SB 2516

DAVID Y. IGE GOVERNOR OF HAWAII





SUZANNE D. CASE CHAIRPERSON BOARD OF LAND AND NATURAL RESOURCES COMMISSION ON WATER RESOURCE MANAGEMENT

> KEKOA KALUHIWA FIRST DEPUTY

JEFFREY T. PEARSON, P.E. DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES BOATING AND OCEAN RECREATION BUREAU OF CONVEYANCES COMMISSION ON WATER RESOURCE MANAGEMENT CONSERVATION AND RESOURCES ENFORCEMENT ENGINEERNNO FORESTRY AND WILDLIFE HISTORIC PRESERVATION KAHOOLAWE ISLAND RESERVE COMMISSION LAND STATE PARKS

STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621 HONOLULU, HAWAII 96809

Testimony of SUZANNE D. CASE Chairperson

Before the Senate Committees on WATER, LAND, AND AGRICULTURE and COMMERCE, CONSUMER PROTECTION, AND HEALTH

Friday, February 5, 2016 2:45 PM State Capitol, Conference Room 224

In consideration of SENATE BILL 2516 RELATING TO RAT LUNGWORM DISEASE

Senate Bill 2516 proposes to appropriate funds to support research, control, and outreach activities relating to rat lungworm disease. The Department of Land and Natural Resources (Department) supports this measure provided that its passage does not replace or adversely impact priorities indicated in the Executive Supplemental Budget request or impact any existing Department appropriated funding.

The Department recognizes the threat of rat lungworm disease and the lack of information on statewide distribution of the parasite *Angiostrongylus cantonensis* and its hosts. The Department also notes that the Hawaii Invasive Species Council (HISC), which is administered by the Department, received proposals for extensive research and education regarding this disease in Fiscal Year 16 but was unable to identify adequate resources to support these efforts. The Department supports this measure, provided that the appropriations described therein does not impact appropriations to the HISC or other priorities indicated in the Executive Supplemental Budget request or any existing Department appropriated funding.

The Department appreciates the opportunity to provide these comments.

DAVID Y. IGE Governor

SHAN S. TSUTSUI Lt. Governor



SCOTT E. ENRIGHT Chairperson, Board of Agriculture

PHYLLIS SHIMABUKURO-GEISER 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 SCOTT E. ENRIGHT CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE SENATE COMMITTEES ON WATER, LAND AND AGRICULTURE AND COMMERCE, CONSUMER PROTECTION AND HEALTH

February 5, 2016 2:45 P.M. CONFERENCE ROOM 224

SENATE BILL NO. 2516 RELATING TO RAT LUNGWORM DISEASE

Chairpersons Gabbard and Baker and Members of the Committees:

Thank you for the opportunity to testify on Senate Bill 2516. This bill appropriates general funds to the University of Hawaii, Department of Health, and the Department of Land and Natural Resources for programs and studies related to the prevention of rat lungworm disease. The department supports the intent of this measure but defers to DOH and DLNR who are named in this bill.

The department recognizes that rat lungworm disease is a serious disease in Hawaii and is associated with land mollusks such as snails and slugs. These species are also serious pests in agriculture and are known to not only devour our crops but also spread rat lungworm disease to people through accidental ingestion of the pest and/or its slime. This measure will provide funding to develop control strategies and solutions against these agricultural pests to produce healthier and safer food.

Thank you for the opportunity to present testimony.



BIISC 23 E. Kawili St. Hilo, HI 96720 (808) 933-3340 biisc@hawaii.edu www.biisc.org



February 5, 16 RE: SB2516 Hearing Friday, 2/5, 2:45pm Attn: Jill N. Tokuda Chairman of the Senate Ways and Means Committee

Aloha Sen. Tokuda and members of the Ways & Mean Committee,

I am writing on behalf of the Big Island Invasive Species Committee to express the Committee's support for SB2516, allocating resources for research into angiostrongylosis (rat lungworm disease).

The definition of an invasive species is an introduced organism that harms the environment, economy, or human health. The rat lungworm parasite is a serious threat to both our health and our economy. Primarily carried through the activity of two other invasive species, rats and slugs, the parasite has caused debilitating illness, pain, and even death for some of our community members, making it a priority for public health.

We are very concerned by the potential from transmission of the parasite in catchment water. Not only are many of our island's residents on catchment, with no alternative water source, many of our farmers depend on catchment to irrigate their crops. As the semi-slug continues to expand its range on the Big Island, more of our agricultural regions are at risk from invasion, threatening the safety and viability of Big Island agriculture.

We have seen the work being done at College of Pharmacy to investigate rat lungworm and are very impressed with their efforts. BIISC has committed to working with the Rat Lungworm Working Group on outreach and education efforts in any way that we can to promote a message of safety and health. We depend on this Working Group to provide the information, education and materials we need to promote a message of safety and health in our community, and so we ask that the necessary funding be put in place to ensure that this effort is maximized.

Mahalo for your consideration,

Franny Kinslow Brewer Communications Director



UNIVERSITY OF HAWAI'I SYSTEM

Legislative Testimony

Testimony Presented Before the Senate Committee on Water, Land, and Agriculture and the Senate Committee on Commerce, Consumer Protection, and Health Friday, February 5, 2016 at 2:45pm By Susan I. Jarvi, Professor and Chair of Pharmaceutical Science UH Hilo – Daniel K. Inouye College of Pharmacy

SB 2516 - RELATING TO RAT LUNGWORM DISEASE

Chairs Gabbard and Baker, Vice Chairs Nishihara and Kidani, and Members of the Committees:

My name is Dr. Susan Jarvi, and I am testifying in support of SB 2516, provided that its passage does not replace or adversely impact priorities as indicated in our BOR approved supplemental budget.

The need for funding for research, education and vector control in Hawai'i for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that upon infection, resides in your brain and central nervous system. Because of this, the damage this parasite can cause can be devastating. In Hawai'i, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

Rat lungworm reproduces in the rat, and larvae are excreted in rat feces. Slugs or snails are the intermediate hosts and they acquire larvae by eating rat feces. In the slug or snail, larvae develop to a stage which is infective to rats, humans and many other species. The normal life cycle is complete when rats eat infected slugs or snails ingesting third stage larvae. Humans can get infected by ingesting food or water contaminated with rat lungworm larvae. Although most slugs and snails can serve as hosts, the Asian semi-slug is a particularly efficient intermediate host and was introduced to O'ahu in 1996 and to east Hawai'i Island in 2004, but it has now spread across the islands.

Rat lungworm disease has been reported in over 30 countries. In the past 15-years, cases of rat lungworm disease have been increasing in number in Hawai'i, particularly on Hawai'i Island and Maui. Each year an increase in serious cases is noted, some resulting in permanent disability, coma, and even death and suicide. A single severe case might require months of hospitalization and cost in excess of \$1,000,000. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because many healthcare workers don't know enough about rat lungworm disease. Increased education of the medical community, and finding better ways to diagnose and treat this disease are imperative.

Research and education for rat lungworm disease is crucial to Hawai'i's efforts to become food secure, and to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food production including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection might also occur from ingesting contaminated water. A great number of people on Hawai'i Island rely on rainwater catchment for their household water supply, particularly in the Puna, Ka'u, South Kona, and Hamakua Districts. It is critical for Hawai'i Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks and can contaminate water with the parasites.

The Hawai'i Island Rat Lungworm Working Group is housed in the Daniel K Inouye College of Pharmacy and was formed in 2011. The Group has made good progress in rat lungworm research and education with the minimal funding they have secured, and is poised to lead the studies outlined in this bill with assistance from the Dept. of Health and the Dept. of Land and Natural Resources.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Inadequately addressing this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawai'i's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program be developed for the control of the vectors that carry this horrible disease.

Thank you for the opportunity to testify.



14-5322 Kaimu-Kapoho Road Pahoa, HI 96778 Phone (808)965-2193 Fax: (808)965-9618 Website: www.kuaokala.org

To: Brian T. Taniguchi Chairman of the Senate Higher Education and the Arts Committee February 2, 2016

Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: SB2516

Aloha,

My name is Pilimai Traub and I am the principal at Kua O Ka Lā PCS. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 due to health concerns associated with rat lungworm disease in the Puna community and around Hawaii island. Kay Howe, a UH Hilo graduate student, has been volunteering at Kua O Ka Lā this school year to educate our youth about rat lungworm disease to prevent this disease from impacting our families. Last school year we learned that a former student was diagnosed with rat lungworm disease. This disease can be easily prevented by informing our communities and through educational programs in our schools. Kay Howe has been instrumental in educating our youth around the island by working (volunteering) directly in our schools.

In conclusion, I am supporting SB 2516 because this is a serious health concern in our community that needs to be addressed for the safety of all our residents and visitors. The agricultural industry on Hawai'i island needs to address the health and safety of the products being grown and sold locally.

Sincerely, 11 mai

Pilimai Traub Principal Kua O Ka Lā PCS (808) 965-2193

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee sengabbard@capitol.hawaii.gov

<u>Regarding</u> SB2516

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha,

My name is Rebekah Uccellini Kuby and I am testifying as an individual, though I worked from 2010-2015 with schools across Maui, Molokai and Lanai as the Director of Grow the Change Program and educator with the Maui School Garden Network.

My entire life changed forever in January 2015 when I contracted Rat-Lung-Worm from eating a salad (that had a slug in it). I have worked all around the world in third world countries, doing disaster-relief work, and Poverty-alleviation work, and never in my wildest imaginings did I think that it would be a simple salad that would take me out. After 23 days of high fevers and more than 12 trips to the hospital over the course of 3 months, and dozens of misdiagnoses, I finally had to leave the islands to save my life. Part of this is because there is not enough awareness about Rat-lung worm in the State of Hawaii (even among doctors). I was diagnosed with Eosiniphilic meningitis on Maui, before I left to go to a research hospital in Los Angeles and then eventually to Oregon (OSHU) where I have been being treated for the past year. This disease has cost me everything: my job, my home, my lifes savings, my ability to walk (I have been in a wheelchair since March 2015), I am in constant pain, I have seizures, am unable to work or care for myself independently. My doctor in Oregon has appropriately nick-named this disease "Torture-disease", as that is the truest description of this horrific illness.

I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is absolutely essential. Even in my years as a garden educator, I had only once heard about the disease when I was over on the Big Island for a School Garden Symposium. Can you imagine, simply eating a salad or some produce and then ending up in partial paralysis with a parasitic worm crawling through your brain and central nervous system? Can you imagine this happening to your child, your mother, your brother? It is a literal nightmare and the most excruciatingly painful experiences of my life and I don't wish it upon anyone.

Education to the medical community, local farmers, schools and Farm-to-school programs is absolutely imperative. This education could quite literally could save peoples lives. Please

support this bill so that the awareness and education can reach the places it is needed so that no one else has to go through this horrible fate.

I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely, Rebekah Uccellini Kuby Grow the Change Program 808-344-7187 PO Box 962 Hana, Hawaii 96822 <u>Regarding</u> SB2516

<u>Date/Time of hearing:</u> Feb. 5, 2016 @ 2:45 pm

Aloha,

My name is Jeremy Cann and I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential.

My wife and I are survivors, this disease has taken our ability to work and live a natural life. We are still in severe nerve pain as in our brains there are holes and tunnels formed by the rat lungworm infection.

We almost died and we were turned away from HMC the first time we sought help there. There is not enough awareness in the Hawaii medical community, schools, food services or DOH, when this disease have been known but not respected like Dengue fever.

Rat lungworm disease is preventable! Please help make this so in Hawaii and all our islands.

The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative.

Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely, Jeremy Cann

170 Akea St, Hilo Hi 96720 808-386-6219

"Organic Eater with Conditions..."

A "Granola", I am not. However, I do have a great appreciation for fresh organic produce, being higher in nutrients and lower in toxins. We eat a lot of organic fruits and drink fresh squeezed vegetable juice daily. What we don't grow, we buy, and always wash!

Raining or not, Sunday morning at Maku'u Farmers' Market is fun. Hawaiian music fills the air. Amid the rainbow of venders, are colorful pareos (sarongs), handmade jewelry, buckets of fresh cut tropical flowers, and leis. All around waft aromas of tasty ethnic foods; Samoan, Thai, French, Mexican, Chinese, Filipino, Hawaiian, Japanese, and more!

If you are one who prefers to cook fresh with a variety of extraordinary fruits and vegetables, you've come to the right place, with the most beautiful, unusual produce, organic, or not! This is a fresh foods haven.

Who would guess a morning spent squeezing vine ripened tomatoes, drooling over ruffled heads of lettuce, and counting golden sweet smelling papayas could lead to serious illness? Certainly, it never occurred to me...until it did!

One day, I bought such a head of organic lettuce at the farmer's market; the kind that would fan out so as to create a circle and still have fold upon fold. The key here is "organic". Preparing to make a salad, it was no surprise to find a little slug on one leaf. I had guests, a woman and her teenaged daughter. Forever playful, I picked off the slug and chased the girl around the kitchen a bit...a memorable experience. I did wash the lettuce, but with those deep convolutions, I unwittingly missed some slime.

About ten days later, the symptoms began. My skin felt sunburned, yet looked normal. At first, it was only on one side, so I thought I was getting shingles. I made an appointment with the doctor. By the time I saw her, the sensation had traveled to the other side of my body, ruling out shingles. The doctor ordered blood tests. A week later, the results reported normal, except for a raised eosinophil count. This did not raise a flag with my physician, but it should have, as a specific marker for my illness.

As it was, I could not stand to be touched and could not sleep, resorting to a mat on the floor. However I lay, the pain, all over my body, was excruciating. My clothes hurt my skin; even the gently blowing wind! I kept thinking, "This can't get worse," but it did. The day after my doctor appointment, a migraine headache set in. My neck swelled. I could not turn my head. I was scared to death. The doctor prescribed anti-inflammatory and pain medications. These helped take off the edge, but still, I could not sleep.

Four weeks passed and I coughed white sputum. Thinking I was getting bronchitis, I called the doctor. She really didn't know what to tell me.

Meanwhile, a young man from a nearby organic farm community came over to visit. My husband told him about my illness. The man said, "That's Rat Lung Worm. I've had it; wouldn't wish it on a dog. Google it." What we found on Medline astounded us.

Eosinophillic Meningitis, Angiostrongylus cantonensis, or its common, more repugnant name... Rat Lung Worm, is important for the organic minded to be aware of. Rat Lung Worm is actually a parasite worm that grows in the lungs of rats. The larvae are excreted in rat feces. Snails or slugs eat the feces, or crawl over it, and become either infected them selves, or their slime becomes infested. The snail or slug continues its journey, crawling onto organic vegetables, and leaving a trail of infested slime. Then, an unsuspecting human, like myself, comes along, thinking they're doing the healthy thing by eating organic. Next thing you know, they think they are going to die, and 2-3% do!

In advanced cases, such as my own, the larvae make it into the lungs. Luckily, the larvae cannot survive to maturity in a human host and start to die. Then, the body has to deal with the dead larvae. That's where all the pain comes in. Meningitis is caused from thousands of larvae dying in the brain stem. While my doctor had no idea what she was treating, she serendipitously gave me the recommended treatment. Anti-parasitic drugs are not prescribed, because if you kill the larvae off all at once, the body cannot handle their removal, toxicity occurs, and can result in death.

We called the doctor. She had never heard of it. She said, "Your symptoms could be anything."

"Those exact symptoms?"

"Yes."

"In that exact order?"

"Yes."

"In that exact time frame?"

"Yes."

"After pulling a slug off my salad?"

"Yes."

"Considering I live in the Pacific Rim basin, where it is common?"

"Yes." She went on vacation; I vowed to get a new doctor. My symptoms lasted eight long weeks. I thought I was going to die, and I wanted to! I developed a great empathy for people with chronic pain. One year later, a nearby entire family contracted this. Would you believe? The same organic farmer diagnosed it! They ended up in the hospital and came to the attention of the county health department, who finally started investigating.

The health official got my name from the farmer, called for an interview, and told me there weren't many cases. I disagreed, because 1) the doctors were uneducated about it and therefore, 2) it was not being diagnosed, 3) the public was uneducated, and 4) most people, like myself, didn't think to report to the health department. I suggested they bring in educational programs for professionals and get the media involved to educate the public to wash organic produce especially well. Three great newspaper articles resulted (imagine a picture of a slug covering half the front page!) and experts came to educate the local doctors.

In spite of this experience, I still enjoy a good organic salad; however, I have rules...

~If I am not going to cook my organic vegetables, I wash them thoroughly, often soaking them in a dilute solution of food grade hydrogen peroxide for 15 minutes.

~If I go to a restaurant, I ask questions like: Where were the greens grown/How were they washed?

~If a slug *is* found in a restaurant salad, I send back the salads and order a round of tequila!

I don't know if that helps, but it sure makes me feel better!

By Diane Brucato-Thomas, RDH, EF, BS January 13, 2008

Aloha,

My name is Stephanie Hegg. I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative.

Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely, Stephanie Hegg

Dear:

Jill N. Tokuda, chair of the Ways and Means Committee

RosayIn H. Baker

Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard

Chairman of the Senate Water, Land, and Agriculture Committee

Re:

SB2516

Feb 5, 2016 2:45 PM

Aloha,

My name is Christopher Carlson. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because I believe that there needs to be more education and awareness around Rat-lung-worm in the state of Hawaii. As someone who has witnessed the pain and crippling effects of rat lungworm, which my girlfriend contracted from simply eating a salad from a maui restaurant (there was a slug in the salad), I want you to know the extreme consequences of this disease and how easy it is to contract. Now a year later, we have had both our lives drastically changed, full of many new challenges. If people are not well informed on this disease and how to prevent it, this problem will grow and do great harm to more people's lives. If doctors are untrained to know what to look for and how to treat this disease then those who do contract the disease cold miss the care they need to stay alive. If restaurants and the farms supplying the restaraunts do not know the importance of inspecting and washing produce and what to look for before selling that produce then this problem will just get bigger.

In conclusion, I am supporting SB 2516 because this is the right thing to do and it can easily be done without creating exagerated concern in residents or visitors alike.

Sincerely,

Christopher Carlson

Po Box 686, Haiku, HI 96708

Please support funding for this bill. Rat lungworm is a serious issue here on Hawaii Island. The consequences of this disease are severe for many people here in Puna and across the island. I contracted this disease in 2009 as a young healthy woman and became quite ill for a number of years, I still suffer from symptoms related to this disease and I have lost friends to death caused by Rat Lungworm and most assuredly do not want to see any more of this suffering on our Island. There are several dedicated and capable people on Island waiting for this funding to further their work.

Over the last few years I have known a number of people who have suffered from this disease that did not go to the emergency department or receive an official diagnosis. The population here in Puna can be wary of hospitalization due to cultural issues and I can assure you that the actual number of people suffering from Rat lungworm is much higher than what is reported by the hospital. The only way to understand the extent of this disease is to increase funding for researching the social impacts it has already made in Hawaii.

It is important that people feel confident and safe about eating food grown here in the islands- but how can we assure safety for consumers? Increase public awareness, advance screening technology and find ways for farmers to reduce the presence of the spirochete from the start. All of this will require funding.

Many Rat Lungworm cases are severe and obviously disabling and many others experience a difficult illness followed by years of subclinical symptomology related to the disease. There need to be better treatment options for those suffering in the acute and the prolonged stage of the disease.

Thank you for passing this bill to support the people of Hawaii

Courtney Dusschee

Pahoa, HI

To: RosayIn H. Baker Chair of the Senate Commerce Consumer Protection, and Health committee

Mike Gabbard Chair of the Senate Water, Land, and Agriculture committee

Jill N. Tokuda Chair of the Senate Higher Education and the Arts committee

Re: SB2516

2:45pm, February 5, 2016

Aloha,

My name is Danielle Downey and I am submitting testimony on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because *I think about this disease every day.* Unlike the many health and disease risks we are bombarded with in the media, many of which are very sensational and unlikely, I know people in Hilo who have contracted this disease; people who have almost died from this disease. Rat lungworm is ubiquitous on our island, it is spread easily, and we don't know yet the details of how it spreads in food and water, and what treatments and food handling protocols effectively kill it. Unfortunately it is spread in foods that are perceived to be more healthful: local produce. Every meal I eat raises this risk in my mind. Often I will not eat items because I do not trust that people handling food are educated, or take this risk seriously. And why should they? Even the Health Department is slow to take it seriously! We should all hear and know more about this disease, it should be a focus of food safety training and farming. Hawaii must protect its people from this risk, by raising awareness and supporting research. This is YEARS overdue. All of us should know how to protect ourselves, and the food we grow, prepare, serve and consume to prevent its spread. It is a treacherous, debilitating disease which can be fatal.

In conclusion, I am supporting SB 2516 because it is the state's responsibility to acknowledge and mitigate the risk of rat lungworm, with whatever resources it requires. It is unfortunate that the state has failed to do so sooner and more effectively, while people continue to become infected. I am glad to see this bill being considered, please act now.

Sincerely,

Danielle Downey <u>ddowney@hawaii.edu</u> 808 936 5483

RAT LUNGWORM DISEASE in KAMUELA, HAWAII Submitted by Darlene Turner 808-936-5355 / konadarlene@msn.com

THIS IS MY STORY.....

<u>September 28, 2015</u>: I was feeling ill. It felt like something had gone systemic in my body. I had what I thought was an infected ingrown hair at the time, so I thought that was the problem. I went to my Doctor in Waimea, who lanced it and started me on a regimen of doxycycline. The results from the lab were negative regarding the hair follicle being the culprit. I felt worse and assumed it was a reaction to the antibiotic so I went off of them. I continued to feel sick.

<u>October 6, 2015:</u> VERY suddenly my face got puffy and painful, my eyes became swollen and red, my teeth hurt, and my nose started running uncontrollably. I became quickly exhausted. My ears were plugged and I had pressure in my head. I thought it was a really bad cold so I treated it with cold medicine.

<u>October 7, 2015:</u> My symptoms got worse. I was bedridden with a fever of 101, body aches, really painful headache, neck ache, nausea, horrible sinus symptoms, blurry vision, vertigo, chills, freezing cold. I went to Urgent Care. The doctor gave me Tamiflu and Steroids. She said I tested negative for flu but that the test results are not always right, and that it looked like I was having an allergic reaction to something too, hence the steroids. I felt worse in two days' time but the fever and neck pain had gone away, so I stopped the Tamiflu and the steroids, thinking I was having a reaction to them.

<u>October 13, 2015:</u> Went to the Doctor again. He said that I had the flu and that if I didn't get better in two days, I was to come back and he would schedule a spinal tap. I told him that I clearly did not have the classic symptoms for meningitis so I didn't understand why. (He didn't say at that time, but later he told me he had suspected Rat Lungworm.) I proceeded to go for chiropractic treatments with Dr. Peter Welch D.C. and acupuncture treatments with Melanie Biddle, LAc. Karen McIsaac LAc, treated me with acupuncture and Chinese herbs as well. These treatments helped to lessen some of the symptoms for a short period of time.

<u>October 18, 2015:</u> THANK GOD I WENT TO CHURCH THAT DAY!!! I was feeling horrible but I felt driven to go anyway. Being in the church was making me feel like I was going to pass out...BUT, I stayed and just so happened to speak to my friend Michael. He told me that he had attended a lecture recently in Honokaa given by Kay Howe, whose son Graham had been in a vegetative state at Hilo Medical Center with Rat Lungworm Disease. Traditional medicine had given up on him. She convinced the doctors to put a feeding tube in him. She administered Chinese, Naturopathic and Holistic Medicines AND HE SURVIVED! I went home and googled it, and I knew immediately that I had RLD.

<u>October 19, 2015:</u> Went back to the Doctor, walked in and told him that I was sure I had RLD. I also knew where I got it from. Normally I cook all my kale, but in September, I was on a fresh smoothie kick. I remember washing kale with a small piece of a dead slug on it. I took it off, washed it and put it in my smoothie. I know for a fact that I got the kale from KTA or FOODLAND Waimea. The Doctor sent me to the E.R., and called first to tell them about our suspicions, so I would not simply be sent home with a flu diagnosis. I was checked for "everything" they said. After taking lots of blood samples, a CT scan and an MRI, the diagnosis was that I had nothing wrong with me. I was told that I could be flown to Oahu for a

spinal tap to test the eosinophils in the spinal fluid. I had already learned that the spinal tap does not always show RLD. It is also a potentially dangerous procedure. Sending bloodwork to the CDC to test for antibodies often produces negative results as well. The ER doctor explained that there was no treatment for RLD, and sent me home.

(The blood was taken and the lab forgot to send it to the CDC. Therefore, I wanted it to be taken again and sent to the CDC. I was told that I would have to incur the expense of another E.R. visit for that to happen. Due to the insistence from my Naturopath, Dr. Michaela Martin and her Office Manager Tiffany, I was able to have the blood drawn again. My medical Doctor would not help me. It came back a month later as negative.)

October 21, 2015: I spoke with Kay Howe on the phone at length! What a blessing she is and always will be to my life!! Armed with the information she shared with me about Graham's treatments, I went to my Naturopath Dr. Michaela Martin, N.D. LAc. She immediately began treating me and researching what had been done and could be done to treat RLD. With naturopathic and acupuncture treatments, she began the process of balancing the management of the inflammation with killing the parasite. We knew that traditional medicine had tried experimentally using anti parasitic medications which had resulted in death, coma, and paralysis due to the toxic die-off reaction. They were also using steroids which negatively impact the immune system and damage the body's natural ability to fight off this parasite. Dr. Martin, however, was boosting my immune system with naturopathic medicines, and worked to reduce the inflammation in my brain. She started me on intravenous high dose Vitamin C treatments. I also continued to receive chiropractic treatments from Dr. Peter Welch D.C., additional acupuncture with Melanie Biddle, LAc., and I am now a strong believer in essential oils thanks to doTERRA advocates, Alexis Smith and Rebekah Ellis.

<u>October 21st - Week of November 1st, 2015:</u> The symptoms change (see Symptoms page), move, get worse, seem to improve, get even more excruciating and painful, then something new shows up. Then, my bowels and ability to urinate STOPPED. Because Kay Howe had told me about this symptom with Graham and how he went into a coma right after that happened, I was prepared with lots of fluids, vitamin C, magnesium and laxative tea. (*I was also encouraged by a phone conversation with Graham at this point. He is a remarkably positive young man!*) What I wasn't prepared for, was how horrible and frightening it was. Three days later the pain in using the bathroom began and lasted for two weeks. (See Symptoms page...Digestive track and Intestinal issues)

<u>Week of November 8th, 2015:</u> The coughing, chest pain, shortness of breath and back pain started and lasted for two solid weeks. It lingers still to this day. (*I surmised*) that this was when the parasite was attempting to get into my lungs as they do in the rat.

<u>November 24, 2015</u>: Flew to California to be with my daughter and go to the Whitaker Wellness Center in Newport, California for Vitamin I.V. therapy as this was the one specific treatment that truly gave me relief. Medical insurance will not pay for this treatment, so it is all out of pocket, creating a huge financial hardship.

<u>November 26, 2015:</u> THANKSGIVING! ... Suddenly it felt like I had been shot by a machine gun down my spine and between my shoulder blades. The pain was indescribable. My eyes became swollen and bloodshot, the headache was excruciating and I had chest and body pains. I truly thought I was going to die that day. *(I surmised)* that this was when the worms were trying to get into my heart.

<u>Week of November 29, 2015</u>: Extreme fatigue after the Thanksgiving Day attack. Began with trying to get up for 5 minutes a day. Increased it by 5 minutes a day. By the end of the week, I could walk about 30 yards. Coughing with lots of phlegm, daily. Extreme memory loss and lethargy. Needed a cane that week to walk. Heart palpitations, numbness in my feet, shortness of breath, chest pain, back pain, bloating, dizzy. Began I.V. Vitamin treatments at the Whitaker Wellness Center.

<u>December 11, 2015</u>: Went to Kaiser Orange County. I asked for them to check my lungs and my heart. Although they had never heard of RLD, they were very accommodating. After a chest x-ray and EKG, they said I was fine. Good news.

<u>December 27, 2015</u>: With the Vitamin C. I.V. treatments, I have improved a lot. The symptoms are the same, they are just less severe and debilitating. I flew back home to Hawaii and experienced extreme pain in my ears that I didn't have on the flight out.

<u>December 28, 2015</u>: Met with the Kaiser Neurologist Dr. Gibson (*It took 1 and 1/2 months to get an appointment with him*.) He said I could have a spinal tap but it probably wouldn't show anything. He suggested I see a specialist in Honolulu to undergo a 3 hour test to determine which parts of my brain are damaged so that treatment can be more specific. That appointment is scheduled for February 8th.

<u>The month of January 2016:</u> I am still on T.D.I. disability from P.A. Harris Electric as a Solar Energy Consultant, as I can't work full time yet. I can drive in Waimea now. I drove to Kona on the 13th and went straight to a friend's house to sleep for 2 hours as I have extreme sensitivity to light and get sensory overload very easily. I waited for night fall to drive home to Waimea. On the 20th, I drove to Kona to attend a meeting. The sensory overload was too much once again. My sinuses and my gut are still really messed up. The short term memory loss, articulation challenges, and fatigue are also problematic. I went to the Doctor because the gut pain was getting very painful and radiating to my back. He had not answers for me.

And-----

The Doctor walked out of the room and said, "You know we don't know what you have, so there is no diagnosis in your chart."

I am still receiving I.V. Vitamin therapy once a week. I tried to stretch it to every other week, but I was too weak at the end of the 2nd week. I can't work in an office environment anymore as it is too much stimulation. I can't go to a restaurant or be in a group of people talking at the same time for the same reason. This disease has devastated my life as I used to know it.

However....I will improve, and somehow, through my story, I will make a difference.

Dear Honorable Senators,

Jill N. Tokuda Chairman of the Senate Ways and Means Committee

Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: SB2516 - Hearing date: February 5th, 2:45 P.M.

Aloha,

My name is Darlene Turner and I am testifying in support of SB 2516 relating to rat lungworm disease.

I became ill with what turned out to be Rat Lungworm Disease on September 28, 2015. I continue to suffer from the traumatic brain injury and damage that it has caused to my brain, my body, my career, and to my life. The continuing sensory overload prohibits me from enjoying restaurants, gatherings of people, attending meetings at work that last for more than 45 minutes etc. (I am still unable to return to work full time.) I also suffer from extreme short term memory loss, body aches, headaches, facial numbness, brain swelling, intestinal inflammation and articulation difficulty.

The fact is that the Department of Health, and the State of Hawaii has known about this disease for 15 years AND researchers and residents have consistently brought it to their attention during the last 7 years. It is **Unconscionable** and frankly **Criminal** that research, education, prevention, treatments, and community awareness have not been addressed, explored or funded by the County or State of Hawaii.

Attached, please find My story, Treatments, and Symptoms. I became sick on September 28, 2015. I did not figure out that I had it until October 19, 2015. I know for a fact that I bought the infected Kale at Foodland or KTA Waimea. There were no warnings or washing instructions posted. I washed it as I always do. I had seen a piece of a dead slug, flicked it off, cleaned it and ate it. Days later I became sick.

There has been very little information about it in the W.H. Today Newspaper!! It is an islandwide epidemic! It is not a Puna Problem! Ever since I got it, my phone has been ringing with people telling me that they had it, or someone they knew had it. These people, like myself, are not "technically" statistics as nothing scientifically was confirmed in all the cases I heard of. However, we all knew we had it!

PLEASE DO SOMETHING. HOW WOULD YOU FEEL IF YOU OR A LOVED ONE HAD WORMS IN THEIR BRAIN AND THERE WAS NOTHING TO DO ABOUT IT, AND THE STATE AND DEPARTMENT OF HEALTH DIDN'T CARE???

Respectfully Submitted,

Darlene Turner 66-1678 Waiaka Street Kamuela, Hawaii 96743 808-936-5355

RAT LUNGWORM DISEASE IN KAMUELA, HAWAII Submitted by Darlene Turner

SYMPTOMS:

<u>On a continual daily basis</u>: My ears would plug up, followed by brain swelling with extreme pressure. It felt like my head was going to explode. Immediately I would experience debilitating short term memory loss. I could not remember a thing I was wanting to do, or why I was doing what I was doing, or where I was going. I would spontaneously and instantaneously start sobbing without control. I soon learned the best course of action was to go back to bed when my brain swelled. Often times, the only relief I could get was to pack my head, face and neck in ice. Extreme fatigue was always a problem. I would take 2 – 3 hour naps a day. I called them "coma naps" because they were so intensely deep. I would get to the point in the afternoon that I literally could not stand up anymore. It felt like I had the flu or mono every day.

Throughout the process of the disease:

- Facial numbness.
- Headaches of varying degrees of intensity, from level 3 10+. As the parasite moved (*I surmised*), so did my headaches.
- Blurry Vision and sensitivity to light
- Nausea
- Neck pain
- Skin crawling sensations
- Insomnia
- Sudden eruption of sinuses, with uncontrollable runny nose, ear pain, coughing, teeth and jaw pain, facial pain and my face would get really hot. The coughing spells became worse as the disease progressed.
- Vertigo
- Pain in old injury and surgery locations. My hips, ribs, ankle and the top of my foot would often times be so painful I could not walk. I never knew when it would strike, so I had to keep crutches and canes scattered around my house, just in case.
- Sensation of worms crawling in my left ear and my right eye. (I surmised)
- Sensitivity to cold and heat. I would suddenly become freezing cold. In the shower, the water would feel like the perfect temperature on my face and on the front of my body, but it felt scalding hot on my back.
- Sensation of "chills" through my head and down my neck, daily.
- Feet and fingers would go numb.
- Back and kidney pain
- Heart palpitations
- Shortness of breath
- Chest pain
- Lack of feeling hungry and then when eating there was no feeling of satiation.

- Overwhelming sensory overload when around people talking too much or too fast, in crowds, in too much light, or too much noise. It felt like a panic attic. Afterward I would have to sleep.
- Inability to multi-task
- Problems with articulation. Couldn't find the right word.
- Difficulty with reading comprehension.
- Problems with spelling, writing emails, composing a sentence.
- Packing a suitcase was too overwhelming.
- Had to stop driving. I couldn't remember, one time, what red, yellow or green lights meant. Caught myself swerving and not looking both directions.
- Digestive track and Intestinal issues Acid Reflux, extreme bloating like I was 8 months pregnant. This would be followed by shortness of breath, dry mouth and heart palpitations. Extreme constipation and inability to urinate. Black stool. Painful bowel movements that bled. It felt like I was passing shredded glass. Thousands and thousands of identical 16/th inch black thread-like particles were being passed. Lower intestine pain.
- And the Grand Finale... On Thanksgiving Day, suddenly it felt like I had been shot by a machine gun down my spine, between my shoulder blades. The pain was indescribable. My eyes became swollen and bloodshot, the headache intense, chest and body pains. (*I surmised*) that this was when the worms were trying to get into my heart.

Dear Honorable Senators,

Jill N. Tokuda Chairman of the Senate Ways and Means Committee

Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: SB2516 - Hearing date: February 5th, 2:45 P.M.

Aloha,

My name is Darlene Turner and I am testifying in support of SB 2516 relating to rat lungworm disease.

I became ill with what turned out to be Rat Lungworm Disease on September 28, 2015. I continue to suffer from the traumatic brain injury and damage that it has caused to my brain, my body, my career, and to my life. The continuing sensory overload prohibits me from enjoying restaurants, gatherings of people, attending meetings at work that last for more than 45 minutes etc. (I am still unable to return to work full time.) I also suffer from extreme short term memory loss, body aches, headaches, facial numbness, brain swelling, intestinal inflammation and articulation difficulty.

The fact is that the Department of Health, and the State of Hawaii has known about this disease for 15 years AND researchers and residents have consistently brought it to their attention during the last 7 years. It is **Unconscionable** and frankly **Criminal** that research, education, prevention, treatments, and community awareness have not been addressed, explored or funded by the County or State of Hawaii.

Attached, please find My story, Treatments, and Symptoms. I became sick on September 28, 2015. I did not figure out that I had it until October 19, 2015. I know for a fact that I bought the infected Kale at Foodland or KTA Waimea. There were no warnings or washing instructions posted. I washed it as I always do. I had seen a piece of a dead slug, flicked it off, cleaned it and ate it. Days later I became sick.

There has been very little information about it in the W.H. Today Newspaper!! It is an islandwide epidemic! It is not a Puna Problem! Ever since I got it, my phone has been ringing with people telling me that they had it, or someone they knew had it. These people, like myself, are not "technically" statistics as nothing scientifically was confirmed in all the cases I heard of. However, we all knew we had it!

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Respectfully Submitted,

Darlene Turner 66-1678 Waiaka Street Kamuela, Hawaii 96743 808-936-5355

To: RosayIn H. Baker Chair of the Senate Commerce Consumer Protection, and Health committee

Mike Gabbard Chair of the Senate Water, Land, and Agriculture committee

Jill N. Tokuda Chair of the Senate Higher Education and the Arts committee

Re: SB2516

2:45pm, February 5, 2016

Aloha,

My name is Deniz Bicakci and I am with (group or organization) DKICP. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because I have seen how the disease affects the community. I know many people, including myself, that avoid local produce for fear of contracting the disease. I want to eat local produce and help our local economy but I've seen what happens to people that contract Rat Lungworm Disease.

In conclusion, I am supporting SB 2516 because I want to try to eradicate the threat of Rat Lungworm Disease so that no one else has to go through what the victims have already gone through.

Mahalo,

Deniz Bicakci Student Pharmacist Class of 2019, Daniel K. Inouye College of Pharmacy dbicakci@hawaii.edu (808)-276-8167 Regarding SB2516

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha,

My name is Don V Lax, and I've been a resident of Maui for 20 years. I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative.

Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely,

Don V Lax

1215 S Kihei rd. Ste O, #503, Kihei, HI, 96753

808-283-6942

Aloha,

My name is Doran Vaughan and I am a resident of Pahoa on Hawaii Island. I am testifying in support of SB 2516 due to the desperate need for funding to provide research and education throughout the state of Hawaii regarding rat lungworm disease. Rat lungworm is a microscopic, parasitic worm that grows up to an inch in length and if ingested by a person in food or water, numbers in the hundreds to thousands due to their source in slugs. Because the parasite enters the brain and central nervous system, the resulting disease is devastating and even life threatening. In Hawaii, rat lungworm disease is costing citizens their livelihoods, savings, health, well-being, and in some cases their lives.

During the past 15 years, cases of rat lungworm disease have been increasing in number and severity in Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposedly rare, however each year we are experiencing an increase in the number and severity of cases, some resulting in permanent disability, coma, death, and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors are unfamiliar with rat lungworm disease. Education of the medical community is absolutely imperative.

Research and education regarding rat lungworm disease is crucial to Hawaii's efforts to become food secure and food safe through our support of local farmers, school garden projects, and the Farm to School Program. Infection most often occurs from eating food contaminated with the parasite. It is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, all be educated about the disease and understand the proper measures required to minimize the risk of contamination.

Infection can also occur from ingesting contaminated water. A large number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks and contaminate the water with the parasites.

I support SB 2516 because rat lungworm disease is preventable through research and education and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to seriously harm farmers, residents, and visitors to Hawaii as well as Hawaii's tourism industry. Adequate funding for research and education regarding rat lungworm disease and a program for controlling the vectors ie rats and slugs that carry this disease is imperative in order to control and eventually prevent the spread of this devastating disease. Please support SB 2516!

Sincerely,

Doran Vaughan

PO Box 1256

Pahoa, HI 96778

808-936-3109

To: RosayIn H. Baker Chair of the Senate Commerce Consumer Protection, and Health committee

Mike Gabbard Chair of the Senate Water, Land, and Agriculture committee

Jill N. Tokuda Chair of the Senate Higher Education and the Arts committee

Re: SB2516

2:45pm, February 5, 2016

Aloha,

My name is Elizabeth Fitzpatrick and I am a mother of two young children who live in Kalapana as well as a teacher at Pahoa Elementary. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 for funding for research and education related to rat lungworm. I have personally known people who have contracted this horribly painful and life changing disease and fear for my children's safety, especially at home where we have a great deal of slugs. I know the students at my school come into contact with slugs at their own homes and we need better education as well as research into how to combat the effects of the disease.

In conclusion, I am supporting SB 2516 because it is a major concern and safety issue for our community. I appreciate your consideration and I hope you take into account the many lives that are potentially affected by this daily.

Sincerely,

Elizabeth Fitzpatrick Pahoa Elementary Teacher and Resident lizzyfitz12@gmail.com, 808 554 8839 RosayIn H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee senbaker@Capitol.hawaii.gov

<u>Regarding</u> SB2516

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha,

My name is Elizabeth Stacy, and I am a Professor of Biology and Tropical Conservation Biology and Environmental Science at the University of Hawaii at Hilo. I am testifying in support of SB 2516, as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in infected brains and central nervous systems, causing devastating impacts. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

In the past 15 years cases of rat lungworm disease have been increasing in number and severity in Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative.

Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm-to-School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for

research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely,

Elizabeth A. Stacy

Professor of Biology and TCBES University of Hawaii Hilo 200 West Kawili Street Hilo, HI 96720 Phone: 808-932-7715 Fax: 808-932-7295 http://www2.hawaii.edu/~estacy/ To:

Rosalyn H. Baker Chair of the Senate Commerce Protection and Health Commitee

Mike Gabbard Chair of the Senate Water, Land and Agricultural Committee

Jill N. Tokuda Chair of the Senate Higher Educattion and Arts Committe

Re: SB2516

2:45pm, February 5, 2016

Aloha,

My name is Esperanza Hilton testifying in support of SB2516. I am a 45 y/o registered nurse who has knowledge of tropical diseases especially RLWD and who has always been diligent in regards to cleanliness of surroundings, food - handling and preparation and yet contracted the disease last October 2015. I have been hospitalized for 11 days and certainly caused me a bit of suffering. It was the scariest moment of my life because I have taken care of very ill patients whom I know are still experiencing life-long disabilities at this moment.

I understand that there are cases statewide but it has hit our community the hardest. After this experience, it became very apparent to us that there is very little solid information on it. Had I not persist on doing more tests on me like lumbar puncture, I will be sent home with diagnosis of tension/migraine headache which mimics the disease initially along with flu like symptoms. Urgent care facilities and emergency room doctors should develop a higher level of suspicion of the disease to prevent multiple doctors visit, delay of care that would lead to more patient sufferings and complications.

In conclusion, I am supporting SB 2516 because we need more funding to support ongoing research that will provide concrete evidence of ways and means to prevent this disease and establish a definite diagnosing and treatment protocol. It has entered the mainstream in our community and everyone is at risk!

Sincerely,

Esperanza Hilton P.O. Box 10044 Hilo, HI 96721 email: espiehilton@gmail.com
Regarding SB2516

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha, My name is Gabriel Mott.. I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative.

Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers

using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely, Gabriel Mot CEO/founder Huedoku Labs 808-250-4825 February 3, 2016

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: SB251

Date and time of hearing: February 5, 2016 at 2:45 PM

Aloha Mr. Gabbard,

My name is Ginny Howe and I am the maternal aunt of Graham G. McCumber who contracted rat lung worm disease 7 years ago in the Pahoa district. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 as I saw the devastating effects of this disease on my nephew, Graham. He was in a coma for months in the Hilo Hospital and, while now able to walk and talk again, his health is still impaired. As a result of this disease, his balance, sleep and appetite remain seriously impacted.

In conclusion, I am supporting SB 2516 because I feel it is of the utmost importance to acknowledge the seriousness of this brutal disease and to educate the population on prevention techniques. More research on rat lung worm disease is vital.

Sincerely,

Ginny Howe

Peter Witte

949 Peralta Avenue, Albany, CA 94706

510 526-6909

RosayIn H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Jill N. Tokuda Chairman of the Senate Ways and Means Committee

<u>Testimony in support of SB2516</u> Relating to funding for rat lungworm research and education

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha Senators Rosalyn Baker, Mike Gabbard, and Jill Tokuda,

My name is Graham McCumber, I am a student at the University of Hawaii at Hilo and I am submitting my testimony in support of SB 2516. I am a survivor of rat lungworm disease, and it has affected me more than anything ever has in my life. It has been seven years since I was infected by the rat lungworm parasite and it still affects me negatively to this day. Rat lungworm disease has made me into an insomniac. For seven years I have not had a full night sleep, without the use of a sleeping aid, which makes me groggy. I also get tired easily, and my vision and balance are still not at all like they were before I got sick. I also have cognitive issues that are related to traumatic brain injury from the worm damage in my brain. I have not been able to work in construction like I did before I got sick, nor can I do the sports that I did prior to my illness. I'm lucky that these are my biggest complaints; I hear of rat lungworm disease victims who are still in wheelchairs or still have skin pain, where it feels like your skin is on fire, for years after. I know what it feels like though, because in the beginning I had the burning skin pain too. That was before I went into a three month long coma. I was so sick from rat lung that in order to protect myself, my body shut down. I was on my deathbed according to the doctors who actually gave my my mom the option to give up on keeping me alive and pull the plug. It is what must have made sense to the doctors because my four month hospital stay probably cost the medical system near to a million dollars.

It is absurd that rat lungworm disease is not being addressed as a real disease. I am so angry for this and that is why I am in support of SB 2516. This disease ruins people's lives and it is disgusting that nothing has been done to help the situation improve. Because the disease is a food-borne illness, any of us living in or visiting Hawaii can get sick and have our lives changed forever. I am in support of the passage of SB 2516 for full funding.

Mahalo, Graham McCumber

yyzz@nawaii.euu

Aloha,

My name is Ilana Stout. I am a Science Instructor at Hawaii Community College and am writing in support of SB2516. I am sure that you will read many letters about how serious the impacts of Rat Lungworm disease are on human health, and about the need for continued research. I would like to take this opportunity to let you know what my experience has been talking to students and the general public about rat lung worm disease.

I first heard of this disease 5 years ago, I was at the time a teacher at Kea'au High School and was working with a school garden program, so I felt that it was imperative to share information about prevention with my students. When I first brought up the disease, I was shocked to find that most students had never heard of it , and those that did thought that it "only haoles/ hippies get that". I would like to say that I have seen this attitude change as I have moved up to teaching at the community college, sadly, this is not the case. There is a widespread belief among the local community that this is a disease that only impacts malehini. Perhaps this is because the first few identified cases were in white people, but it seems to be a persistent (and dangerous)belief. Deeper education to the wider public is absolutely essential to prevent further illness and death throughout the community.

A second misconception regarding RLWD that concerns me is the fact that , among those who do know about the disease, many believe that you can only contract it through eating a slug. My friend Kay Howe has been studying RLWD for her master's research and has been able to definitively show that it can be contracted through water. This means that people who are brushing their teeth or bathing their children in untreated catchment water (as is a common practice in the Puna district and elsewhere). Are exposing themselves on a regular basis. Again, there is a major need for education around this issue.

When I discuss the water issue with students, they often ask what kind of filter they should use to be safe. Unfortunately, I have to tell them "I don't know". Although Kay and her advisor Sue Jarvis have done initial filter studies, they have not had the funding to do a thorough study so that they can recommend best practices to the public. In fact, Kay has had to turn to crowd funding platforms in order to support her research because there is simply insufficient monies available to do the kind of rigorous research that is needed.

While I recognize that the Department of Health has made efforts to address this issue, the simple fact is that they have been insufficient to address the scope of the problem and to both get information out to the public and to answer urgent research questions. People in the Puna and Hilo districts are suffering due to this lack of funding. Please support the efforts by the University of Hawaii to help us.

Mahalo,

Ilana Stout

istotu@hawaii.edu

Testimony from Dr. Joe Ritter-Kihei Maui Hawaii 96753 House District 11 Senate District 6

I DO SUPPORT SB2516 and Companion bill HB2223

Measure Title:	RELATING TO RAT LUNGWORM DISEASE.	

As a society we can afford to invest in good research that helps cure debilitating diseases.

A kind caring person, a good friend who worked tirelessly to support school gardens and teach children was affected by this crippling disease. She can no longer walk, and treatment in Hawaii was ineffective. Curing a parasite disease not only helps that person but forever relieves great future burdens on our medical system.

We need not only funding for research but also to take better care of our community members afflicted with disabilities, and better oversight of such programs. Routinely the rights of the disabled are not met. This civil rights oversight must change.

We are not cavemen or women. As a society we can not allow preventable crippling afflictions to take out the best among us.

Please fund this bill. With Thanks for introducing it and Aloha, Joe

Dr. Joe Ritter-Kihei Hawaii 96753 House District 11 Senate District 6

To: Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee sengabbard@capitol.hawaii.gov

Jill N. Tokuda Chairman of the Senate Ways and Means Committee <u>entokuda@capitol.hawaii.gov</u>

<u>Testimony in support of SB2516</u> Relating to funding for rat lungworm research and education

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha honorable Senators Rosalyn Baker, Mike Gabbard, and Jill Tokuda,

My name is Kathleen Howe, I am currently a graduate student at the University of Hawaii at Hilo in the Tropical Conservation Biology and Environmental Science Program. I am submitting this testimony in support of SB 2516 relating to funding for rat lungworm research and education. In Dec. of 2008 my perfectly healthy 24-year old son contracted a life-threatening case of rat lungworm disease on the Island of Hawaii. Although he was in excruciating pain, it took three attempts to get him admitted to the hospital as doctors insisted he had the flu. When he could no longer urinate because the parasites had entered his central nervous system and damaged the nerves to his bladder, the hospital had to admit him and he was eventually diagnosed with rat lungworm disease. After two weeks in the hospital his condition deteriorated and he went into a coma. Over the course of the next weeks he was diagnosed with meningitis, encephalitis, and hydrocephalus, all caused by the worms that had entered his brain. He was in a coma for 3 months, completely paralyzed, and in the hospital for 4 months. I lived there with him. It was intensely traumatic, but possibly because of my diligence he defied all doctors' prognoses that he would not survive, or if he did, that he would remain in a permanent vegetative state. He was released from the hospital when I could successfully do wheelchair transfers. For over a year he was unable to bathe or do bathroom duties by himself. I was paid as his caregiver at a minimum wage with no benefits. This was a great reduction in income from my salary as a professional educator. In addition to loss of income we used many helpful therapies and supplements to help with his recovery from brain and neurological injuries, none of which were covered by his health insurance. Seven years later he still has disabilities resulting from rat lungworm disease and has been unable to return to the construction work he did prior to his sickness and is currently a student, which has helped with his cognitive recovery from severe brain injury. He receives a small Social Security income and I continue to help pay for therapies, supplements, his education, and help with living expenses. I can attest that this disease is financially devastating for both the victim and the families of rat lungworm survivors.

I have been contacted by numerous survivors or families of survivors of rat lungworm disease since the time of my son's hospitalization. Most victims do not know how they contracted the disease, a statement that I find troubling. They often say they think they probably got it from vegetables they purchased at a farmers' market. Some feel they may have gotten it from drinking water from their catchment systems. There are a few who believe they were infected through skin contact. Some say they were infected from food eaten at a restaurant. All of these are potential methods of transmission. However, we have repeatedly been told by the Department of Health that is it a "lifestyle" disease, or "attributed to people who eat from backyard gardens" or "it is caused by unsanitary conditions like you would find in a developing country." In all of the scientific literature I have read the above are never given as causes for infection from the rat lungworm parasite.

Tragically, a great many survivors do not fully recovery and have long-term damage, including memory loss, vision problems, fatigue, and extreme skin sensitivity. A 38-year old German woman living on Hawaii Island went into a coma two weeks before my son at the same hospital and from the same disease. She was a yoga teacher before she got rat lungworm disease, and today she is still in a wheelchair, still on a ventilator at night because her body forgets to exhale, and she communicates with keyboard because she cannot speak. She got sick from a salad she ate. A 33-year old woman was infected last January from a slug she found in a salad she was eating at a restaurant. She is still in a wheelchair and has been diagnosed with irreversible myelin damage, resulting in weakness to the lower extremities. She experiences crippling pain almost ever day. Can you imagine waking up in horrible pain day after day? That is what victims of this disease face. Many survivors have had to use pain medication on a daily basis because of extreme skin pain, and they may have to continue to use these medications for the rest of their life unless a cure is found. There have also been rat lungworm victims who have died, though these cases have never been reported in the news. This disease can ruin your life, and yet no one wants to talk about it. However, talking about it is the only way we are going to be able to prevent infections and actually do something. To not do something about this problem for whatever reason, because you don't want to scare tourists, or because you don't think there are many cases (there is no good diagnostic and so cases are missed all the time) or because you think it is only the people living in Puna, is not only inhumane, it is shameful.

Prior to my son's infection I taught at public charter schools on Hawaii Island, and I used school garden projects to incorporate place-based, project-based learning to teach language arts, science, math, and most importantly in a state with a high incidence of diabetes and obesity, health. I consider myself an educated person who keeps up on developments, particularly in agriculture, and when my son got sick I was amazed that I was not aware of a disease that could have such devastating consequences. I kept asking "who is doing the research and where is the education informing the public about this disease?" The glaringly obvious lack of research and education on rat lungworm disease in Hawaii made me decide to return to school to do just that. At 62 years of age I am currently a graduate student at the University of Hawaii at Hilo, and I have worked on rat lungworm disease research and education outreach since the fall of 2011. I have been involved with most of the studies conducted at the Daniel K. Inouye College of Pharmacy, including a rat lungworm vaccination and detection trial, food rinse trials, a human rat lungworm disease prevalence study, and water studies to determine the potential for infection by rainwater catchment systems. I have helped develop educational materials for the general public, and rat

lungworm disease curriculum for K-12 students and teachers. I currently am working with students and teachers at five public schools with school garden projects to develop an integrated pest management plan for control of invasive slugs and snails, which are carriers of the rat lungworm parasite, and STEM (science, technology, engineering, math) curriculum on this disease. One of project's goals is for students to become educators for their families and communities about rat lungworm disease, how to prevent it, and best practices for control of invasive rats, slugs, and snails that are vectors of the disease. Although I have written numerous grant proposals I have received no support or funding for this work, and so this project is funded with a GoFundMe account that I set up. In lieu of Hawaii's push to be food secure, it's promotion of the grow local, buy local, eat local movement, and it's adoption of the Farm to School Program, I find it a travesty that I have to ask the public to help support this important work that the State of Hawaii should be funding.

The need for funding for research and education for rat lungworm disease is long overdue. For more than fifteen-years serious cases have been occurring in Hawaii with nothing apparent being done to solve the problem, and as a result people's lives continue to be destroyed. More and more we hear of people who have gotten the disease. Sometimes I receive several phone calls a month from people who have gotten the disease, or are worried they may have the disease, or are afraid because they found a slug on food they had eaten, for bit into a slug in something they ate, and they want to know what to do. We receive calls from doctors on the mainland treating cases of rat lungworm disease that were contracted in Hawaii, and more often than not we have to educate them as to what the disease is and what the recommended treatment is. We desperately need to fix this situation. Dr. Jon Martell, an internist at the Hilo Medical Center who has treated many cases of rat lungworm disease, recently stated in a presentation to medical practitioners that "rat lungworm disease is now a mainstream disease and we all need to be very afraid." Unless adequate funding is made available to properly address this serious health problem, the fears of residents and visitors will have an adverse economic impact on Hawaii's agriculture and reputation as a desirable vacation destination. I am in support of SB 2516 and I am respectfully asking you to fully fund the amount requested in SB 2516 for research and education for rat lungworm disease and for control of the vectors of this disease. Mahalo nui loa for taking this testimony into consideration for the passage of SB 2516.

Respectfully yours, M. Kathleen Howe Tropical Conservation Biology and Environmental Science Program University of Hawaii, Hilo <u>maryk8@hawaii.edu</u> 221 B, West Lanikaula St. Hilo, HI 96720 808 933-1560 To: Brian T. Taniguchi Chairman of the Senate Higher Education and the Arts Committee

Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: SB2516

February 5, 2016 at 2:45pm

Aloha,

My name is Kuilei Kramer and I am with the University of Hawai'i at Hilo College of Pharmacy under Dr. Susan Jarvi, PhD. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because of the need for funding in research and public awareness pertaining to disease risk of animals.

The list of animals reported by veterinary and research institutions affected by rat lungworm disease is continually growing beyond humans alone, consisting of mammalian, avian, and reptilian species. Tropical and subtropical regions worldwide, such as Australia, Southeast Asia, and the southern states of the United States are reporting high numbers of suspected and confirmed cases of animals. On the Big Island there have been several cases of cats, dogs and horses suspected of rat lungworm disease from evidence of history and clinical signs. As for clinically confirmed cases, there is at least one so far of a captive lemur at the Pana'ewa Rainforest Zoo & Gardens diagnosed via necropsy by a local veterinarian. Endemic species, especially birds, are highly susceptible to the disease, which puts the native Hawaiian honeycreepers at great risk.

Funding towards research can help to further investigate areas such as developing and testing early diagnostic methods, vaccinations, and treatment options that can prevent and repair damage done to the brain and spinal cord of multiple animal species.

In public awareness, it is imperative that all state veterinarians should be educated on the lifecycle, pathogenesis, clinical signs, diagnostics, and treatment options if presented a suspected case. Residents, tourists, animal owners, and those working with animals should be aware of environmental distributions of rat lungworm and take necessary precautions in order to prevent exposure to domestic, native, and zoo animals.

In conclusion, I am supporting SB 2516 because the funding in research and public awareness will aid in the prevention and treatment of rat lungworm disease within the large and diverse animal population in the state of Hawai'i.

Sincerely,

Kuilei Kramer Volunteer Researcher The Daniel K. Inouye College of Pharmacy University of Hawai'i at Hilo 200 West Kawili St. Hilo, HI 96720

Aloha,

My name is Louise Economy and I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and wellbeing.

In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative.

Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely, Louise Economy University of Hawai`i at Hilo economy@hawaii.edu To: RosayIn H. Baker Chair of the Senate Commerce Consumer Protection, and Health committee

Mike Gabbard Chair of the Senate Water, Land, and Agriculture committee

Jill N. Tokuda Chair of the Senate Higher Education and the Arts committee

Re: SB2516

2:45pm, February 5, 2016

Aloha,

My name is Manabu "Mark" Kimura. I made a documentary film about rat lungworm disease and interviewed several people who have been affected by the disease (available at youtu.be/r88WNCxAjQ8). I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516. I volunteered to interview rat lungworm survivors and film them because when I was working for the College of Continuing Education at UH Hilo organizing public lectures by faculty members, I was surprised to see how many people showed up at the lecture by Dr. Susan Jarvi, who runs Hawaii Island Rat Lungworm Working Group. I kept track of the turnouts of all lectures for 1.5 years, and no other lecture had a tremendous turnout—the large lecture room was completely full. There were so many people concerned about the disease. Since I was a well-known figure among the community at that time, I offered my help and we decided to document people's voices. While we were visiting rat lungworm disease survivors/victims, I directly interacted with them got to hear their stories. In fact, I learned there are a lot more to this disease as a social issue than official records by the department of health. Please consider watching the documentary film to hear what they have to say.

In conclusion, I am supporting SB 2516 because it is a real and serious social issue throughout the state of Hawaii and it needs to be addressed today.

Sincerely,

Manabu "Mark" Kimura 128 Mikimiki Pl Hilo, HI 96720 808-313-0533 mk77@cornell.edu To: Jill N. Tokuda Chairman of the Senate Ways and Means Committee

Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: SB2516

Date/Time of Hearing: February 5, 2016 @ 2:45 pm

Aloha,

My name is Myles De Coito and I am with Kua O Ka Lā Public Charter School in Puna on Hawai'i Island. I am testifying on SB 2516 relating to rat lungworm disease on behalf of myself, my co-teacher, and our middle school students. Our school has a school garden, and we are part of the Hawai'i Island School Garden Project, which is comprised of about 70 youth at school garden projects on our island. I am testifying in support of SB 2516 in large part because our Puna district is the epicenter for rat lungworm disease in Hawai'i. The epidemiology and pathology, however, are in no way isolated to Puna, and that is what causes me to see great promise in this bill: it can help shape the future of food safety and security for our entire state.

Dr. Matthew Dykema of the Kea'au Bay Clinic has stated, "This is a real concern for Hawaii residents because people are not really educated about rat lungworm disease." Rat lungworm disease is a dangerous and serious disease. The the infection vector for humans involves the intermediate mollusk host, primarily slugs and snails, which get infected from consumption of rat feces that have the rat lungworm parasite. Inside a human host this parasitic nematode (*Angiostrongylus cantonensis*) causes damage to the central nervous system. The pathology extends beyond eosinophilic meningitis, with symptoms that are often chronic and include:

- paresthesias tingling, prickling, or numbness of skin
- hyperesthesia severe sensitivity to touch
- bladder dysfunction with urinary retention
- blindness
- paralysis localized to one area
- general paralysis often ascending in nature starting with the feet and progressing upwards to involve the entire body
- coma

Additionally, in our Puna community, many residents are in subdivisions or homesteads not supplied with county water and must utilize rainwater catchment systems (rainwater collected

by roof and gutter, stored in a large containment tank). Studies at UH Hilo have confirmed the presence of *A. cantonensis* in catchment systems. Last year a graduate of our school contracted rat lungworm disease from his home catchment system by ingesting a small amount that was not properly filtered. Education for homeowners on catchment is crucial.

The disease has been debilitating, and even fatal, for those stricken in our community and around the state--typically because of transmission from slugs and and snails that infect produce in residential and commercial settings. We need to ensure that the food we eat from our gardens, local farms, farmers' markets, grocers and eateries is safe to eat. Educating Hawai'i residents, especially those involved in food production and preparation, about rat lungworm disease and and its prevention is critical.

The project our school participated in this fall, with four other island schools, has done a great deal to educate elementary and middle school students on how to control a primary vector for this parasite: slugs and snails. This is key in controlling transmission of the parasite to humans. They also learned about food and water safety, how to prevent for themselves and others the ingestion of contaminated products. Supporting education of our state's students on this matter is essential to disseminating understanding and action to the broader population.

Please support this bill. Food safety and security is crucial to the health of our state's economy. Let's ensure a safe food supply for our future.

Sincerely, Myles De Coito Kua O Ka Lā Public Charter School Phone: 808-936-0358 Email: <u>myles@kuaokala.org</u> Address: PO Box 238, Pepe[•]ekeō HI 96783 Regarding SB2516

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha,

My name is Nelson Crabbe . I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative.

Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely, Nelson Crabbe 808-756-3366 ncrabbe@hawaii.edu

Regarding: SB2516

Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm

Aloha

I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii on rat lungworm disease is essential. The rat lungworm is a microscopic parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being.

In the past 15-years, cases of rat lungworm disease have been increasing in number and severity in Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and death. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about the disease. Education of the medical community is imperative.

Research and education on rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination.

Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks and can contaminate water with the parasites.

In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

Sincerely, P Tibbs 2579 LAI ROAD HONOLULU HI Aloha.

I strongly support SB 2516. As a long time citizen of Big Island I have witnessed many recent negative changes that have occurred. Rat Lung disease is one of the most concerning of the changes. This disease has changed how people eat and where the shop and what they buy. Not only are people becoming disabled because of Rat Lung our farmers and local farmers markets have seen many simply stop buying vegetables locally.

Please pass SB 2516 for the sake of our health and the health of our economy.

To: Brian T. Taniguchi Chairman of the Senate Higher Education and the Arts Committee

Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee

Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: SB2516

Feb. 5, 2016 / 2:45 pm

Aloha,

My name is Rebecca Hatch and I teach at Volcano School of Arts and Sciences. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because it is a local health issue deserving of more research and increased public awareness.

My fifth grade class worked with Ms. Kay Howe last semester. Prior to her visits, students and their families were not aware of the health threat that rat lungworm poses, nor how to stay safe. Ms. Howe's curriculum was extremely valuable to our community. I wish all Hawaii schools had access to information about rat lungworm disease.

My students and I would like to see more research into the disease. Is there a way to keep our water catchments free of rat lungworm parasites? What types of filters can eliminate the parasites from our drinking water? Are local restaurants taking proper precautions when it comes to food preparation?

In conclusion, I am supporting SB 2516 because Hawaiians shouldn't have to fear the possibility of a hospital visit every time they eat a salad.

Sincerely, Rebecca Hatch Volcano School of Arts and Sciences 808-464-1393 vsas.hatch@gmail.com

Thomas Lee Travis

RR 2 Box 3317 Pahoa, Hi 96778 email: <u>ttravis12@mac.com</u> mobile: (757) 639-7364

RosayIn H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee

Re: Testimony in support of SB2516 (Concerning Rat Lung Worm (RLW)) for the hearing scheduled for 2:45 pm on February 5.

Aloha,

I am writing for myself and my wife Laura. I am a retired Navy captain that served as Commanding Officer of both a Submarine and a Submarine Squadron and Laura is a retired registered nurse. We own a small farm on Papaya Farms Road in Lower Puna.

My wife Laura developed what experts at Hilo Medical Center classified as a "moderate" case of RLW. Her symptoms began on September 19, 2015 and she was diagnosed on October, 2015. Diagnosis of RLW followed three visits to the Emergency Room, one visit to urgent care, and three visits to a primary care physician. Hospitalization lasted about two weeks, post-hospitalization emergency room visits totaled five, health care specialists referred to numbers seven, and contact with primary care providers have been daily to weekly. Although I have not totaled it, I suspect the current health care cost for insurance is over 300,000 dollars.

When we permanently retired to a farm on Papaya Farms Road in lower Puna. I personally designed the catchment and water delivery system to prevent RLW (among other dangers). Laura studied and took precautions to prevent RLW. Our precautions included thoroughly washing vegetables, carefully handling fruit, and only drinking water that had passed through a one micron filter. Because we did take precautions, we do not know how she contacted the parasites. Although the Department of Health has said they investigate each case to help the survivor determine the cause, we have never been contacted.

After careful reconstruction and study, Laura probably got the disease from eating greens in a restaurant or from cleaning filters on the water catchment system. Many experts do not believe RLW can be spread through skin contact, but many anecdotes lead me to believe it is possible.

It appears that perhaps dozens of people have RLW and are not diagnosed for each person that is diagnosed. The cases diagnosed are more likely to include severe or moderate cases. Laura and I have asked why did she develop one of the cases that is moderate or severe. Research has not established whether the severity of a RLW case is predominately a result of the number of parasites that enter the body or predominately a function of the individual body's response to the invasion of parasites. Although the number of parasites that invade may be important, it is possible-and in my mind likely—that the severity is determined by the response of the body after the parasites invade. If the latter is the case, those that develop RLW must take extraordinary precautions to prevent additional contact with the parasites.

Laura's case of RLW has upset and redirected our lives. Personally I have had to resign or suspend support for three community groups and Laura has had to suspend membership in the the Puna Medical Center Hospital Board, I have had to spend over 20,000 dollars of personal funds for temporary lodging and travel to Honolulu to support medical care and testing, Laura and I have not slept at our home for six months and we may have to sell it.

In short, this is an awful disease with profound consequences for even those that develop "moderate" cases. I seriously doubt the accuracy of the Department of Health data on the number of cases, I believe there is a strong increase in the numbers, and I believe the most dangerous invasive species (semi-slugs) spreading the disease is establishing itself over an ever-increasing area. Based on discussions with horse owners. I think many horses may have been killed or ruined by the disease.

The time to act is now. Thank you.

Jhomas [Ivavo]



From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Tuesday, February 02, 2016 10:39 PM
To: HEA Testimony
Cc: info@courtneybruch.com
Subject: *Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*

<u>SB2516</u>

Submitted on: 2/2/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Courtney Bruch	GMO FREE MAUI	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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 5:01:38 PM

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 8:43 AM
To: HEA Testimony
Cc: cksantos85@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
cole santos	Individual	Support	No

Comments: Jill N. Tokuda, chair of the Ways and Means Committee Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee Re: SB2516 Feb 5 2016 Aloha, My name is Cole Santos. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because I believe that there needs to be more education and awareness around Ratlung-worm in the state of Hawaii. Produce production, local consumption, and raw foods are all very important to our agricultural industries. Understanding this disease can help reduce potential backlash to eating fresh produce, as well as our visitor industry. Fresh produce and tourism income are probably the two most important things on the islands. Its our way of life. In conclusion, I am supporting SB 2516 because if we don't we could lose our way of life in Hawaii. Sincerely, Cole Santos 4 paihua st Makawao, HI 96768

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 8:00 AM
To: HEA Testimony
Cc: vanessagri@mac.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
vanessa grigoriadis	Individual	Comments Only	No

Comments: Dear: Jill N. Tokuda, chair of the Ways and Means Committee Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee Re: SB2516 Date/Time of Hearing Aloha, My name is Vanessa Grigoriadis and I am an individual and a journalist from Hana, Maui. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because I believe that there needs to be more education and awareness around Ratlung-worm in the state of Hawaii. I have personally seen the affects of this disease, due to my friend suffering from it, and am demanding more attention to it on the islands. In conclusion, I am supporting SB 2516 because we need to build awareness about this disease in hopes that others don't contract it, and scientists are motivated to find a cure. Sincerely, Vanessa Grigoriadis

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 8:07 AM
To: HEA Testimony
Cc: carolinesdelano@aol.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Caroline Delano	Individual	Support	No

Comments: Yes, we do need to do some research on prevention, testing and treating this difficult disease.

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 5:03:34 PM
Attachments:	Mickelson SB2516 testimony.docx

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Tuesday, February 02, 2016 9:02 PM
To: HEA Testimony
Cc: aaronmic@hawaii.edu
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/2/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
aaron mickelson	Individual	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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 5:02:57 PM

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Tuesday, February 02, 2016 10:17 PM
To: HEA Testimony
Cc: autofreeann@hotmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/2/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Ann Kobsa	Individual	Support	No

Comments: There is an urgent need for funding for research and education on this disease that has the potential to ruin many more lives in Hawaii. Please approve this bill for rat lungworm funding.

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 5:01:03 PM
Attachments:	rat lung testimony

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 10:42 AM
To: HEA Testimony
Cc: edwardwels@yahoo.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016 Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Edward Wels	Individual	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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 4:59:17 PM

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 1:35 PM
To: HEA Testimony
Cc: emmaharberwhite@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Emily White	Individual	Support	No

Comments: Aloha, My name is Emily White and I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because I believe that there needs to be more education and awareness around Rat-lung-worm in the state of Hawaii. Rat lungworm must be prevented; to do so, we must have more research. This is an emerging public health threat, and to continue business as usual would be negligent. We have the ability to prevent this with research and funding. Let's make this happen. Mahalo, Emily White, JD, MA 67 Meheu Circle Kahului, HI 96732

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Maureen Datta	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	mailinglist@capitol.hawaii.gov		
To:	WLA Testimony		
Cc:	ihemphi@live.com		
Subject:	*Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*		
Date:	Thursday, February 04, 2016 7:36:10 AM		

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Denise Key	Individual	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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Gail Clarke	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Edward Aloi	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.
Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Alex Quintana	Individual	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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	tookie49 2004@yahoo.com
Subject:	*Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*
Date:	Thursday, February 04, 2016 11:18:50 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Daniel Kanahele	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Vickery	Individual	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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Tracy E Mills	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Douglas	Individual	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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	info@courtneybruch.com
Subject:	*Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*
Date:	Thursday, February 04, 2016 5:10:05 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Courtney Bruch	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dennis F Lokmer	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	lindsayrosow@yahoo.com
Subject:	*Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*
Date:	Thursday, February 04, 2016 10:05:51 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara Rosow	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	rustysfarm@hawaiiantel.net
Subject:	*Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*
Date:	Thursday, February 04, 2016 2:20:57 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Astrid Watanabe	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Robert Petricci	Individual	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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Rene Umberger	Individual	Support	No

Comments:

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Raphiell Nolin	Individual	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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Melissa Johnson	Individual	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.

Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Simon Russell	Hawaii Farmers Union United	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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
John Gelert	Individual	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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Mendez-Alvarez	Individual	Support	No

Comments:

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	davidsonorganics@gmail.com
Subject:	*Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*
Date:	Thursday, February 04, 2016 7:24:00 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
lan Davidson	Individual	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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	henry.lifeoftheland@gmail.com
Subject:	*Submitted testimony for SB2516 on Feb 5, 2016 14:45PM*
Date:	Thursday, February 04, 2016 5:30:41 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Henry Curtis	Life of the Land	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.

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Tuesday, February 02, 2016 9:05 PM
To: HEA Testimony
Cc: isdale@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/2/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Gerald Isdale	Individual	Support	No

Comments: Aloha, My name is Gerald Isdale . I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because I believe that there needs to be more education and awareness around Rat-lung-worm in the state of Hawaii. This terrible disease is preventable but only with proper care. We need education on the cause and prevention. We also need further study to develop better treatments. In conclusion, I am supporting SB 2516 because Hawaii's health matters and this measure can help.

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 9:33 AM
To: HEA Testimony
Cc: kelli.bolger@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Kelli Bolger	Individual	Support	No

Comments: This fall, one of my close friends contracted rat lungworm and I saw firsthand how debilitating the parasite can be. I also saw that the risk is not limited to a certain population, but is becoming a "mainstream" illness - educated, health-conscious people are at the same risk as anyone else. We need more research on rat lungworm and how to better prevent AND treat it. Thank you for your consideration.

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.

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Tuesday, February 02, 2016 9:54 PM
To: HEA Testimony
Cc: kirksurry@yahoo.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/2/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Kirk Surry	Individual	Support	No

Comments: Aloha, My name is Kirk Surry and I am a co-founder of Grow Some Good - a school garden organization on Maui. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 because I believe that there needs to be more education and awareness around Rat-lung-worm in the state of Hawaii, because the risk is too great not to educate about this preventable disease. Sincerely, Kirk Surry 808-269-6300 Kihei, HI

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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 5:03:53 PM
Attachments:	Draft testimony for RLW Hawaii Legdocx

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Tuesday, February 02, 2016 4:44 PM
To: HEA Testimony
Cc: reinert6@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/2/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Linda Reinert	Individual	Support	No

Comments: My son is available for questions if helpful.

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 4:59:28 PM
Attachments:	Rat Lungworm Disease

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 11:18 AM
To: HEA Testimony
Cc: CellularActivation@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016 Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dominique Pandolfi	Individual	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Tuesday, February 02, 2016 4:28 PM
To: HEA Testimony
Cc: shannonkona@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/2/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Shannon Rudolph	Individual	Support	No

Comments: Strongly Support

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.

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 9:11 AM
To: HEA Testimony
Cc: arthurwdodge@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Arthur Dodge	Individual	Comments Only	No

Comments: To: RosayIn H. Baker Chair of the Senate Commerce Consumer Protection, and Health committee Mike Gabbard Chair of the Senate Water, Land, and Agriculture committee Jill N. Tokuda Chair of the Senate Higher Education and the Arts committee Re: SB2516 2:45pm, February 5, 2016 Aloha, My name is Arthur Dodge and I am owner of a small retail/grocery store that sells only items grown, and produced in Hawaii. I am testifying on SB 2516 relating to Rat Lungworm Disease. I am testifying in support of SB 2516 because buying local and growing your own food is increasingly important to a lot of Hawaii's residents and visitors. While it is important, it has also become very dangerous. It is unfair to expect the consumer to carry the entire burden of such a prevalent and debilitating disease. All it takes is 1 little slug (out of the millions/billions?) to tuck itself underneath the fold in leaf of lettuce, and served on a plate at a restaurant or at home, for someone to become very sick or die. Some people avoid buying local produce all together, and others are rightfully concerned that they can get this disease by eating local food, and they are apprehensive to do so. It's bad for the economy, and it's bad for agriculture. I understand that the State and Federal governments go out of their way at great expense to protect consumers (everything from tripping hazards on the sidewalks, to sanitation regulations within our favorite restaurant), Rat Lungworm Disease should be on that list of consumer protections. I think that it is important to know more about Rat Lung Worm Disease so that we can be better equipped to educate and prevent the disease. In conclusion, I am supporting SB 2516 because grassroots efforts and funding is not enough to combat this disease. Sincerely, Arthur Dodge The Locavore Store 808.315.2471

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.

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 1:52 PM
To: HEA Testimony
Cc: shoshannama@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Stacy Friedman	Individual	Comments Only	No

Comments: Aloha, My name is Stacy Friedman and I am testifying in support of The Rat Lung Worm bill SB 2516. I contracted the disease in 2004 prior to any knowledge or publicity about the disease from the health department. I was hospitalized twice in the first year, and suffered immensely during that time. Since that time in order to function at a basic level I must take medications to control the unimaginable pain that still, 12 years later, affects me every minute of every day. My life has been permanently altered. I am unable to work, play, or participate in what was once the meaningful aspects of my life due to constant and severe pain, despite the medications that suppress the pain somewhat. In conclusion, I am testifying in support of SB 2516 because Kaye Howe and others that are tirelessly working on preventing the spread of this disease are in need of funding, and the approval of this bill will give those who are working the hardest to protect residents of the Hawaiian Islands the funding and support that is necessary to eradicate this horrific disease. Sincerely, Stacy Friedman (Shanna Rose on the RLW Video) 14-4485 Government Beach Rd. RR 2 Box 3302 Pahoa, HI 96778

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	HEA Testimony
To:	WLA Testimony
Subject:	FW: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 5:00:49 PM

From: mailinglist@capitol.hawaii.gov [mailto:mailinglist@capitol.hawaii.gov]
Sent: Wednesday, February 03, 2016 10:50 AM
To: HEA Testimony
Cc: mblazak@gmail.com
Subject: Submitted testimony for SB2516 on Feb 5, 2016 14:45PM

<u>SB2516</u>

Submitted on: 2/3/2016

Testimony for HEA/WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Megan Blazak	Individual	Support	No

Comments: Jill N. Tokuda, chair of the Ways and Means Committee RosayIn H. Baker Chair of the Senate Commerce Consumer Protection and Health Committee Mike Gabbard Chair of the Senate Water, Land, and Agriculture Committee Re: In support of SB2516 Date/Time of Hearing Aloha, My name is Megan Blazak and I am testifying in support of SB 2516 relating to rat lungworm disease. I am testifying in support because I believe that there needs to be more education and awareness around Rat-lung-worm in the state of Hawaii. I have personally known several people who have contracted this debilitating disease, and in their recovery there were met by medical professionals who were not equipped with the expertise or tolls necessary to properly treat this life-altering diseases. please support SB 2516. Thank you for your time.

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Tony Sylvester	Individual	Support	No

Comments: Aloha, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	geneveve.fyvie@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 6:34:50 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Geneveve Crysdale	Individual	Support	No

Comments: Jill N. Tokuda Chairman of the Senate Ways and Means Committee entokuda@capitol.hawaii.gov Rosayln H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee senbaker@Capitol.hawaii.gov Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee sengabbard@capitol.hawaii.gov Aloha, My name is Geneveve Crysdale. I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being. In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative. Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites. I personally know farmers who are unaware of the dangers rat lungworm on their produce to either themselves or their consumers. I know people who have suffered for years of pain with this disease. I have two children under three and k worry for

their safety and their future if this is not taken seriously by those in the food and health industry. In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease. Sincerely, Geneveve Crysdale

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
George Vierra	Individual	Support	No

Comments: Rat lung worm is a devastating disease that many doctors don't even know how to properly diagnose more help is needed in combatting this disease or it will devastate our health and our edible ag crops maybe even restaurants that serve leafy greens, etc

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	<u>una@hawaii.rr.com</u>
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 12:39:20 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Una Greenaway	Individual	Support	No

Comments: Please pass this bill. These folks at the Pharmacy school have been doing such great work on this issue. Of all the invasive species problems in Hawaii, this one has the greatest potential to really disable people. Those that get it never really heal from it. I am sure you will hear the testimonies of the folks who got the disease. Please note, this is not just a haole hippie Puna disease, as you may think. In Kona, Irene Izumi, died from it. She was the daughter of Mrs. Mary Teshima, a middle class, super healthy woman who played tennis three days per week. She got it from eating at a restaurant. NOT from eating from her garden. The education is so important on this. We can all eat local produce, but we MUST clean it well. Thank you

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	hart.miller@punahealth.org
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 6:08:28 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Hart Miller, MD	Puna Community Medical Center	Support	No

Comments: I am a physician in Puna and have seen devastating disease result from Angiostrongylosis (Rat Lungworm Disease). Last year my clinic helped support a study which suggested that a high percentage of our population has been infected. I am in support for funding for further research in this disease. From a diagnostic standpoint there is currently no appropriate diagnostic method short of lumbar puncture (spinal tap) to specifically identify and diagnose this disease. As the clinical symptoms appear similar to other tropical diseases it is difficult to make a proper diagnosis with the tools we currently have in an outpatient medical clinic. There are currently rapid testing options being developed but need more funding to be able to produce a product useful to clinicians. Furthermore, we need better options for treatment. We currently know so little about this disease there is very little that we can do to limit the suffering from this illness. There are medications available which might be appropriate to limit the effects of this illness, but without further funding for research we cannot safely employ these methods. Please support funding for this bill

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Victoria Gershik	Individual	Support	No

Comments: Please, we need to understand how to better protect our keikis and all our friends and family from rat lung. Thank you.

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Submitted on: 2/3/2016

Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
ZackaryWaian	Individual	Support	No

Comments: I am ready to see some real research be done in Hawaii on RLW!

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
jahnava baldassarre	Individual	Support	No

Comments: I have a friend, an RN, who lives in lower Puna and contracted Rat Lungworm Disease. She has since moved to Hilo, for her health, and continues to recuperate after several hospitalizations. I am in favor of studying Rat Lungworm Disease. Respectfully, Jahnava Baldassarre RN

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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Amber Starr	Individual	Support	No

Comments: I support the proposed appropriation of funds to conduct this important research. Thank you.

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	jeriathome96756@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 4:40:29 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Jeri Miller	Individual	Support	No

Comments: This is a very scary disease and it needs to be studied and controlled/eradicated. People's lives and livelihoods depend on this.

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Bonnie Marsh	Individual	Support	No

Comments: As a physician I support research into Rat Lung Disease. I have personally known people within the Hawaiian Islands whose lives had been severely impacted by this disease. Mahalo for your support.

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	<u>tjsmwjn@msn.com</u>
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 10:54:04 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Joni Izumi-Nakamoto	Individual	Support	No

Comments: Regarding SB2516 Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm Aloha, My name is Joni Izumi-Nakamoto and I am a concerned resident living in Kona. I am testifying in support of SB 2516 as the need for funding for research, education and vector control in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that upon infection, resides in your brain and central nervous system. Because of this, the damage this parasite can cause can be devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being. In the past 15-years cases of rat lungworm disease have been increasing in number in Hawaii, particularly on Hawaii Island and Maui. Each year more serious cases arise, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because many healthcare workers don't know about rat lungworm disease. Increased education of the medical community isimperative. Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection might also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites. In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Inadequately addressing this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

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Submitted on: 2/3/2016

Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Joseph Kohn MD	www.WeAreOne.cc	Support	No

Comments: I am testifying in support of SB 2516 because I believe that there needs to be more education and awareness around Rat-lung-worm in the state of Hawaii.

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	julyhasegawa@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 6:11:13 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
July Hasegawa	Individual	Support	No

Comments: I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease.

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	karin@eveningrainfarm.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Friday, February 05, 2016 5:57:41 AM

Submitted on: 2/5/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
kar	Evening Rain Farm	Support	No

Comments: Thank you for being involved in government and politics! I applause you for the – at best– thankless work you perform on behalf of citizens. I am co owner of a natural subsistence farm in Kapoho that grows a majority of food for the owners and interns who reside in the farm to learn sustainable living practices. We have worked the land for the past 14 years and during that time have had contact with the rat lung worm. We had one confirmed case with an intern who was treated in Waimea and who returned to the mainland and I have no doubt several less severe undiagnosed cases over the years. What was most challenging was the lack of clear and complete questions (we're cisterns a potential hazard, could the slime carry enough nematodes and the most unclear one: How to safely handle salad greens?). I believe the more we know the better choices we make. Withholding opportunities to gather reliable informations creates fear and rhumors and misinformation. I prefer to be informed and make choices I can take responsibility for. There has never been a case where suppressed information or lack of funding for information has ever made a situation better. My daughter was raised in Hawaii and the fear of rat lung was one of the reasons I encouraged her to go to college off island. Hawaii has lost at least one amazing citizen. I am considering making the mainland my home. Please support this bill. Thank you, Karin Payne Evening Rain Farm

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Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Katarina Culina	Individual	Support	No

Comments: Aloha, Rat Lungworm disease is a serious and debilitating one. Unfortunately, not enough research has been done and medical community in Hawaii is rarely prepared to deal with it. It is often mistaken for other disease which indicates number of people suffering from it is much higher than estimated. Please support this critical bill! Mahalo, Katarina Culina Po box 2142 Pahoa, HI 96778

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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Organization	Testifier Position	Present at Hearing
Individual	Comments Only	No
-		

Comments: Jill N. Tokuda Chairman of the Senate Ways and Means Committee entokuda@capitol.hawaii.gov RosayIn H. Baker Chairman of the Senate Commerce Consumer Protection and Health Committee senbaker@Capitol.hawaii.gov Mike Gabbard Chairman of the Senate Water, Land, and Agriculture Committee sengabbard@capitol.hawaii.gov Testimony in support of SB2516 Relating to funding for rat lungworm research and education Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm Aloha, My name is Kathryn Rudolph and I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being. In the past 15years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative. Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites. In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if

diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this disease. Sincerely, Kathryn Rudolph (231)203-1898

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Bryna Storch	Commercial Farmer	Support	No

Comments: This is CRITICAL to protect our farm business and health!!! Please allocate appropriate funds!!!

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	crmiller211@mac.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 4:25:43 AM
Attachments:	Senator Baker.pages

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Craig R Miller	Individual	Support	No

Comments:

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Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Darrell Tanaka	Individual	Support	No

Comments: people who don't wash their vegetables, need all the help they can get.

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Lisa Ferentinos	Individual	Comments Only	No

Comments: The University of Hawaii Sea Grant Extension Program provides information to rainwater catchment users statewide. Our inability to advise the estimated 60,000 households using rainwater catchment on filters or treatments that are adequate to stop rat lungworm is a serious concern. Funding is desperately needed to conduct necessary scientific investigations and public outreach. Mahalo, Lisa Ferentinos Extension Agent University of Hawaii Sea Grant Program

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Luana Jones	Individual	Support	No

Comments: Strong Support for education about prevention and early detection of this debilitating and potentially deadly disease, especially as more and more Hawaii residents are growing (sharing, and selling)their own food. Mahalo for this Bill!

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Submitted on: 2/3/2016

Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
lucienne de naie	Individual	Support	No

Comments: Please help Hawaii stop the spread of this terrible infection

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Lydi Morgan Bernal	Individual	Support	No

Comments: Aloha and thank you for hearing this bill. I strongly support SB2516. Tragically, three of my friends (in their 30s) have contracted rat lungworm disease, 2 on Hawaii Island (contracted from produce sold at the Hilo Farmers Market) and 1 on Maui (contracted from a salad at a restaurant). They will never ever be the same. One is struggling to relearn how to walk about 6 months after contracting the disease. This disease is fully preventable. It is imperative that funding be invested and a major education campaign be undertaken to prevent RLWD. Thank you very much!

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Mary Regina Miller	Individual	Support	No

Comments: Aloha, My name is Mary Regina (Gina) Miller. I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and wellbeing. In the past 15-years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative. Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites. In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this horrible disease. Respectfully, Mrs. Mary Regina Miller 808-443-9918 Gina1645@gmail.com

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	panther_dave@yahoo.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 2:42:19 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dave Kisor	Individual	Support	No

Comments: It's high time the State Department of Health live up to their website and throw a lot more time and energy into the rat lungworm problem. A friend's wife contracted it and it has him chewing nails and I don't mean fingernails! She's in constant pain. I understand the Department of Tourism encourages Doctors not to mention rat lungworm, as it may scare away tourists. If it were in Honolulu, the state would have already thrown millions into the research, but since it's mostly in Puna, nobody seems to be all that concerned.

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
David B. Fisher	Maui Venture Consulting LLC	Support	No

Comments: Please support this effort. The rat worm virus has the potential to harm both growers, food establishments, residents and visitors all with devastating impact. Aloha David Fisher

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	mjarman126@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 12:21:50 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Melinda Jarman	Individual	Comments Only	No

Comments: From: Melinda Jarman Subject: SB2516 Rat Lungworm Re: SB2516 Date/Time of hearing: Feb. 5, 2016 @ 2:45 pm Aloha, My name is Melinda Jarman. I am testifying on SB 2516 relating to rat lungworm disease. I am testifying in support of SB 2516 (list reasons)..... My brother, David Danglo, was diagnosed with Rat Lungworm 5 years ago. He has not been the same since. When David's symptoms began, he went to Hilo ER 3 times and was sent home. He then packed a backpack with minimal essentials, knowing something was wrong and checked into Hilo Hospital ER. Hilo transferred David to Queens Medical Center in Honolulu by Medvac and he was on the neurological floor for a month. He had meningitis; he was not able to communicate with his family. We talked to the doctors and nurses. A 30 year friend of David's came and stayed with David for 2 weeks and David did not remember his friend, Brian. He actually saw two of him. He also saw animals running across the room, which never happened. Then David was flown from Honolulu to Jacksonville Florida to a rehab facility, with the assistance of a nurse the whole trip. The rehab and my sister took care of David on a daily basis as he had to learn how to walk and talk again. He is on disability now and will be for the rest of his life. He is not the same brother I knew and loved before the disease hit him. He had double vision; still has balancing issues and many other after effects from this horrific disease. We are blessed to still have David in our life. Please get the funding needed for the disease. I applaud Kay Howe for her support of this bill and being so involved especially since her son, Graham, had rat lungworm. Kay is fighting for the people who can't fight. In conclusion, I am supporting SB 2516 because....... My brother, David Danglo, will never be the same again. He was healthy and working before Rat Lungworm took his health, and now each day is a challenge. Please allow funding for this bill. Thank you. Sincerely, Melinda Jarman & Julie Brown, David's sisters, Jeff Danglo, brother & Nick Jarman, nephew 636-866-1303

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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Deborah Mader	Individual	Support	No

Comments: Aloha, I support SB2516 and efforts to gain more knowledge and understanding of how best to prevent and treat rat lung disease. In all of this research, I hope that organic and natural predators will be included in "best practice" for dealing with carriers/pest management. I don't want to see taxpayer money being paid to the chemical companies to develop poison that would cause other problems within the environment or contaminate resources. I would challenge UH to come up with responsible solutions to deal with this disease in the most balanced way as to not cause further harm to people and resources. Mahalo Deborah Mader Kihei, HI

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
michael mcdaniel	Individual	Support	No

Comments: I urge you to pass this measure to study rat lungworm disease. Many people have been affected and many more will be if we simply turn a blind eye to the problem. This is an opportunity to make a difference before it is too late. Please pass this measure.

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Nadia Ranne	Individual	Support	No

Comments: Please support this bill. Our community is greatly affected by this disease and little is known about it. This needs to be a high priority for the present and future. Mahalo in advance!

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	nredfeather@kohalacenter.org
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 7:10:54 PM

Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Nancy Redfeather	Hawaii Island School Garden Network	Support	No

Comments: A Very Serious Disease that could put the brakes on building a local food system. Destroys confidence in locally grown produce. The better we understand it the better we can work to devise protocols and procedures to deal with it. Just because there are only a few cases on Oahu, is not a reason to brush this aside. Mahalo!

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	rhodesnd@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 8:16:06 PM

Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Natalie Rhodes	Individual	Comments Only	No

Comments: I am very concerned about rat lung disease and the possibility that someone in our household or community might contract this. I am shocked that more isn't being done to help combat this disease and to warn the public and visitors about it. Please do what ever it takes to help stop the spread of this in Hawaii. We own a house in Puna on one acre of agricultural land. One reason we bought there was because of the lush vegetation and the opportunity to grow our own food. Because of rat lung disease and the danger to our family, I am not growing anything that can't be peeled. This makes growing vegetables such as lettuce and beans not possible. Our vision has had to change because of this disease. It also has a direct affect on my family and how we purchase our food. We used to enjoy buying lettuce and greens at the local farmers market. This is no longer our practice due to rat lung disease. We only buy vegetables at the grocery store and try to buy only those grown on the mainland. This is hurting the local economy as well as those that want to support it. Tourists don't get the information they need to stay safe when buying food. I feel this is based on Hawaii's tourism and economy, and the need to protect that. Tourists have no idea that the "healthy" local food they are buying might make them extremely sick. Rat Lung disease has changed our ability to grow our own food and feel safe about eating food grown in Hawaii. It is a terrible disease and hasn't gotten the attention and funding that needs to happen. Please vote to help fund research and education for Rat Lung disease. Thank you.

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Norris Thomlinson	Individual	Support	No

Comments: I live in Kapoho on the Big Island, and know several people who have definitely or probably contracted rat lungworm, some of whom suffered permanent symptoms. This is a really serious health issue, and is spreading in other areas of Hawai'i. It's very important to properly fund research and education, so I support this bill.

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Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
pat gegen	Individual	Support	No

Comments: Please support this necessary research and work..... Mahalo!

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	ramona.hussey@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 4:34:14 PM

Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Organization	Testifier Position	Present at Hearing
Individual	Support	No
	.	Organization Position

Comments: Re: SB2516 Relating to Rat Lung Disease Hearing: February 5, 2016 at 2:45pm Aloha Senator Tokuda & Senator Baker. My name is Ramona Hussey. I am testifying on SB 2516 relating to rat lungworm disease. I support SB 2516 because I believe that there needs to be more education and awareness around Rat-lung-worm in the state of Hawaii. This is a very vile and dangerous disease which is acquired by simply eating healthy foods (which haven't been properly washed). In some cases the contaminated vegetables are home-grown; in others the patients ate the salad in a restaurant. People who have gotten the disease suffer greatly and in many cases, they are badly affected for the rest of their life as it can affect the neurological system. In conclusion, I am supporting SB 2516 because money is desperately needed for research, testing, and education on this horrific disease. Thank you for your support of such an important cause. Sincerely, Ramona Hussey (808) 699-6167 Ramona.Hussey@gmail.com

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	dendromecon27@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 11:26:35 AM
Attachments:	Jill N.docx

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Stephanie Yelenik	Individual	Support	No

Comments:

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Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Tamara Paltin	Individual	Support	No

Comments: Rat lung worm is such a devastating disease. I fully support this bill to increase awareness and education about rat lung worm

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	robguz4@me.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 2:28:16 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Rob Guzman	Individual	Support	No

Comments: Aloha, My name is Rob Guzman. I am testifying in support of SB 2516 as the need for funding for research and education in Hawaii for rat lungworm disease is essential. The rat lungworm is a microscopic, parasitic worm that grows up to an inch in length in your brain and central nervous system, and the damage this parasite can cause is why this disease is so devastating. In Hawaii, rat lungworm disease is costing people their lives, livelihoods, savings, health, and well-being. In the past 15years cases of rat lungworm disease have been increasing in number and severity in the Hawaii, particularly on Hawaii Island and Maui. According to the CDC and the Hawaii State Department of Health, severe cases are supposed to be rare. However, each year we are having more and more serious cases, some resulting in permanent disability, coma, and even death and suicide. Many victims have reported being misdiagnosed or turned away from hospitals for treatment because doctors don't know about rat lungworm disease. Education of the medical community is imperative. Research and education for rat lungworm disease is crucial to Hawaii's efforts to become food secure, and if we are to support local farmers, school garden projects, and the Farm to School Program. As infection is most often from eating contaminated food, it is essential that everyone involved with food, including farmers, gardeners, food handlers, grocers, and consumers, be educated about the disease and understand the proper measures that must be taken to minimize the risk of contamination. Infection can also occur from ingesting contaminated water. A great number of people on Hawaii Island rely on rainwater catchment for their household water supply, particularly in the Puna, Kau, South Kona, and Hamakua Districts. It is critical for Hawaii Island residents and farmers using catchment for agriculture water to be aware of the importance of maintaining their rainwater catchment systems and filters, as infected slugs and snails can crawl into catchment tanks can contaminate water with the parasites. In conclusion, I am supporting SB 2516 because rat lungworm disease is preventable, and the severity of the disease can be mitigated if diagnosed and treated early. Ignoring this important problem has and will continue to hurt our farmers, our residents and visitors, and Hawaii's reputation as a tropical vacation paradise. It is essential that adequate funding be allocated for research and education on rat lungworm disease, and a program is developed for the control of the vectors that carry this disease. I have witnessed what this disease does by seeing how it has greatly impacted the life of my friend Graham McCumber. As an
epidemiologist, I understand how some diseases fail to get much attention and funding, especially if surveillance is poor and official cases are not high enough to scare the general public. However, in many areas of Hawaii people are at great risk of contracting this disease. This is includes in the Puna district of Hawaii Island, where I reside. Sincerely, Rob Guzman, MPH

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	terez.amato@yahoo.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 2:34:59 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Terez Amato Lindsey	Individual	Support	No

Comments: Aloha Chairs, Vice Chairs, and committee members, As the friend of woman who was infected with Rat Lung Worm Disease last year, I can tell you that from seeing her horrendous decline and struggle to survive just how debilitating, life threatening, and expensive this little known or discussed disease is. After watching my friend, a vibrant community leader who has been a tireless advocate for our youth, our homeless community, and for food security be misdiagnosed repeatedly, almost die at our Maui hospital, and then reduced to living in a van while she seeks treatment on the West Coast, I come before you to humbly ask that any and all resources available be allocated in the fight to end this preventable illness. I ask that you please allocate generous resources without prejudice in the effort to finding a cure, and to providing community education on the prevention of this devastating disease. My friend has experienced such extensive nerve damage that she will likely never fully regain the stamina she once had. Truthfully, she is lucky to be alive. Nothing is more heartbreaking to see your friend in inconsolable physical pain, enduring too many seizures to count, or to watching her learn how to walk all over again as though she were a child. This is a great opportunity to do real good without too much effort on the part of the legislature. Please do vote ave on SB2516. With appreciation, Terez Amato Lindsey Kihei, Hawaii

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	tiana@farmtokeiki.org
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 2:01:05 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Tiana Kamen	Individual	Support	No

Comments: Aloha Members of the Committee, Mahalo for taking the time to hear this bill and my testimony. Rat lungworm is a fatal public health concern to all people of Hawaii. There needs to be more research about this disease so that we can: 1) find out how to prevent people from contracting the disease 2) know how to identify symptoms quickly so treatment can be administered before the person is further affected, and ultimately, 3) figure out how we can treat this disease. A friend of mine contracted the disease by accidentally eating a slug in a restaurant. She was misdiagnosed for months while she was suffering seizures, a symptom of the worms eating her brains and nerves. Without her own courage to leave Hawaii to seek other help on the mainland, she could easily have already been dead. She lost her ability to walk, speech, hearing, cognition and more. She is still battling to rid her body of the disease, but because there is limited research on the topic, she and doctors really don't know how to treat her. The community has been donating money to her cause so she can live and search for a cure because none exist. She is struggling to live because of a simple incident in a restaurant that could have been prevented by education of the cooking staff to check all foods for snails. Growing and eating fresh local fruits and vegetables is essential to living a healthy life. Stopping eating fresh foods grown in Hawaii is not an option, but rat lungworm is putting our community, our agricultural economy and our health at stake. Funding to help educate all of Hawaii's public is necessary to prevent others from contracting this disease. Funding is needed to find a cure for people who have been infected. The government is asked to fund many things, but one of the most important roles of the government is to protect the wellbeing of its people. Rat lungworm is an evasive threat and we need to be proactive so no one else must suffer like my dear friend. Mahalo nui loa for considering funding this bill and being proactive in helping protect yourself, your family and our entire Hawaii community from this debilitating disease.

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	shannon.wianecki@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Wednesday, February 03, 2016 7:44:14 PM

Submitted on: 2/3/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Shannon Wianecki	Individual	Support	No

Comments: Aloha, My name is Shannon Wianecki. I am writing in support of SB 2516. I first became aware of rat lungworm disease while working for the Maui Invasive Species Committee. I developed an educational tool to teach high school students about this horrific disease. Unfortunately, the general public remains mostly unaware of its danger. The need for rat lungworm disease research and education in Hawaii is essential. This gruesome disease has cost Hawaii residents their livelihoods, savings, health, well-being, and sometimes their lives. This subject became personal to me when a friend contracted the disease. She went from a vibrant young woman active in the community to a wheelchair-bound person barely able to tolerate sounds and light changes. I feel devastated for her, the loss of her mobility and self-reliance. Our entire community has suffered the loss of what she would have contributed had she not been compromised by a painful, disorienting, and life-sapping illness. Like many victims, she was initially misdiagnosed. Local doctors don't know enough about rat lungworm disease to recognize and treat it. There is no cure for rat lungworm disease, but there are preventative measures we can take. Since infection comes from consuming the small slugs or slime found on fresh produce, everyone involved with food, including farmers, gardeners, chefs, grocers, and consumers, needs to be educated about the disease. Infection can also occur from ingesting contaminated water. It is critical for Hawaii residents and farmers who rely on catchment water to be aware of the importance of maintaining their water systems and filters. Rat lungworm disease is preventable. The severity of the disease can be mitigated if diagnosed and treated early. Failing to educate ourselves and our neighbors makes us complicit in future infections. Sincerely, Shannon Wianecki

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Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
eve furchgott	Individual	Support	No

Comments: Rat lungworm disease is a very serious problem in our state. I personally know, and know of, numerous people in my area whose lives have been permanently damaged by this disease. I also know that very little money or effort has been made available to research the problem, search for cures, or educate the public about it. This has to change! I urge the State to take action to provide the much-needed funding for research and public education immediately, before more innocent lives are ruined or lost.

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	franny234@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 11:04:49 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Franny Brewer	Individual	Support	No

Comments: I am writing in support of the funding for rat lungworm research. I am very concerned about the health of my daughter, my family and friends, and my community here on the Big Island. As the semi-slug, the preferred vector for the rat lungworm parasite, continues to expand its range, more and more Big Island residents and visitors are at risk of contracting this terrible and potentially deadly disease. Children are at special risk, as they can come into contact with the slugs and their trails merely by playing on the ground. As we all know, babies like to put their hands in their mouths - we can scrub our vegetables clean without fail and yet still, we are at risk. We need clear and comprehensive information about transmission methods (including water catchment), risks, treatments, and control of the vectors (slugs and rats). Doctors must have the necessary information to be able to diagnose and treat the disease right away. Hawaii has a responsibility to protect its citizens from this health threat, and I hope that you will commit state resources to addressing this pressing health problem. Thank you for your time.

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.

From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	<u>bluehi@hawaii.rr.com</u>
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 3:48:40 PM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
steven bronstein	HHawaii Farmers Union United	Support	No

Comments: I support further study of ratworm lung disease. Rat Lungworm disease is preventable in several different ways. Education is just one of the ways by washing fruits completely to eliminate the parasite. The parasite also poses a threat to water supply and catchment, animals and humans. Eradication is also accomplishments by others means as well.Study is an absolute requirement. Aloha

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	steven jacquier@hotmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 10:33:57 AM

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Steven Jacquier	Individual	Support	No

Comments: Rat Lungworm Disease (RLWD) is hurting Hawaii's health and economy. Others are sending you testimony regarding the far too many examples of tragic RLWD morbidity and mortality, including dead children, resulting from this disease in Hawaii so I will focus on my personal experience of the substantial negative economic impact to date and into the future, as well as for Hawaii to turn the tables on RLWD and actually generate permanent jobs as well as building institutional capacity here by successfully rising to meet this challenge. Several groups of visitors who had been scheduled to come stay with us while enjoying vacations in Hawaii have cancelled due to concerns about RLWD (and, more recently, dengue fever as well). These visitors, including families with children, had planned to stop on Oahu &/or Maui/Kauai for several days en route to the Big Island. Those revenues are lost to Hawaii. Moreover, some of those folks had expressed interest in purchasing land here toward someday building a place for occasional vacation use and eventually for full time use in retirement; that interest disappeared along with their tourist dollars once they became aware of RLWD. The economic stimulus and local jobs this ongoing spending would have supported have disappeared, too. Television programs and news reports are spreading awareness of RLWD on the mainland --sometimes in a graphically alarming and sensationalist manner-- usually via focusing on visitors who have become ill and died. I then get a call or email saying "Hey, my wife just saw an episode of 'Monsters Inside Us' saying...' or "The evening news says a college kid who was WOOFing on the Big Island is in the hospital, crippled for life, because of a disease in the food" - and the vacation is subsequently cancelled. We here in Hawaii need to be proactive in fighting RLWD. This means research and education. During my several years of working as a volunteer (I am a retired professor and scientist) on the Hawaii Island Rat Lungworm Disease Team, this service via Dr. Susan Jarvi's lab and her excellent leadership at UHH's College of Pharmacy, I have seen an increase in the range and population on Hawai'i island of the ideal vector for RLWD (the so-called "semi-slug"). I have encountered many people in the community who do not understand the role of this recently arrived invasive slug species in the skyrocketing incidence rates & severity of recent RLWD infections. Also, I have seen remarkable progress in research and education being made on shoestring budgets at Jarvi Lab as well as the development of a list of over fifteen rock solid questions for which research could produce significant answers if

only adequate funding were available. For example, while RLWD afflicts accidentally infected humans, dogs, parrots, and a number of other animals, the disease does not appear to infect pigs, cats, chickens & ducks, and some other species. How is that? Pigs are very similar to humans, physiologically. Feral pigs must be ingesting thousands of slugs filled with infective larvae, yet are apparently unharmed. How are swine protected from RLWD? UHH's College Farm is equipped to perform scientific trials with pigs. If funding were available to the Team and Farm, then we could partner together to study the protective factors sparing swine the profound damage & death occurring to humans. This is just one guestion on our list; it will require anywhere from \$30,000 to well over \$120,000 in funding to run each of the individual experiments needed in order to determine definitive answers. We have solid questions, we know how to approach them experimentally, but we lack the funding to do much more than feel frustration as this disease continues to spread in range and grow in severity. Please support SB2516; an increase in the amount of funding provided would be useful if any amendment is being considered. Hawaii really needs an umbrella Center devoted to research, education, prevention, and amelioration of tropical disease and their vectors but SB2516 is a constructive step toward a more serious response. As the climate changes and invasive species continue to arrive in Hawaii we need to be better prepared for anticipating and coping. Advances made here in Hawaii can benefit people throughout poor regions in the tropics worldwide, as well as in states such as TX, LO, & FL. Once better institutional capacity is developed here in Hawaii, this will be the most logical place for funding from NSF, CDC, NIH, DOD, and other large grantors. Hawaii is on the front lines of vulcanology, astronomy, and some marine science due to its unique position. Hawaii could provide real leadership with regard to invasive species and tropical diseases as well, if our current political leadership here is far-sighted enough to realize the ongoing benefits and step up with funding. Sincerely, Steven Jacquier

Please note that testimony submitted <u>less than 24 hours prior to the hearing</u>, 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.

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Felicia Cowden	Individual	Support	No

Comments: As a resident of Kauai, I SUPPORT SB 2516 to appropriate funds to study Rat-Lungworm disease at UH Hilo. We need to help Hawaii island rid itself of this problem. We also do not want it to spread to the other islands. Mahalo Nui, Felicia Cowden Kilauea, Kauai

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From:	mailinglist@capitol.hawaii.gov
To:	WLA Testimony
Cc:	onespirithealing@gmail.com
Subject:	Submitted testimony for SB2516 on Feb 5, 2016 14:45PM
Date:	Thursday, February 04, 2016 11:48:29 AM
Attachments:	Rat Lung Worm Testimony.docx

Submitted on: 2/4/2016 Testimony for WLA/CPH on Feb 5, 2016 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Justice	Individual	Support	No

Comments:

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