HB 97 – RELATING TO THE PROTECTION OF AGRICULTURAL PRODUCTS AGAINST INVASIVE SPECIES

Chair Wooley, Vice Chair Onishi, and Members of the Committee:

I would like to present testimony in strong opposition to this bill due to the substantial problems it would cause for biomedical research at the University of Hawai‘i. My testimony summarizes comments from several UH research faculty, and cites the detrimental impacts HB97 would have on their work as well as many other colleagues’ research. Their primary concern is the impact HB 97 would have on the use of genetically modified lab mice and rats, which are essential for many types of biomedical research. Furthermore, there is widespread recognition by them that the existing federal, state, and UH regulations regarding the import and use of such lab animals is more than sufficient to protect Hawaii’s agricultural sector and natural environment.

Many researchers commenting from the John A. Burns School of Medicine (JABSOM), University of Hawai‘i Cancer Center (UHCC), College of Natural Sciences, and Queen’s Medical Center (QMC) believe HB 97 would be an extreme burden to research. The Hawai‘i State Department of Agriculture (DOA) is already overburdened with reviewing and issuing permits for the activities they currently regulate. At least 95% of the UH biomedical and neurobehavioral researchers who keep research animals in three of the UH operated and Institutional Animal Care and Use Committee (IACUC) approved vivariums (Biomedical Sciences Building, Kaka‘ako, and Magoon Small Animal Facility) use genetically modified mouse models from commercial vendors or from academic institutions from around the world. The research they do often requires the use of such animals, which are developed to have very specific biological characteristics for different experiments.

The following are comments received from some of the researchers who would be adversely affected by HB 97, and echo the concerns of their colleagues at UH.

Dr. Andrea Fleig, Researcher, Professor, and Adjunct Professor, QMC: “Genetically modified rodent models are used world-wide to study and find cures for many human and animal diseases. Genetically modified organisms are the bread and butter of biomedical research, including the research in my laboratory. The administrative processes to ship, receive and maintain genetically modified organisms in the State of Hawai‘i are highly regulated according to strict federal rules and regulations. Adding more burdens to an existing, well-organized infrastructure for regulating genetically modified organisms will stifle research in my laboratory as well as hamper my national and international collaborations.

In addition, my research would be dependent on a committee and public hearing determination
as to whether I can or cannot do certain research projects, even if they’re already approved by extramural research sponsors. This would directly endanger my ability to fulfill my obligations to extramural sponsors to fulfill my grant obligations. In extension, not being able to fulfill my grant obligations would effectively terminate my ability to apply for further grant funding. This would be particularly detrimental for obtaining federal research grants, and would restrict my biomedical research career in Hawai‘i.

It is important to protect Hawai‘i from invasive species. However, biomedical research is highly regulated by several committees comprised of experts in the field. These panels of experts decide over the use genetically modified organisms according to rigorous federal rules and regulations.

The University of Hawai‘i received over $420 million dollars from federal funding sources in FY 2011-12 and hopes to increase this amount through the HI2 - the University of Hawai‘i Innovation Initiative. The proposed HB 97 bill would suffocate UH’s biomedical research initiatives and stop many of them in their tracks.

The National Institutes of Health (NIH) is leading the cause to translate biomedical research into patient care. Genetically modified animals are essential research tools in this effort, particularly mice and rats modified to have specific biological characteristics. Since control mechanisms on biomedical research and genetically modified organisms are already in place in the State of Hawai‘i, this bill adds nothing but another administrative hurdle to hamper biotechnology development and improved patient care in the State.”

Dr. Joe Ramos, Associate Researcher, Associate Professor, and Co-Program Director of Cancer Biology, UHCC: “Use of genetically modified organisms (mice, flies, yeast, bacteria, viruses) is absolutely essential for all significant biological research. This bill will endanger the viability of any Biomedical Development in the state and may kill the Cancer Center and Medical School research enterprises. Indeed my current national NIH funding requires use of genetically modified organisms. Loss of the ability to do this work would end my funding or require me to do my research elsewhere.”

Dr. Sandra Chang, Professor, JABSOM Tropical Medicine and Medical Microbiology: “Genetically-modified organisms are already used for research under safe conditions at the University and no additional regulations are necessary to limit their distribution or release. Furthermore, the majority of genetically modified organisms, for example transgenic mice or recombinant bacteria used for gene cloning studies, pose no risk to the environment, agriculture, horticulture, animal or human (public) health. The few genetically-modified organisms that may pose a risk are already strictly regulated by the State Dept. of Agriculture importation process and monitored by the university’s biosafety program.”

Dr. Peter Hoffmann, Associate Researcher, JABSOM Cell and Molecular Biology: “The mouse model serves as a critical tool for determining cause and effect in diseases. Deletions or changes in genes for thousands of protein products have provided specific information on the role those proteins play in physiology and pathophysiology. My laboratory has brought in approximately $1.5 million in federal funding using novel transgenic mice. I employ two technicians, one post-doctoral researcher, and three Ph.D. graduate students. These people have families of their own and restricting the use or importation of genetically modified mice
would essentially kill our work. We have already abandoned work with some bacterial strains
due to irrationally imposed bans on importing these common microorganisms. If restrictions are
extended to transgenic mice, there will be a flight out of our state of a majority of researchers
and millions of research dollars that we bring into the economy of Hawai‘i.”

Dr. Sylvia Kondo, Veterinarian, Laboratory Animal Services, UH Mānoa
Controls are in already place at UH to prevent escape or release of GMO mice.
The UH has strict administrative controls already in place on import and use of genetically
modified animals, including review and approval of protocols by the IACUC, as well as the
Institutional Biosafety Committee (IBC). Both UH committees are overseen by federal agencies
(including but not limited to, the USDA Animal Plant Health Inspection Service, and Public
Health Service Office of Laboratory Animal Welfare), and must comply with all State and local
regulations pertaining to vertebrate animals used in research and teaching. Included in these
controls are Standard Operating Procedures (SOPs) to prevent escape of animals, as well as
instructions to follow in the event of an inadvertent release.

There are redundant physical barriers in place to prevent the escape of genetically modified
animals. The UH vivariums are designed according to architectural and engineering standards
that meet strict federal guidelines for housing laboratory animals. These include securing
animal holding rooms to prevent inadvertent loss or release of research animals. UH’s vivariums
are regularly inspected by USDA and the UH IACUC representing the NIH’s Office of Laboratory
Animal Welfare (OLAW). The UH vivariums housing animals for biomedical and
neurobehavioral research are secured with a series of locked doors leading into the animal
suites and rooms. The facilities at JABSOM in Kaka‘ako, where the majority of the genetically
modified mice work occurs, are further secured and monitored by a security access and
environmental monitoring system (Edstrom Watchdog®). Sealed cages of mice are secured in
place on ventilated rack systems in vivariums at the UH Mānoa Biomedical Sciences Building
and JABSOM Kaka‘ako. Cages are only opened by trained animal care personnel within
Animal Transfer Stations, which further prevents animals from escaping. Vivarium access is
restricted to those persons directly involved in support of animal research and/or on approved
IACUC protocols, and who have received appropriate training on the handling and care of
animals. Entrances to the Kaka’ako vivarium are monitored by security cameras, as well as the
Edstrom Watchdog® system. Weekly census monitoring is conducted in the vivariums using the
Granite® census management software. In some cases, chain of custody is used to track the
use of animals in the Kaka‘ako vivarium.

Based on this information citing the negative impacts to biological research and the sufficient
existing regulatory systems to maintain safe operations, we strongly urge the legislature to vote
against HB 97.