SB 726
RELATING TO PUBLIC HEALTH

Senate Committee on Government Operations, Environmental Protection and Hawaiian Programs

Public Hearing - March 2, 1993
12:30 P.M., Room 305 SOT

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SB 726 would amend chapters 321 and 343, HRS, to provide that proposed releases of genetically modified organisms within the state would be subject to assessment under the state Environmental Impact Statement (EIS) system.

Our statement on this bill does not constitute an institutional position of the University of Hawaii.

Inclusion of bioengineered organism releases as a trigger for environmental assessment was a recommendation of the Hawaii State Environmental Impact Statement System report prepared in 1991 by the Environmental Center. The major concern behind this recommendation is the unique and fragile nature of Hawaii's environment and the integrity of remaining endemic species and habitats.

Additional concern has arisen as a consequence of proposed federal regulations which would permit release of genetically modified varieties of certain species in Hawaii and elsewhere without specific review. Although provision exists within the regulations for notification of appropriate state officials, such notification is required only "to be postmarked, or delivered to a commercial express carrier on the day of or prior to the day of introduction." In other words, an organism may be released in Hawaii, and state officials would not learn of the release until delivery of mail several days later.

We are sympathetic with the desire to promote Hawaii as a major location for biotechnical innovation, and we recognize the care which most researchers devote to ensuring that their activities are environmentally benign. However, the history of quality assurance within the bioengineering and federal regulatory communities has been less than encouraging.

In 1990, the Monsanto Corporation applied for a federal permit to test a genetically modified strain of cotton on Kauai. The federal Animal and Plant Health Inspection Service of the US Department of Agriculture (APHIS) issued a Finding of No Significant Impact based on their assessment of the proposed
release. However, the field studies submitted by Monsanto to APHIS in support of their application were conducted in Oklahoma and Pakistan.

Prior to the Monsanto application, Calgene had applied for a permit to introduce genetically modified cotton on Molokai. At the time, informal notification and review arrangements allowed the State's Review Committee on Genetically Engineered organisms to respond to this request. The response specifically noted concerns over site-specific environmental factors, including the presence or absence of Hawaii's native cotton variety, and lack of information on natural pollination vectors for Hawaiian cotton. In response, Calgene contracted with local experts to perform site-specific surveys to evaluate regional environmental characteristics.

A number of aspects of this history are troublesome. First, both the National Environmental Policy Act (NEPA) and Chapter 343, HRS, explicitly address the need for evaluation of a proposed action within and adjacent to the environment where it will be undertaken. The species assemblage and habitat characteristics of Molokai and Kauai are critically distinct from those in Pakistan, Oklahoma, Texas, Arizona, and other locations where cotton studies offered in justification of the proposed action were conducted. Second, it was apparent from correspondence between local officials and federal and corporate individuals that the corporation and the federal regulators were unaware of the existence of Hawaiian strains of cotton, and could not answer fundamental questions about the specific route whereby horizontal gene transfer to the local strains might be accomplished, thereby potentially altering future generations of Hawaiian cotton irretrievably. Finally, we find it particularly unsettling that the deficiencies evident in the prior Calgene application were not addressed by APHIS in the subsequent Monsanto application.

After careful review of the proposed amendments to federal regulations pertaining to release of bioengineered products, we remain concerned that the focus of these regulations remains firmly lodged on the bioengineering process and the resultant organism, not on the potential effect of the organism on the receiving environment. It should be noted in addition that cotton is one of the species proposed for blanket exemption from case by case review by the pending APHIS regulations. Had those regulations been in place, the important questions relating to the cotton tests raised by state officials would not have been aired prior to the Hawaii introductions.

While we continue to support the addition of a trigger under Chapter 343 for such introductions, it may be unfeasible at this time to realize such a review process, given constraints in staff and funds. However, at a minimum, we strongly urge the Committee to preserve appropriate language in this measure to ensure continued official state review of proposed introductions of genetically altered organisms.

As with most such issues, the scientific community will not be unanimous in its opinion one way or another. Members of the biotechnical disciplines have justifiable interests in encouraging relaxation of regulation perceived to be burdensome. However, we call the Committee's attention to findings of the Ecological Society of America and published in the journal, Ecology, after extensive peer review by many of the nation's most preeminent scientists, both ecologists and specialists in biotechnology:

"The report supports the use of advanced biotechnology for the development of environmentally sound products, and states that the phenotype of a transgenic organism, not the process used to produce it, is the appropriate focus of regulatory oversight. Ecological risk assessment of proposed introductions must consider the characteristics of the engineered trait, the parent organism, and the environment that will receive the introduced organism."