



UNIVERSITY OF HAWAII SYSTEM

‘ŌNAEHANA KULANUI O HAWAII

Legislative Testimony

Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
Senate Committee on Higher Education and
Committee on Agriculture and Environment
January 30, 2025 and 3:00 PM

By
Parwinder Grewal, Dean
College of Tropical Agriculture and Human Resilience
And
Michael Bruno, Provost
University of Hawai'i at Mānoa

SB 1158 – RELATING TO CONTROLLED-ENVIRONMENT AGRICULTURE

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

Thank you for the opportunity to provide testimony in support of SB 1158 relating to controlled-environment agriculture. The bill authorizes the issuance of general obligation bonds and appropriates funds for the development of a controlled-environment agriculture (CEA) research and demonstration facility at the Magoon research and teaching site in Mānoa, 'Oahu.

A \$6 million investment is needed to build and start the 5,000-square-foot CEA Innovation Farm at CTAHR with commercial production, research and teaching capabilities. CEA offers a viable solution by enabling year-round food production with higher yields with less land, water, fertilizer, and pesticides, and greater resilience against natural disasters posed by climate change. CTAHR in collaboration with the UH College of Engineering and MetroGrow, will build the CEA Innovation Farm that will produce food for the Hawai'i Department of Education's Regional Kitchens and develop, test, and demonstrate innovations in adaptive infrastructure and technology, precision agriculture and data driven controls, germplasm development and pest management, and commercial demonstration and workforce development.

We respectfully offer the following amendments: SECTION 1., lines 7-8 and SECTION 2., lines 6-7 correct the name of the college to university of Hawaii at Manoa college of tropical agriculture and human [resources] resilience (CTAHR). The renaming of the college was approved in October 2024 to better align CTAHR's name to its land-grant mission of improving the human condition and human use of natural resources through research, education and Cooperative Extension.

We support SB 1158 with the amendment provided that its passage does not replace or adversely impact priorities as indicated in our BOR Approved Budget. Thank you for the opportunity to submit testimony.

JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor



SHARON HURD
Chairperson, Board of Agriculture

DEAN M. MATSUKAWA
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 SENATE COMMITTEES ON HIGHER EDUCATION AND
AGRICULTURE AND ENVIRONMENT

THURSDAY, JANUARY 30, 2025
3:00 PM
CONFERENCE ROOM 229

SENATE BILL NO. 1158
RELATING TO CONTROLLED-ENVIRONMENT AGRICULTURE.

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

Thank you for the opportunity to provide testimony on Senate Bill No. 1158 that authorizes the issuance of general obligation bonds and appropriates funds for the development of a controlled-environment agriculture research and demonstration facility at the Magoon research and teaching site in Manoa, Oahu. The Department of Agriculture (Department) offers comments and otherwise defers to the University of Hawaii.

The Department supports proof-of-concept for agricultural technology applications and the opportunity to determine under what circumstances the use of controlled-environment agriculture would pencil out for a farmer entrepreneur.

Thank you for the opportunity to present our testimony.





LATE

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

January 30, 2025

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

TESTIMONY ON SB 1158
RELATING TO CONTROLLED-ENVIRONMENT AGRICULTURE

Conference Room 229 & Videoconference
3:00 PM

Aloha Chairs Kim and Gabbard, Vice-Chairs Kidani and Richards, 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 SB 1158, which authorizes the issuance of general obligation bonds and appropriates funds for the development of a controlled-environment agriculture research and demonstration facility at the Magoon research and teaching site in Manoa, Oahu.

A demand exists to address the need for a comprehensive approach to controlled-environment agriculture (CEA) and building a state-of-the-art CEA research and demonstration facility. Controlled-environment agriculture (CEA) technologies—such as hydroponics, aquaponics, aeroponics, and vertical farming—offer efficient, sustainable, and climate-resilient solutions for food production in Hawaii. A dedicated research and demonstration facility will provide a hub for agricultural innovation, allowing scientists and farmers to test and refine new growing techniques, water conservation strategies, and energy-efficient production systems.

The demand for high-tech agricultural skills is growing, and this research facility will support workforce development in precision agriculture, automation, and alternative farming methods. It will also optimize indoor and greenhouse-based agriculture, helping farmers produce more food in less space while reducing vulnerability to weather, pests, and land availability constraints. The facility can encourage entrepreneurship and investment in local agribusinesses by demonstrating scalable and commercially viable CEA models.

The Magoon site is an established research and teaching hub at the University of Hawaii, making it an ideal location for integrating agricultural research, workforce training, and industry collaboration. It has a long history of supporting agricultural research, education, and extension programs at the University of Hawaii. Establishing a CEA research and demonstration center at Magoon will leverage its existing infrastructure, faculty expertise, and student engagement to expand practical agricultural education.

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

SB-1158

Submitted on: 1/29/2025 2:11:59 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

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

Comments:

Aloha Chair Kim, Chair Gabbard, and Members of the Committees:

The Maui County Farm Bureau supports SB1158. Controlled-Environment agriculture is the future as we face climate change and other resource challenges. Our producers need this assistance as they cannot gather real world data and do field trials on their own. Please support SB1158. Mahalo.

Warren K. Watanabe, Executive Director

Maui County Farm Bureau



January 27, 2025

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

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

Testimony in Support of SB 1158, Relating to Controlled Environment Agriculture (Authorizes the issuance of general obligation bonds and appropriates funds for the development of a controlled-environment agriculture [CEA] research and demonstration facility at the University of Hawaii [UH] College of Tropical Agriculture and Human Resources [CTAHR] Magoon research and teaching site.)

Thursday, January 30, 2025, 3:00 p.m.;
Conference Room 229 & 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 1158.**

SB 1158. The purpose of this bill is to authorize the issuance of general obligation bonds and appropriate funds to establish a CEA research and demonstration facility at the UH CTAHR Magoon Research and Teaching site.

to fulfill the objectives of the college, including successfully fulfilling its mission to pursue agricultural research; supporting the local agriculture industry through current challenges including invasive pests, diseases, and climate change; and connecting research to local communities through education, and farming opportunities.

LURF's Position. LURF understands that ongoing outreach and research performed by UH CTAHR for Hawaii's farmers, ranchers, and other agricultural stakeholders have heretofore been vital in assisting to develop and improve technologies for these industries which rely on the ongoing programs for success of their operations.

The performance of such significant work by UH CTAHR has been, and continues to be relied upon by Hawaii's farmers and ranchers who believe that the research and outreach efforts of CTAHR are critical to their industries, and have helped to develop and improve agricultural technologies essential to their success, however, a clear need and demand exists for the State to develop a comprehensive approach to CEA and to build a state of the art CEA research and demonstration facility.

Authorization of the issuance of general obligation bonds and appropriate funding is therefore needed to establish and construct a commercial-scale, indoor CEA production facility with research and teaching capabilities at the UH CTAHR Magoon Research and Teaching Site in Manoa. The primary objective of the facility and associated programs would be to serve as a platform for research, extension, education and demonstration activities at commercial scale to develop the next generation of agricultural researchers, practitioners, and industry leaders.

In view of the critical workforce shortage and challenges being faced by Hawaii's farmers and ranchers, more research, outreach, and support is necessary to assist them, and to avoid damage to the profitability and long-term sustainability of local agricultural production industries.

For the above reasons, LURF **supports SB 1158** and respectfully urges your favorable consideration.

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



Testimony of
MetroGrow Hawaii
Kerry Kakazu, Ph.D., President

To the
COMMITTEE ON HIGHER EDUCATION
Senator Donna Mercado Kim, Chair
Senator Michelle N. Kidani, Vice Chair

COMMITTEE ON AGRICULTURE AND ENVIRONMENT
Senator Mike Gabbard, Chair
Senator Herbert M. "Tim" Richards, III, Vice Chair

DATE: Thursday, January 30, 2025

TIME: 3:00 PM

PLACE: Conference Room 229 & Videoconference State Capitol 415 South Beretania Street

Chairs Kim and Gabbard and Members of the Committee:

Measure: S.B. No. 1158

Title: RELATING TO CONTROLLED-ENVIRONMENT AGRICULTURE.

Description: Authorizes the issuance of general obligation bonds and appropriates funds for the development of a controlled-environment agriculture research and demonstration facility at the Magoon research and teaching site in Manoa, Oahu.

Position: MetroGrow Hawaii is in strong support of this measure.

Testimony: I am very pleased to offer testimony in support of this effort by the University of Hawai'i and its College of Tropical Agriculture and Human Resilience (CTAHR) to establish a controlled environment agriculture (CEA) facility at its Manoa campus. In the face of limited natural resources and climate change, we must implement controlled environment agriculture that is protected from unpredictable weather, requires less land and water, uses little or no harmful chemicals and has a much lower risk of contamination to ensure an adequate food supply now and in the future.

MetroGrow Hawaii was established in 2014 as the first indoor, vertical hydroponic farm in the state and has been supplying premium produce to local restaurants and markets for over 10 years. Our experience has established that CEA is a technology that works very well to grow a wide variety of crops. We have also learned that there are several challenges (energy costs, high start up costs, access to land) that need to be overcome to scale the technology and significantly increase the supply of accessible, economical local produce.

350 Ward Ave. Suite 106-13
Honolulu, HI 96814
<http://metrogrowhawaii.com>

I have had the opportunity to meet with the administration and faculty of the college and we all share a passion to see CEA research, education and outreach increase at the University of Hawai'i. The mandate to increase local food production and increase our isolated state's food self-sufficiency and security will require new agricultural paradigms and I have no doubt that CEA will be a major part of the solution. Additionally, incorporation of new agricultural technologies into our farming community will provide new job opportunities and help diversify our economy.

I was very honored to be one of the keynote speakers at last year's annual meeting of the American Society of Horticultural Science (held here in Hawai'i) and presented about our own experiences with CEA and plans for expansion. I attended many of the sessions and was impressed (and a little surprised) with the number of presentations that focused on the science and application of CEA in the US. As one of the 106 land grant universities in the country and the only one in the state, I believe it is imperative that the University of Hawai'i become one of the leaders in exploring this rapidly growing field of agricultural research and education. I look forward to collaborating and contributing to the development of a successful CEA program here in Hawai'i and humbly ask for your support in realizing the vision of CTAHR for a new facility. Thank you very much for your consideration.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Kerry Kakazu". The signature is fluid and cursive, with the first name "Kerry" and last name "Kakazu" clearly distinguishable.

Kerry Kakazu, Ph.D.

President, MetroGrow Hawaii



**THE SENATE
KA 'AHA KENEKOA**

**THE THIRTY-THIRD LEGISLATURE
REGULAR SESSION OF 2025**

**COMMITTEE ON HIGHER EDUCATION
Senator Donna Mercado Kim, Chair
Senator Michelle N. Kidani, Vice Chair**

**COMMITTEE ON AGRICULTURE AND ENVIRONMENT
Senator Mike Gabbard, Chair
Senator Herbert M. "Tim" Richards, III, Vice Chair**

**Thursday, January 30, 2025 3:00 PM
Conference Room 229 & Videoconference
State Capitol
415 South Beretania Street**

**RE: SB 1158 – RELATING TO CONTROLLED-ENVIRONMENT
AGRICULTURE.**

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.

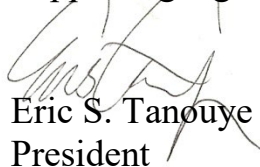
**The Hawaii Floriculture and Nursery Association (HFNA) SUPPORTS
Senate Bill 1158**

We support research by the University of Hawaii to help improve agriculture and prepare the agriculture industry for the trials of the future. A controlled-environment agriculture research and demonstration facility is a good investment for Hawaii and Agriculture.



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

SB-1158

Submitted on: 1/29/2025 12:14:58 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|-------------------|--|--------------------|---------------------------|
| Ronald Weidenbach | Testifying for Hawaii Aquaculture and Aquaponics Association | Support | Written Testimony Only |

Comments:

The Hawaii Aquaculture and Aquaponics Association (HAAA), established in 1975 and representing the Hawaii aquaculture and aquaponics industry statewide, strongly supports SB1158.

Controlled-environment agriculture (CEA) is a highly sustainable form of intensive agriculture that includes aquaponics greenhouse production and maximizes crop production per unit area while minimizing the use of water and petroleum-based chemicals, and is compatible with the adoption of new and innovative production technologies and food safety protocols.

The proposed greenhouse facility will enable CTAHR faculty and students to research and advance island-appropriate CEA technologies and provide hands-on training for future researchers and farmers, and enhance Hawaii's agriculture industry and food security of the future.

Thank you for the opportunity to have HAAA testify in strong supports of SB1158.

SB-1158

Submitted on: 1/29/2025 12:56:23 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------|--|--------------------|----------------------|
| earl yamamoto | Testifying for Hawaii Department of Agriculture | Comments | Remotely Via Zoom |

Comments:

Written testimony offering comments was submitted earlier

SB-1158

Submitted on: 1/28/2025 3:54:37 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|--------------------|--------------|--------------------|---------------------------|
| Theresa M Thompson | Individual | Support | Written Testimony Only |

Comments:

I support SB 1158 RELATING TO CONTROLLED-ENVIRONMENT AGRICULTURE.

Mahalo,

Theresa Thompson

SB-1158

Submitted on: 1/28/2025 5:57:30 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|------------------|--------------|--------------------|---------------------------|
| John R. Gordines | Individual | Support | Written Testimony Only |

Comments:

CTHR is a vital sector of the agricultural production for Hawaii. They provide the latest trends crop and livestock production. Magoon Research Center is well worth funding for our sustainable future.

Kauai Aloha

Johnny Gordines

SB-1158

Submitted on: 1/28/2025 7:36:18 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|--------------|--------------|--------------------|---------------------------|
| Jason Moniz | Individual | Support | Written Testimony Only |

Comments:

Testifying in support of this important agricultural Bill

SB-1158

Submitted on: 1/28/2025 10:20:31 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|----------------------|--------------|--------------------|---------------------------|
| Frederick M. Mencher | Individual | Support | Written Testimony Only |

Comments:

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

I support SB 1158, which would provide funding for a controlled-environment agriculture research and demonstration facility at the U.H. Magoon site in Manoa. Enclosed, controlled-environment agriculture helps to protect crops from weather damage, pests, and diseases, and provides greater security from agricultural theft. It avoids runoff of fertilizers. It can be highly productive per unit area: ideal for a small island with limited agricultural lands. A research and demonstration facility will help acquaint prospective farmers with the technologies and techniques to install and use controlled-environment greenhouses most effectively. I therefore encourage your committees to pass SB 1158.

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

Sincerely,

Frederick M. Mencher

SB-1158

Submitted on: 1/29/2025 12:10:10 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

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

Comments:

Strong support

SB-1158

Submitted on: 1/29/2025 2:54:22 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

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

Comments:

I support this measure.

Thank you.

LATE

SB-1158

Submitted on: 1/29/2025 3:36:27 PM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|----------------|--------------|--------------------|------------------------|
| Samir K Khanal | Individual | Support | Written Testimony Only |

Comments:

Hawaii is facing critical food security issue. Food security has always been the grand sustainability challenge for Hawai'i, since the state imports 85-95% of its food. Since, hawaii ag sector comprises of small-scale farms and limited by economies of scale and land availability, there is a need for highly production food systems. Innovative agricultural technologies, such as Controlled Environment Agriculture (CEA), can address Hawaii's needs by increasing productivity and resource efficiency. We lack any such facility to conduct reseach and develop innovative CEA technology. Thus, I strongly support this effort led by CTAHR.

LATE

SB-1158

Submitted on: 1/30/2025 9:11:59 AM

Testimony for HRE on 1/30/2025 3:00:00 PM

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

Comments:

Please support SB1158

Kevin Mulkern Waimanalo Farmer & Nurseryperson

LATE

SB-1158

Submitted on: 1/30/2025 9:50:45 AM

Testimony for HRE on 1/30/2025 3:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|----------------|--------------|--------------------|---------------------------|
| Gary R Ueunten | Individual | Support | Written Testimony Only |

Comments:

I am in favor of SB1158. As small farmers on Kauai, we are constantly in search of clean plant material for our farm. We are currently in search of certified clean Citrus scionwood for propagation. Our search led us to the Agrosecurity Laboratory which was part of the National Clean Plant Network and part of the University of Hawaii only to find that it is permanently closed. Support for Hawaii's farmers includes protecting us from diseases while making plant propagation material available. We currently battle invasive plants and pests that should not have entered Hawaii. SB1158 gives us hope that we are moving toward sustainable farming.