

**HB 507, HD1**

DAVID Y. IGE  
Governor

SHAN S. TSUTSUI  
Lt. Governor



State of Hawaii  
**DEPARTMENT OF AGRICULTURE**  
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Honolulu, Hawaii 96814-2512  
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SCOTT E. ENRIGHT  
Chairperson, Board of Agriculture

PHYLLIS SHIMABUKURO-GEISER  
Deputy to the Chairperson

**TESTIMONY OF SCOTT E. ENRIGHT  
CHAIRPERSON, BOARD OF AGRICULTURE**

**BEFORE THE SENATE COMMITTEES ON AGRICULTURE AND ENERGY AND  
ENVIRONMENT**

March 19, 2015  
3:00 P.M.  
CONFERENCE ROOM 414

**HOUSE BILL NO. 507 HD 1  
RELATING TO AGRICULTURE**

Chairpersons Gabbard and Ruderman and Members of the Committees:

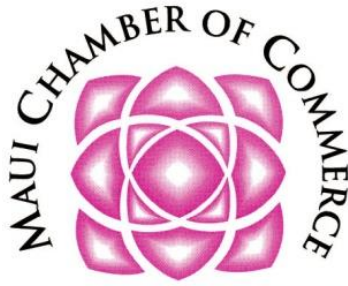
Thank you for the opportunity to present testimony on House Bill 507 HD 1. This bill appropriates funds to the Department to research and develop methods for the prevention and treatment of macadamia felted coccid. The Department supports this measure provided it does not adversely impact the priorities of the Administration's budget.

The Department would first like to thank the Legislature for its passage of Act 100, Session Laws of Hawaii 2014, that provided funding to the Department to work in conjunction with the University of Hawaii to do research on the prevention and treatment of macadamia felted coccid. The Department is working to contract with the University of Hawaii for this work. The macadamia nut industry is a vital part of the agricultural economy here in Hawaii. With an estimated farm value of over \$35 million, macadamia nuts are one of the top five agricultural commodities for the State of Hawaii.

The macadamia felted coccid is an insipid pest that can cause severe damage to macadamia nut trees and hurt our macadamia nut industry. It is vital to develop new methods to prevent the spread of this pest and limit the damage that it will have on the macadamia nut industry.

Thank you for the opportunity to present testimony.





OUR BUSINESS IS MAUI BUSINESS

HEARING BEFORE THE SENATE COMMITTEES ON AGRICULTURE  
AND ENERGY AND ENVIRONMENT

**TESTIMONY IN SUPPORT OF HB507 HD1**

Hawaii State Capitol,  
Conference Room 414  
March 19, 2015  
3:00 PM

Aloha Chair Ruderman, Chair Gabbard, Vice Chair Riviere, Vice Chair Green, and Members of the Committees,

The Maui Chamber of Commerce supports HB 507 HD1, which appropriates funds to the Hawaii Department of Agriculture, in cooperation with the University of Hawaii College of Tropical Agriculture and Human Resources, to research and develop methods for the prevention and treatment of macadamia felted coccid.

Here at the Maui Chamber of Commerce, we believe in creating a strong economic environment that supports job growth while also protecting our environment and preserving our quality of life. We support the "triple bottom-line" view of sustainability: economy, environment and social well-being.

Agriculture has always been and continues to be important to our State's economy (generating \$2.9 billion to the state's annual economy and directly and indirectly providing 42,000 jobs), our ability to sustain ourselves by growing local food, protecting our beautiful green and spaces; preserving our rural areas, and our quality of life. It is essential to support this industry.

Introduced species can have dramatic and devastating effects on the plants and animals that have evolved to live in such remote isolation. The macadamia felted coccid (MFC) threatens the entire macadamia nut industry in Hawaii by causing severe tree dieback and then death. Even mature trees can be killed by this small insect. If not controlled, we believe the MFC will spread and could devastate Hawaii's macadamia nut industry.

The Agricultural industry, and the macadamia nut industry, are vital to the State's economy. Macadamia nut production in 2013-2014 totaled 41 million pounds; the net farm value was \$35.7 million. Macadamia nut farms provide hundreds of jobs and enhance Hawaii's reputation for creating premium quality delicacies, which contributes to our visitor industry. We have seen what the coffee berry borer has done to the local coffee industry and we know that we can't afford to wait. Therefore, we must take the necessary steps to protect this crop and our agricultural industry overall.

Mahalo for the opportunity to testify. We hope you will support this important measure.

Sincerely,

Pamela Tumpap  
President



Chamber of Commerce HAWAII  
*The Voice of Business*

**Testimony to the Senate Committee on Agriculture and Committee on Energy  
and Environment  
Thursday, March 19, 2015 at 3:00 P.M.  
Conference Room 414, State Capitol**

**RE: HOUSE BILL 507 HD1 RELATING TO AGRICULTURE**

Chairs Ruderman and Gabbard, Vice Chairs Riviere and Green, and Members of the Committees:

The Chamber of Commerce Hawaii ("The Chamber") **supports** HB 507 HD1, which appropriates funds to the Department of Agriculture, in cooperation with UH CTAHR, to research and develop methods for the prevention and treatment of macadamia felted coccid.

The Chamber is Hawaii's leading statewide business advocacy organization, representing about 1,000 businesses. Approximately 80% of our members are small businesses with less than 20 employees. As the "Voice of Business" in Hawaii, the organization works on behalf of members and the entire business community to improve the state's economic climate and to foster positive action on issues of common concern.

Hawaii is the 3<sup>rd</sup> largest producer of macadamia nuts, after Australia and South Africa. In 2013-2014, a total of 41 million pounds was produced, with a net farm value of \$35.7 million. The macadamia farms in Hawaii provide hundreds of jobs that must be protected.

The macadamia felted coccid (MFC) is the cause of death for many macadamia nut trees and a threat to Hawaii's macadamia nut industry and the economy. It is crucial to support research to identify preventative measures and develop a solution to this problem before it becomes more severe.

Thank you for the opportunity to testify.

**From:** [mailinglist@capitol.hawaii.gov](mailto:mailinglist@capitol.hawaii.gov)  
**To:** [ENETestimony](#)  
**Cc:** [warrenmcfb@gmail.com](mailto:warrenmcfb@gmail.com)  
**Subject:** \*Submitted testimony for HB507 on Mar 19, 2015 15:00PM\*  
**Date:** Tuesday, March 17, 2015 8:46:53 PM

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**HB507**

Submitted on: 3/17/2015

Testimony for ENE/AGL on Mar 19, 2015 15:00PM in Conference Room 414

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Warren Watanabe	Maui County Farm Bureau	Support	No

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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## **In Support**

Aloha,

I support HB507, which would provide appropriations for the Hawaii Department of Agriculture and the University of Hawaii - College of Tropical Agriculture and Human Resources for the research of Macadamia Felted Coccid (MFC). In recent years, MFC has become a serious pest of Macadamia on the island of Hawaii and has caused the decline of otherwise healthy, productive trees throughout the Ka'u region. It has since spread up to Hamakua. If left unchecked, this pest could cause the decline of the entire Macadamia industry, which directly and indirectly provides jobs for innumerable Hawaii residents.

The macadamia industry isn't solely comprised of large companies; in reality many of the farms in Hawaii are small growers that depend on their Macadamia harvests and value added products for survival. Treatment options are already scarce to non-existent for large growers. When you consider the resources available to small growers, there are even fewer options. If realistic and economical treatment options aren't discovered, many of the small farmers will be powerless to save their trees and will likely lose their means of income.

Though some MFC research has been initiated, it is still in its nascency and will require many years and a lot of funding to complete. Many growers within the industry have already contributed as much funding as they could afford to initiate the research, but it has not been nearly enough.

I believe that HB507 will provide more of the necessary funding and assistance towards the goal of finding a viable solution to this devastating pest. Without action, the Hawaiian Macadamia industry faces a grim fate. During a time when some of the main issues facing Hawaii are food sustainability and supporting local farmers, it would be contradictory to those goals to essentially let Hawaii's already existing crops fall by the wayside. It is up to you to decide whether ensuring the survival of one of Hawaii's main agricultural industries is a cause worth supporting.

Thank you for the opportunity to submit testimony.

Mahalo,

Bonnie Schoneberg

Director of Research

Royal Hawaiian Orchards, L.P.



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 19, 2015

HEARING BEFORE THE  
SENATE COMMITTEE ON ENERGY & ENVIRONMENT  
SENATE COMMITTEE ON AGRICULTURE

TESTIMONY ON HB 507 HD 1  
RELATING TO AGRICULTURE

Room 414  
3:00 PM

Aloha Chair Gabbard, Chair Ruderman, Vice Chair Green, Vice Chair Riviere and Members of the Committees:

I am Christopher Manfredi, President of the Hawaii Farm Bureau Federation (HFB). Organized since 1948, the HFBF is comprised of 1,932 farm family members statewide, and serves as Hawaii's voice of agriculture to protect, advocate and advance the social, economic and educational interests of our diverse agricultural community.

**HFB strongly supports HB 507 HD 1**, which appropriates funds to the Hawaii Department of Agriculture, in cooperation with the University of Hawaii College of Tropical Agriculture and Human Resources, to research and develop methods for the prevention and treatment of macadamia felted coccid.

Hawai'i is the 3<sup>rd</sup> largest producer of macadamia nuts in the world (570 farms, operating on 17,000 acres), after Australia and South Africa. Production in 2013-2014 totaled 41 million pounds; **the net farm value was \$35.7 million.**

The macadamia felted coccid (MFC) threatens the entire macadamia nut industry in Hawaii by causing severe tree dieback and then death. Even mature trees can be killed by this small insect. If not controlled, we believe the MFC will spread and could devastate Hawaii's macadamia nut industry. We have seen what the coffee berry borer has done to the local coffee industry and we know that we can't afford to wait. We need to fund research to find economical solutions to this problem. This bill would supply the needed funding to help develop new ways to prevent and treat MFC infestations.

**Hundreds of jobs are tied to macadamia farming in Hawai'i**; it is a vital source of employment in Ka'u, which has among the highest unemployment rate in the state. Over 50% of Hawai'i's macadamia tree acres are located in the Ka'u district, the area hardest hit by the MFC.

**Please support HB 507.** Thank you.



March 16, 2015

Senator Russell E. Ruderman, Chair  
Senator Gil Riviere, Vice Chair  
Senate Committee on Agriculture

Senator Mike Gabbard, Chair  
Senator Josh Green, Vice Chair  
Senate Committee on Energy and Environment

**Testimony in Support of HB 507, HD1, Relating to Agriculture (Appropriates Funds to the Department of Agriculture, in Cooperation with UH CTAHR, to Research and Develop Methods for the Prevention and Treatment of Macadamia Felted Coccid).**

**Thursday, March 16, 2015, 3:00 p.m., in Conference Room 414**

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 a utility company. 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 507, HD1.**

**HB 507, HD1.** This bill proposes to appropriate funds out of the general revenues of the State of Hawaii as may be necessary for fiscal year 2015-2016 and the same sum or so much thereof as may be necessary for fiscal year 2016-2017 for the DOA, in cooperation with the University of Hawaii's College of Tropical Agriculture and Human Resources, to research and develop methods for the prevention and treatment of macadamia felted coccid. The purpose of this measure is to provide funds for research to develop new methods of preventing and treating macadamia felted coccid infestations.

**LURF's Position.** 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 many more harmful pests, such as the macadamia felted coccid, now threaten to invade all of the Hawaiian Islands and wreak further damage, including damage to Hawaii's macadamia nut crop, which is among the State's top five grossing agricultural commodities.



Despite initial efforts to control the spread of the macadamia felted coccid, infestations have now spread from south Kona to as far north as Honokaa on the Big Island, and new methods must be developed to control the incursions. Appropriated funds for research to develop new methods of preventing and treating macadamia felted coccid infestations are immediately necessary to mitigate the threats and impacts of uncontrolled spread and devastation of the State's macadamia nut industry.

For the above reasons, LURF **supports HB 507, HD1** and respectfully urges your favorable consideration.

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

**From:** [mailinglist@capitol.hawaii.gov](mailto:mailinglist@capitol.hawaii.gov)  
**To:** [ENETestimony](#)  
**Cc:** [john@olsontrust.com](mailto:john@olsontrust.com)  
**Subject:** Submitted testimony for HB507 on Mar 19, 2015 15:00PM  
**Date:** Wednesday, March 18, 2015 9:52:39 AM

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**HB507**

Submitted on: 3/18/2015

Testimony for ENE/AGL on Mar 19, 2015 15:00PM in Conference Room 414

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
John C. Cross	Hawaii Macadamia Nut Association	Support	No

Comments: Dear Chairs Ruderman and Gabbard, Vice Chairs Riviere and Green, and committee members. The Board of the Hawaii Macadamai Nut Assoc. STRONGLY supports this bill. I have submitted testimony in previous hearings and stand by those comments. We need the continued financial, administrative, and research support to fight this serious invasive pest that is causing great harm to our industry. Please give the HDOA and CTAHR the tools it needs to perform their work and help our State macadamia nut industry. John C. Cross, President, HMNA 2015

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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**SENATE COMMITTEE ON AGRICULTURE  
and  
SENATE COMMITTEE ON ENERGY AND ENVIRONMENT**

**March 19, 2015  
3:00 pm  
Room 415  
Relating to Agriculture  
HB507 HD-1**

Aloha Chair Ruderman, Chair Gabbard, Vice Chair Onishi, Vice Chair Green and Members of the Committee,

I am Randy Cabral and I have been farming in Hawaii for over 40 years. I am the Senior Vice President of Operations for Royal Hawaiian Orchards LP. We farm 6,000 acres of macadamia on Hawai'i Island. Of these, 3,000 are in the District of Ka'u. We employ 250 full time and seasonal workers. **We strongly support this bill.**

I am testifying today to request funding to prevent a dire situation from becoming even worse. Hawai'i is the 3<sup>rd</sup> largest producer of macadamia nuts in the world (570 farms, operating on 17,000 acres), after Australia and South Africa. Production in 2013-2014 crop year totaled 41 million pounds; the net farm value was \$35.7 million.

**The problem ---the Macadamia Felted Coccid**

Already, three of our largest growers, along with many smaller growers, have found a devastating pest, the macadamia felted coccid (MFC) in their orchards. These farms produce over 80% of the state's macadamia kernels.

The strangely named pest is a small Australian insect that covers and feeds on leaves, nuts, branches, and trunks of the macadamia tree. It even thrives in drought conditions, such as those in Ka'u, and can spread easily by wind.

The MFC threatens the entire macadamia nut industry in Hawaii by causing severe tree dieback and then death. Even mature trees can be killed by this small insect.

If not controlled, we believe the MFC will spread to other regions on Hawai'i Island and other islands, and devastate the macadamia nut industry. We have seen what the coffee berry borer has done to the local coffee industry and we know that we can't afford to wait. We need to fund research to find economical solutions to this problem. This bill would supply the needed funding to help develop new ways to prevent and treat MFC infestations.

### **What do we know and what's been done?**

Currently, very little is known about the life cycle or vulnerabilities of the pest. In its native Australia, macadamia nut growers use considerable pesticides to control the MFC, but in Hawaii, because we typically don't use insecticides, we don't have the equipment and resources to apply these types of pesticides to large, mature trees. Some pesticides seem to work but require adequate rainfall or adequate irrigation, neither of which is available.

The MFC has no significant natural predators in Hawaii as compared to Australia.

### **Why fund research to control the pest?**

Hundreds of jobs are tied to macadamia farming in Hawai'i; it is a vital source of employment in Ka'u, which has among the highest unemployment rate in the state. Over 50% of Hawai'i's macadamia tree acres are located in the Ka'u district, the area hardest hit by the MFC.

We know there are many other demands for funding and there is a limited budget. Other pests such as the coffee berry borer have gotten more media attention and funding. But we want you to know that without intervention, we have little chance of successfully continuing macadamia farming.

The HDOA and UH CTAHR can help us by studying the MFC and figuring out sustainable and economical solutions. Growers themselves have contributed \$95,000 to UH CTAHR to conduct MFC research, but more funding is needed.

Thank you for allowing me this opportunity to explain our predicament to you. I would be happy to answer any questions you might have. Please contact me if

you're interested in seeing in person the devastation this pest has already caused in Ka'u (see photo examples on following pages).

# MFC Damage in Ka'u Orchard







Tree infested with MFC



MFC on trunk of infested tree





Extensive MFC damage within an orchard block



**HOUSE COMMITTEE ON FINANCE  
MARCH 18, 2015  
HB 507 HD1**

Aloha Chairman Ruderman & Chairman Gabbard and Members of the Committees,

My name is Randy Mochizuki and I am the Crop Control Superintendant at the Royal Hawaiian Orchard in Pahala, HI. **I strongly support this bill to fund a way to protect macadamia nut farmers from a devastating invasive pest.**

The coccids were first found in our orchard in 2009 damaging a few trees. It has since spread throughout our 3,300 acres. They have destroyed or damaged a substantial number of trees and continues to do so. I don't believe the Hawaiian macadamia industry has ever seen such a devastating pest.

Due to the size of our trees; oil sprays which can control the pest in orchards with smaller trees, are ineffective because of inadequate coverage. We have experimented with several different sprayers and numerous chemicals. All have proven inadequate to control the coccids in our orchard.

Other orchards in Kau and along the Hamakua coast are also being damaged by the coccids and have been unable to find effective means of control.

It also has the potential of destroying other macadamia orchards in the state affecting 1,500 acres and 570 farms and a 35-38 million dollar industry.

Our company's Pahala division has spent well over \$100,000 on this pest since 2009. In 2014, RHO and another Kau company contracted the University of Hawaii to do research on management and control of the felted coccid. That work is ongoing; but much more is need to not only find an immediate control, but long term control measures.

Please help us by supporting this bill.

Thank you for your consideration of my comments.

March 18, 2015

HEARING BEFORE THE  
HOUSE COMMITTEE ON AGRICULTURE

TESTIMONY ON HB 507, HD 1  
RELATING TO PESTICIDES

ROOM 414

3:00 AM

Dear Chair Tsuji, Vice Chair Onishi, and Members of the Committee,

I strongly support HB 507 HD 1, which appropriates funds to the Department of Agriculture, in cooperation with UH CTAHR, to research and develop methods for the prevention and treatment of macadamia felted coccid.

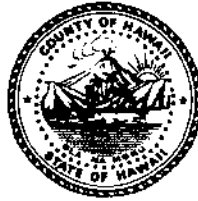
This bill will enable further research benefiting the Macadamia industries battle with the Macadamia Felted Coccid. The Macadamia industry on the Big Island has never seen a pest so virulent and devastating. If a successful pest management strategy isn't devised 18,000 acres of Macadamia orchards are at risk.

HB 507 will help find a solution to a problem that is threatening a \$35,000,000-38,000,000 industry.

Please support HB 507, HD 1.

Thank you,

DENNIS "FRESH" ONISHI  
Council Member  
District 3



PHONE: (808) 961-8396  
FAX: (808) 961-8912  
EMAIL: [donishi@co.hawaii.hi.us](mailto:donishi@co.hawaii.hi.us)

## HAWAI'I COUNTY COUNCIL

25 Aupuni Street, Hilo, Hawai'i 96720

March 17, 2015

The Honorable Mike Gabbard, Chair  
and Members of the Senate Committee on Energy and Environment

The Honorable Russell E. Ruderman, Chair  
and Members of the Senate Committee on Agriculture

Dear Chair Gabbard, Chair Ruderman and Joint Committee Members,

Thank you for the opportunity to provide testimony in support of House Bill No. 507, HD1, which Appropriates funds to the Department of Agriculture, in cooperation with University of Hawai'i's CTAHR, to research and develop methods for the prevention and treatment of macadamia felted coccid.

Much of Hawai'i's local macadamia farmers who have committed their lives to producing locally grown products, have been under serious threat by a species that can and will devastate the local macadamia industry.

At this moment, CTAHR and the Department of Agriculture are the appropriate agencies to further explore options for the mitigation and prevention of macadamia felted coccid infestations.

Thank you for your consideration and the opportunity to provide testimony in support of this measure.

Sincerely,

A handwritten signature in black ink, appearing to read "Dennis Onishi".

Dennis "Fresh" Onishi  
Hawai'i County Council Member

HB507 HD1, Relating to Agriculture:

Chair, Vice-Chair, and members, I thank you for this opportunity to provide my personal testimony in support of HB507, Relating to Agriculture. I strongly support this bill provided that its passage does not replace or adversely impact priorities as indicated in the University's Board of Regents Approved Executive Biennium Budget.

Macadamia felted coccid is the most serious pest of macadamia nuts cultivated in Hawaii. This insect has a dramatic impact on yields if left unchecked. When this pest was initially detected in 2005, immediate efforts were made to suppress the pest in the South Kona, to where it was restricted at that time. The environment at the South Kona growing areas is significantly different from many other areas where macadamia nuts are grown, and effective pest control measures could relatively easily be implemented. Effective suppression protocols were developed and implemented with very good results. In some areas to which this pest spread to subsequently, we were successful in eradicating early infestations in very young trees.

While biological control options and insecticide treatments are effective under certain circumstances, there are many situations where the impacts of both are reduced. Research is required to address improvement of biological and chemical control of this pest under all growing conditions; the exact origin of the pest (as the potential source of new biological control agents); interactions with macadamia felted coccids with pathogens of macadamia nut trees; and natural resistance to macadamia felted coccid in macadamia varieties. This pest is spreading extensively in macadamia growing areas of Hawaii, and immediate action is essential. Macadamia felted coccid has been recorded from almost all macadamia nut-growing areas on Hawaii island now, and if left unchecked will result in severe economic impacts on growers. Potentially, the entire 15,000 acres of macadamia nut grown in Hawaii could be impacted. Economic losses are incurred through direct damage to the trees, reducing yields; and through management costs. Yield loss can be 100% on severely infested trees. Pesticide applications are costly and often logistically complex in many of the areas where macadamia nuts are produced, and reducing reliance on pesticides by developing effective integrated pest management procedures is a priority. Pesticide application costs exceed \$300 per acre, and severe infestations of this pest can require multiple applications to exert effective pest suppression.

This requires developing optimized integrated pest management protocols that include the use of biological control agents and other pest suppression techniques, such as insecticides. While biological control may be highly effective in some situations, it may be variable in others, and alternative management options may be required. Ensuring that the management alternatives are applied in a mutually compatible manner is important, and requires research attention. Dissemination of information on management procedures to growers is equally important.

My name is Mark G Wright. I am a professor of entomology and an entomology extension specialist at UH Manoa. I have conducted extensive research on the management of macadamia felted coccid. However, today, I am providing personal testimony.

March 18, 2015.