



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Committee on Senate Ways and Means
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By
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DEAN
UH Hilo - Daniel K. Inouye College of Pharmacy

SB 3097 SD1 – RELATING TO THE UNIVERSITY OF HAWAII

Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the committee:

My name is Carolyn Ma, and I am the Dean for the UH Hilo Daniel K. Inouye College of Pharmacy (DKICP). As the designated lead for University of Hawai'i at Hilo on behalf of Interim Chancellor Dr. Marcia Sakai, UH Hilo fully supports the intent of this bill that will address the control and treatment of Rat Lung Worm (RLW) Disease.

UH Hilo's DKICP has both a basic science researcher Sue Jarvi, PhD (RLW Task Force) and a pharmacy practice (pharmacist) faculty, Louis Leteif, PharmD on the RLW Clinical Management Subcommittee.

A most recent study (in publication) has shown that Hawai'i Island has the highest *Angiostrongylus cantonensis* infection rates in rats (94%) and in mollusks (*Parmarion martensi*, semi-slugs 77%) in the country and the increase in human infection appears linked to the arrival of semi-slugs. A baseline recent study conducted on Kaua'i, between March-May 2017 and tested for the presence of *Angiostrongylus cantonensis* (Rat Lungworm), of which 17.2% of semi-slugs tested positive. Our basic science researcher has been active in conducting valuable research.

1. Jarvi lab has developed a 'death assay' to distinguish live from dead larvae. Continued study in this area will help complete studies determine how effective commercially available vegetable washes or other solutions are at killing infective RLW larvae.
2. Simulated catchment water systems have been initially conducted to test two different size filters in an attempt to filter out infective larvae. However, tests have shown that larvae can still travel or move around certain size filters. Continued evaluation of the possibility of RLW transmission in water is necessary by conducting laboratory and household catchment studies to optimize maintenance and treatment design that prevents RLW larvae entering household and agricultural water supplies.

3. A pilot study has been completed to determine if a blood-based test can help to diagnose RLW, rather than the current diagnosed procedure of a spinal tap. Continued study of protein isolates from infected rats will help to evaluate the reliability and validity of such a test.
4. The lab continues to develop ways of reducing larval burdens in rats. Vaccination study was unsuccessful under given conditions. Further study in possibly deworming rats may be a more appropriate strategy.
5. Dr. Louis Leteif has been working on the RLW Task Force Subcommittee for Clinical Management and his work has been to formulate clinical treatment guidelines. These guidelines will guide physicians who are treating these patients with best practice methods of diagnosis (3D MRI, spinal tap, blood tests), effective treatment options, monitoring and follow up. In order to create these guidelines, Dr. Leteif and assistance must review the over 80 cases of RLW that have occurred in the state. Funding would help to continue this investigation. Results would also be applicable to how to treat this disease in domesticated animals and farm livestock.

Thank you for allowing me to testify on behalf of UH Hilo. We support this bill if the passage does not replace or adversely impact priorities as indicated in our University of Hawai'i BOR Approved Supplemental Budget.

Estimated Costs for RLW Research (Bench and Clinical Management) - 3yrs Budget, DKICP		2018-2019		2019-2020		2020-2021	
		FTE	Base \$	Fringe \$ (50.79%)	Base \$	Fringe \$ (50.79%)	Base \$
Salaries:							
Lab manager (Jarvi Lab)	1.0	55,000	27,935	56,650	27,773	58,350	29,636
Research Assistant (Jarvi Lab)	1.0	42,120	19,503	43,384	20,088	44,685	20,691
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Clinical Management Resesarcher to develop Treatment Guidelines (Dept. of Pharmacy Practice, Dr. Louis Lteif)	1.0	52,000	26,411	53,560	27,203	55,167	28,019
Research Assistant (Clinical Management Research portion for Dr. Louis Lteif)	0.5	25,000	12,500	25,000	12,500	25,000	12,500
		216,240	105,852	196,978	95,152	202,887	99,037
Total salaries		\$322,092		\$292,130		\$301,924	
Supplies, travel, other:							
PhD students (including anti-parasitic drug study)		10,000		10,000		10,000	
Veggie wash study		5,000					
Diagnostic study supplies and travel (human and domestic animals)		20,000		20,000		20,000	
Catchment study		10,000		10,000		10,000	
Rat deworming study (supplies and personnel to care for rats)		100,000					
Travel for Clinical Management Researcher		5,000		5,000		5,000	
Total Supplies, Travel, Misc.		150,000		45,000		45,000	
Total Apportionment Proposed		\$472,092.00		\$337,130.00		\$346,924.00	
25% of apportionment to Clinical Treatment Guidelines Research							