



# UNIVERSITY OF HAWAII SYSTEM

## Legislative Testimony

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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  
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### 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.