

Submitted on: 3/19/2022 3:32:31 PM

Testimony for HRE on 3/23/2022 1:30:00 PM

Submitted By	Organization	Testifier Position	Testify
Kevin Mulkern	Individual	Support	Written Testimony Only

Comments:

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

I support HB 2305, HD1, which appropriates funds to the University of Hawai'i for the College of Tropical Agriculture and Human Resources to study diseases affecting the production of ornamental red ginger on Oahu and the neighboring islands.

The disease recently discovered is a virus and has been found statewide but is 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.

Kevin Mulkern

HB-2305-HD-1

Submitted on: 3/21/2022 11:58:38 AM

Testimony for HRE on 3/23/2022 1:30:00 PM

Submitted By	Organization	Testifier Position	Testify
Jari S.K. Sugano	Individual	Support	Written Testimony Only

Comments:

Support HB2305

LATE

HB-2305-HD-1

Submitted on: 3/22/2022 5:11:24 PM

Testimony for HRE on 3/23/2022 1:30:00 PM

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

Comments:

I am in strong support of this bill. Thank you.