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 SENATE COMMITTEES ON AGRICULTURE AND ENVIRONMENT AND HIGHER EDUCATION

APRIL 1, 2024
1:30 PM
CONFERENCE ROOM 224 & VIDEOCONFERENCE

SENATE CONCURRENT RESOLUTION 153
REQUESTING THE UNIVERSITY OF HAWAII TO CONDUCT A STUDY EVALUATING THE FEASIBILITY OF USING MYCOPESTICIDES AS A METHOD TO CONTROL WASMANNIA AUROPUNCTATA

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

Thank you for the opportunity to testify on Senate Concurrent Resolution 153. The resolution requests the University of Hawaii to conduct a study evaluating the feasibility of using mycopesticides as a method to control *Wasmannia auropunctata*. The Department respectfully provides comments on the resolution.

All mycopesticides are regulated by the Hawaii Department of Agriculture's (Department) Pesticides Branch through the delegated authority provided by the United States Environmental Protection Agency. The Pesticides Branch handles the regulatory processes related to mycopesticides including but not limited to experimental use permits, special local needs registrations, technical review, licensing, and registration.

Direct communication with the Pesticides Branch is imperative to ensure proper environmental, toxicological, and human health controls are adhered to.

The importation of known cultures of microorganisms, including fungi in a mycopesticide, is also regulated by the Department's Plant Quarantine Branch (PQB). Depending on the specific fungi that are proposed for importation, an import permit or microbial product registration issued by the PQB will be required prior to the importation of any mycopesticide.

The Department's Plant Pest Control Branch (PPC) may also provide technical review and assistance to the effort of proper mycopesticide control and selection. The PPC specializes in the development of control methods for plant pests within the State and notes that biological control of *Wasmannia auropunctata* specifically utilizing fungi has been explored by the United States Department of Agriculture to minimal effect.

Thank you for the opportunity to testify on this measure.

UNIVERSITY OF HAWAIʻI SYSTEM
ʻŌNAEHANA KULANUI O HAWAIʻI

Legislative Testimony
Hōʻike Manaʻo I Mua O Ka ʻAhaʻōlelo

Testimony Presented Before the
Senate Committee on Higher Education
Senate Committee on Agriculture and Environment
Monday, April 1, 2024 at 1:30 p.m.
By
Alison Shewood, Acting Dean
College of Natural Sciences
And
Michael Bruno, Provost
University of Hawaiʻi at Mānoa

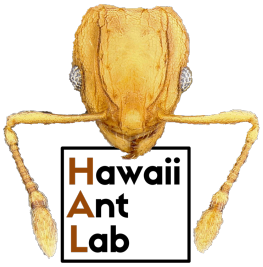
SCR 153 – REQUESTING THE UNIVERSITY OF HAWAII TO CONDUCT A STUDY EVALUATING THE FEASIBILITY OF USING MYCOPESTICIDES AS A METHOD TO CONTROL WASMANNIA AUROPUNCTATA

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

Thank you for the opportunity to testify and offer these comments on Senate Concurrent Resolution 153, requesting that the University of Hawaiʻi conduct a study evaluating the feasibility of using mycopesticides as a method to control *Wasmannia auropunctata*.

The University of Hawaiʻi, as well as the Hawaiʻi State Department of Agriculture, works closely with Hawaiʻi Ant Lab, which leads the State's efforts to provide solutions for the many impacts caused by *Wasmannia auropunctata* (little fire ant). The University reached out to the Hawaiʻi Ant Lab for their comments on SCR 153; they offer the attached response, for your reference.

The University of Hawaiʻi will assist the Hawaiʻi Ant Lab to coordinate further discussions with the authors of SCH 153 and HCR 168 in addressing this matter. As such, the University of Hawaiʻi requests that this matter be deferred.



www.littlefireants.com

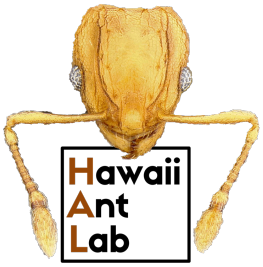
With regards to SCR 153 relating to research on mycopesticides for control of the little fire ant (*Wasmannia auropunctata).* While the Hawaii Ant Lab does support all research to further knowledge gaps and expand options for the control of little fire ants in Hawaii, we suggest SCR 153 and companion bill HCR 168 be revised to more clearly specify what work, exactly, is expected to be performed under this resolution.

Mycoinsecticides (entomopathogenic fungi to control insects) are fungal pathogens that infect and kill various insect taxa and in essence, they are biocontrol agents. As the resolution indicates, knowledge of mycoinsecticides stretches back to the late 1800's. Public awareness of entomopathogenic fungi has grown considerably over the past decade. However, the public awareness comes with a lot of misconceptions surrounding efficacy feasibility and practicality of using entomopathogenic fungi to control certain insect pests, especially ants. Several factors have limited their use in commercial insecticide products. Pathogenic fungi [insects] are typically host specific to a single or select few insect species, require special culture or fermentation processes, and often require microencapsulation for utilization as a pesticide in the field. *Beauveria bassiana* and *Metarhizium anisopilae* are two species of broad-spectrum entomopathogenic fungi that have been have been successfully isolated and manufactured into commercially available insecticide products and have been documented affecting some ant species. Although considered "broad-spectrum" and affecting a wide variety of insects, pathogenicity toward a specific target is dependent on isolation of specific fungal strains because different strains are known to affect specific insect taxa.

According to Jiang and Wang 2023, where the background section of this resolution was sourced from, there are currently 25 mycoinsecticides registered for use globally, 10 of which are registered in the USA. Of all mycoinsecticides listed, only 2 are listed as affecting ants (*Beauveria bassiana* strain 447 and strain ATCC 74040), neither of which are registered for use in Hawaii.

SCR 153 stipulates:

> "*… that the University of Hawaii is requested to conduct a study evaluating the feasibility of using mycopesticides as a method to control Wasmannia auropunctata; and*
>
> *"BE IT FURTHER RESOLVED that this study is requested to determine which species of mycopesticides, if any, could be used as a method to control Wasmannia auropunctata and, if a species*



www.littlefireants.com

is found, to determine what potential:
(1) Advantages, if any, this mycopesticide could have compared to current methods of control, including but not limited to factors related to cost, human health, and environmental health; and

"(2) Negative impacts, if any, this mycopesticide could have if released into Hawaii's ecosystem; and

"BE IT FURTHER RESOLVED that the University of Hawaii is requested to submit a report of its findings and recommendations, including any proposed legislation, to the Legislature no later than twenty days prior to the convening of the Regular Session of 2025…"

The timeframe indicated in this resolution is short and might only provide enough time to compile a literature review on the use of mycopesticides on ants in general. It is unlikely to be sufficient for identifying candidate species for further investigation and compile risk assessments on potential impacts to native arthropods, especially Hawai'i's threatened and endangered species of damselflies, picture wing *Drosophila,* Leipidoptera, and *Hylaeus* yellow faced bees. A more realistic final reporting timeframe would be prior to the 2026 legislative session rather than prior to the 2025 legislative session.

It is my understanding, based on the wording of the resolution, that there is no expectation of fungal isolation, propagation, or efficacy testing of mycopesticides. Should fugal species be identified as candidates for further testing during the investigatory study mandated by this resolution, the final report should also include a detailed assessment of available biocontainment facilities in the state and whether they meet the minimum biosafety standards for testing fungal biocontrol agents.

References:
Jiang, Y., Wang, J. 2023. The registration situations and use of mycopesticides in the world. Journal of Fungi 9(9): 940. Doi:10.3390/jof9090940
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10532538/

SCR-153
Submitted on: 3/31/2024 11:50:51 AM
Testimony for HRE on 4/1/2024 1:30:00 PM

Submitted By	Organization	Testifier Position	Testify
Michelle Montgomery	Testifying for Hawaii Ant Lab	Comments	Remotely Via Zoom

Comments:

My written comments arer being submitted along with the University of Hawai'i's testimony. I will be available via Zoom for any additional questions

Michelle Montgomery

Manager

Hawaii Ant Lab

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

April 1, 2024

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

TESTIMONY ON SCR 153
REQUESTING THE UNIVERSITY OF HAWAII TO CONDUCT A STUDY EVALUATING THE FEASIBILITY OF USING MYCOPESTICIDES AS A METHOD TO CONTROL WASMANNIA AUROPUNCTATA

Conference Room 224 & Videoconference
1:00 PM

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

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

The Hawaiʻi Farm Bureau supports SCR 153, which requests the University of Hawaiʻi to conduct a study evaluating the feasibility of using mycopesticides as a method to control wasmannia auropunctata.

Invasive species have become one of the most devastating problems impacting Hawaiʻi. Many invasive species are damaging Hawaiʻi's environment and economy. Agriculture has a vested interest in this matter. Agriculture suffers when invasive species are introduced. Every year, numerous new pests are introduced into the State, such as the coqui frog, coffee berry borer, macadamia felted coccid, little fire ant, coconut rhinoceros beetle, small hive beetle, and varroa mite, to name a few. Control measures take time to develop, leaving farmers and ranchers at risk. This is not consistent with the State's goal of increasing self-sufficiency and sustainability.

HFB recognizes the harm that the little fire ant (LFA) has caused to farms and businesses, as well as the quality of life of those affected by the pest. Mycopesticides can be part of an Integrated Pest Management (IPM) program as a method to control LFA. We must ensure that a thorough study is conducted to prevent negative impacts and unintended consequences that mycopesticides could have on Hawaiʻi's agricultural sector and Hawaiʻi ecosystem. Thank you for the opportunity to testify on this important subject.

SCR-153
Submitted on: 3/28/2024 3:46:36 PM
Testimony for HRE on 4/1/2024 1:30:00 PM

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

Comments:

I have read some of Paul Stamet's studies on the use of mycopesticides to kill ants, termites, etc. Looks incredibly promising, and the LFA infestations here on Hawai'i Island continue to grow, as many folks don't treat and have basically given up. We need to give hope to our communities, especially with this non toxic solution. Please fund this project for as long as it takes, don't give up after a couple of years, and when you find success let's go after the coqui frog next and get out quiet nights back. Mahalo!

SCR-153
Submitted on: 3/29/2024 6:48:22 AM
Testimony for HRE on 4/1/2024 1:30:00 PM

Submitted By	Organization	Testifier Position	Testify
Ramona Hussey	Individual	Support	Written Testimony Only

Comments:

I write in support of SCR153 to request a study of a non-toxic method to control Little Fire Ants. If this were to be proven an effective treatment for these terrible pests, pet owners could breath a sigh of relief. I've seen the damage and pain these tiny ants can do, especially to animals on the Big Island. We MUST find non-toxic methods of control before the same happens throughout the islands.

I urge your support of this study.

SCR-153
Submitted on: 3/29/2024 9:57:38 AM
Testimony for HRE on 4/1/2024 1:30:00 PM

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

Comments:

I support this resolution given the disaster that is slowly unraveling as these ants spread across the islands.

Respectfully,

Kevin Faccenda

SCR-153
Submitted on: 3/29/2024 12:18:51 PM
Testimony for HRE on 4/1/2024 1:30:00 PM

Submitted By	Organization	Testifier Position	Testify
Jacqueline S. Ambrose	Individual	Support	Written Testimony Only

Comments:

Aloha,

Yes to:- REQUESTING THE UNIVERSITY OF HAWAII TO CONDUCT A STUDY EVALUATING THE FEASIBILITY OF USING MYCOPESTICIDES AS A METHOD TO CONTROL WASMANNIA AUROPUNCTATA.