

SENATE FLOOR AMENDMENT

FLOOR AMENDMENT NO. 4 Date APR 14 2009

TO: H.B. No. 1663, H.D. 1, S.D. 1

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SECTION 1. House Bill No. 1663, H.D. 1, S.D. 1, is amended by deleting the contents of section 1 its entirety and replacing it with the contents of an earlier version of the measure, House Bill No. 1663, H.D. 1, as amended, to read as follows:

"SECTION 1. Kalo, the Hawaiian word for taro (*Colocasia esculenta*), is a culturally significant plant to the kanaka maoli (Hawaii's indigenous peoples) and the State of Hawaii. Kalo intrinsically embodies the interdependency of the past, the present, and the future, the essence of procreation and regeneration, as the foundation of any sustainable practice. Kalo expresses the spiritual and physical well-being of not only the kanaka maoli and their heritage, but also symbolizes the environmental, social, and cultural values important to the State. This relationship is represented in the use of the kalo plant on the crown of King Kalakaua. The state seal, adopted in 1959, includes eight taro leaves below the shield, honoring the connection between the health of the land and the health of the state. Today, the logo of the office of Hawaiian affairs and many commercial enterprises throughout the state use this symbol to communicate ohana, integrity, and a connection to Hawaiian culture. The State of Hawaii further recognized the cultural and historic significance of taro by designating it as the official state plant.

Over three hundred kalo varieties may have existed at the time of the arrival of European explorers (Pukui and Elbert, *Hawaiian Dictionary*, 1986). Of these, sixty-nine varieties are unique to the Hawaiian islands due to the horticultural skills of native Hawaiian farmers (according to *Bulletin 84: Taro Varieties in Hawaii*, 1939). Some varieties are extremely rare. Protecting and maintaining the genetic identity of these varieties is critically important to the recovery of old taro varieties in Hawaii.

Kalo is an important food crop in Hawaii and a complex carbohydrate the hypo-allergenic properties of which are life-saving for those with digestive disorders and allergies, including young children and the elderly. The health implications of non-taro genes in genetically engineered kalo have never been tested, nor have they been approved for human consumption.



Historically, there were thousands of acres under taro cultivation in Hawaii. Today, however, there remain less than five hundred acres of taro in production. In 2007, the most recent year for the National Agricultural Statistics Service market values, 4,000,000 pounds were produced on three hundred eighty acres of commercial taro land (10,526 pounds per acre) at a farm gate value of \$2,360,000, amounting to an estimated per acre value of \$6,210, excluding luau leaf. Raw taro and value-added taro products represent a multi-million dollar crop in Hawaii with great potential for further growth as the State moves towards food security and self-sufficiency. Control of the single worst taro pest, the apple snail (*Pomacea canaliculata*), will increase taro production on existing acreage by as much as twenty-five per cent (Levin 2006). Cold water and adjusting growing regimes will further reduce taro disease. Neither of these issues requires a genetically engineered taro solution. Most locally-grown taro is consumed within the State, indicating a highly specialized market. Millers and consumers have specifically and consistently rejected the use of genetically modified taro or poi.

The 2008 legislature established the two-year taro security and purity task force under Act 211, Session Laws of Hawaii 2008, to address non-genetically modified organism alternatives to taro farmer issues, including land and water concerns, threats from pests, diseases and taro imports, educational opportunities, and economic issues. In November of 2008, the county of Hawaii passed Bill No. 361 banning the testing, propagating, cultivating, raising, planting, growing, introduction, or release of genetically modified taro on that island.

The purpose of this Act is to further protect:

- (1) The cultural integrity of kalo as part of the heritage of the Hawaiian people and the State;
- (2) The genetic biodiversity and integrity of Hawaiian taro varieties in the State as part of the sacred trust between the State and the indigenous peoples of Hawaii; and
- (3) Hawaii taro farmers' raw taro, poi, luau, and value-added markets,

by establishing a ban on developing, testing, propagating, releasing, importing, planting, and growing of genetically modified Hawaiian taro in the State of Hawaii.

Because proponents of the ban have expressed concern about the possibility of cross-pollination of Hawaiian taro with genetically modified non-Hawaiian taro, this Act also establishes additional prohibitions on the conduct of certain activities relating to genetically modified non-Hawaiian taro."



SECTION 2. House Bill No. 1663, H.D. 1, S.D. 1, is amended by amending section 2 to read as follows:

"SECTION 2. The Hawaii Revised Statutes is amended by adding a new chapter to be appropriately designated and to read as follows:

"CHAPTER

GENETICALLY ENGINEERED TARO

§ -1 Definitions. As used in this chapter:

"Genetically engineered" means alterations to a life form or its living progeny at the nucleic acid level, using the techniques collectively referred to as recombinant DNA technology.

"Hawaiian taro" means taro species that are unique to Hawaii, as listed in *Bulletin 84: Taro Varieties in Hawaii, 1939*.

"Recombinant DNA technology" means the transfer of genes, regulatory sequences, or nucleic acid between hosts by the use of vectors or laboratory manipulations and includes the insertion, excision, duplication, inactivation, or relocation of specific genes, regulatory sequences, or sections of nucleic acid. This term does not apply to a material or an organism developed exclusively through traditional methods of breeding, hybridization, or nondirected mutagenesis.

"Release" means a discharge, emission, or liberation of any genetically engineered organisms, or the product of a genetically engineered organism, into the open environment.

§ -2 Genetically engineered Hawaiian taro; prohibited.

No genetically engineered Hawaiian taro shall be developed, tested, propagated, released, imported, planted, or grown in the State of Hawaii.

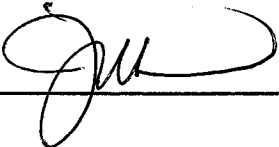
§ -3 Genetically engineered non-Hawaiian taro; certain prohibitions. (a) No non-Hawaiian taro, to wit, those varieties that are not unique to Hawaii, including, but not limited to, the Chinese taro (Bun long) and araimo varieties, shall be genetically engineered outside an enclosed laboratory. No genetic engineering of non-Hawaiian taro shall be allowed inside an enclosed laboratory, unless entry into the enclosed laboratory is prohibited to the general public.

(b) No genetically engineered non-Hawaiian taro shall be tested, propagated, planted, or grown outside an enclosed structure. No genetically engineered non-Hawaiian taro shall be tested, propagated, planted, or grown inside an enclosed structure, unless entry into the enclosed structure is prohibited to the general public."



SECTION 3. House Bill No. 1663, H.D. 1, S.D. 1, is amended by amending section 4 to read as follows:

"SECTION 4. This Act shall take effect on July 1, 2009; provided that this Act shall be repealed on June 30, 2014."

Offered by: 

Carried

Failed to Carry

Withdrawn

