

From: The Mestizo Association [thirr33@gmail.com]
Sent: Wednesday, February 11, 2009 4:55 PM
To: ENETestimony
Subject: Late Testimonies: SB 709, SB SB1185, &

LATE

2-10-09

3:45 PM

ENE Committee
Hawaii Senate
ATTN: Mr. Carlton Saito
Hawaii capitol

Chair Sen. Mike Gabbard
Vice Chair Sen. J. Kalani English
The Right Honorable Members of the ENE Committee

Please append this testimony in qualified support for SB 709 Relating to Agriculture (Moratorium on GMO Taro), SB 1185 Relating to a Tax Credit for the Purchase of Electric Vehicles, and SB 512 Relating to Taxation.

I have previously also submitted after 4 PM yesterday, a written testimony in support of SB 453 Relating to the Consumer Advocate.

I appreciate this opportunity to provide a brief recap and express my mahalo to Sen. Russell Kokubun in particular for providing encouraging input that the Legislature received from the Hawaii delegation, media reports, and Washington, D.C., in as much as the State of Hawaii will soon be receiving Energy related stimulus funding and allocation of the federal spending here in the 50th State.

Keep up the good work, and I await your decision making on Feb. 12th (Thursday).

Wish Sen. English a speedy recovery from his cold.

Sincerely,


Arvid Tadao Youngquist
thirr33@gmail.com
(1 of 16,588 local voices)
The Mestizo Association (since 1982)

IN SUPPORT OF S.B.709

Lorrin Pang, MD, MPH
America's Best Doctors List 2007-9
Retired Army Medical Corp
Consultant to the World Health Organization

LATE

2-10-09

3:45 PM

February 10, 2009

Aloha Hawaii State Legislators,

Thank you for the chance to be heard.

Some in support of Industry's position on genetic engineering (GE or GMO's) have claimed that they do not believe in the Precautionary Principle. For the rest of us who practice it and realize that there is no viable alternative to this principle, I would like to argue for a halt to the genetic engineering of Kalo. The Precautionary Principle says that we do not expose the public to products until we know and agree upon the hazards and the benefits. This is especially true if the product, like genetically engineered crops cannot be easily "recalled" or contained. There was recent widespread, costly contamination in the US with GE long grain rice. After lengthy investigation we still do not know how contamination occurred in this 1.2 billion dollar mistake.

It is curious that those who oppose a Kalo ban now propose an alternative "study group". This is an admission that hazards/benefits have not yet been determined. This is a general concern of GE crops cited during a recent international meeting reported in 29 Sept 2008 of Newsweek " (Biotech companies withdrew from the project in protest.) The problem? Yields for GM varieties...are unpredictable and often lower...patent protected, cost more...". If data is inadequate enough to warrant a study group then, according to the Precautionary Principle, a ban should be put in place until the group's work is completed and reviewed.

While it is true that I have worked on and endorse GE pharmaceuticals it must be pointed out that the GE bacterial/yeast involved are contained in laboratories. It is the products of the bacteria, not the life forms themselves which leave the laboratory. In general these products are: not alive, tested in human studies prior to marketing, labeled, targeted to only those with medical indications, tracked after marketing often with additional warnings notices, and sometimes recalled. Contrast this to what has happened in Hawaii with GE crops.

Proponents of GE crops feel that enough is "known" to allow at least laboratory research with the concession that more might be needed prior to field studies and marketing. What is the basis for this position? Regarding health issues they cite the position of the FDA, the federal agency with ultimate responsibility and liability. Yet in November of 2007 a scientific review of the FDA by its own scientists (on the internet, FDA: Science and Mission at Risk, Nov 2007) showed long standing problems with the FDA's science

and lack of a scientific approach. Specifically there needs to be more emphasis on the” science of safety...although there are many needs... in all Centers and programs, ... none is as time sensitive and critical as surveillance and risk management”. It would be one thing if the FDA had required data which could be re-examined but FDA’s position regarding GMO’s has been based on their misguided opinions.

Ethical review committees which have exempted or approved of GE products need to reconsider their positions (and liability) in light of the FDA report. This is typical of pharmaceuticals. If new hazards are found or one finds that there is no grounds for previous assurances of safety – all exposed must be notified. Was bad science done out of ignorance or was there an underlying agenda? Since 2005 before a US Senate investigation committee testimony by FDA insiders point out the widespread problem of conflict of interest (summary article in Reader’s Digest April 2008).

There needs to be a halt on GE products (including Kalo) until definitive studies are complete. But who will determine the adequacy of the studies? In light of previous reports of poor science and conflict of interest in our lead regulatory agency for health, the public can only ask for transparency and rigorously policing for conflict of interest. In a normal regulatory processes financial “stakeholder” status is synonymous with conflict of interest. Those in this position must be removed from major decisions or influence peddling. I have heard that there will be an effort at the State level to again preempt County/home rule input on GMO’s in Hawaii. This misguided effort simply recreates all the pitfalls playing out in our federal regulatory agencies, including our FDA – lack of transparency, bad science and conflict of interest. Unfortunately it is now the local regulators at the state level and most recently the Big Island county council which have to enforce precautionary policing. Grassroots, environmental activism/science are an emerging American phenomenon as communities are force to “look out for themselves” – Discover, August 2008 pages 68-71.

You have my scientific and health credentials. I have no conflict of interest. Those who continue to support my presence at these meetings and who continue to question my absence at special “study groups” will continue to express our concerns in public, transparent venues...legislative and court hearings. But why do conflicted testifiers get to speak? The New England Journal of Medicine has shown that in spite of denial, those with conflict of interest cannot put theirs aside.

Again, thanks for bringing this important issue to the table.

As private Citizen,

Lorin Pang, MD, MPH
America’s Best Doctors List 2007-9
Retired Army Medical Corp
Consultant to the World Health Organization

LATE
2-10-09
3:45 pm

Testimony IN SUPPORT of SB709, with amendments consistent with HB 1663.

February 10, 2009

Attention: State of Hawai'i Legislators, Senate Committee on Energy and Environment

From: Robert Kealohapumehana Domingo
O O'ahu Kakuhihewa ka mokupuni
O Ko'olauloa ka moku
O Ka'a'awa ke 'ahupua'a

Aloha mai kakou,

O wau o Robert Kealohapumehana Domingo and I am writing to strongly encourage all legislators and lawmakers to support and pass SB709 moratorium on developing, testing, propagating, cultivating, growing and raising genetically engineered taro in the state of Hawai'i.

It is well known and documented within the Hawaiian genealogy chant or Kumulipo, that taro, kalo, or colocasia esculenta, honored Kupuna Haloa Nakalaukapalili is said to be the elder brother of Kanaka or mankind. As a Kanaka Maoli or native Hawaiian, Hawaiian cultural practitioner, head of household, husband, father of three children, haumana mahi'ai kalo, traditional style poi maker or ku'i 'ai practitioner, kalo grower and consumer, supporter and parent of the Hawaiian language immersion schools, taxpayer and voter, I must make my voice and mana'o or opinion heard loud and clear: *Genetic modification of kalo is DISRESPECTFUL !! GMO taro is NOT PONO! It is not necessary and not wanted. Genetic engineering of Hawaiian kalo should not be allowed within these islands or anywhere else for that matter.*

Kalo, not only a spiritual center or piko of Hawaiian culture, a traditional symbol of the 'ohana structure, has been the staple food of Hawaiians since the beginning of time, and for many other cultures in more recent years. We the Kanaka Maoli for well over a thousand years have been growing and have been sustained and nourished by kalo planted in the traditional methods. Especially in the form of poi, kalo was eaten by all branches of the 'ohana from the oldest kupuna perhaps in their deathbed to the newest of infants still upon their mother's breast. Poi was widely known by the po'e kahiko or people of the past, to have many benefits: tremendous nutritional value, ease of digestion (complex carbohydrate), it is also hypoallergenic thus eliminating the concern for allergic reaction. It would be disastrous to allow such an extremely valuable and irreplaceable resource to become contaminated, mutated and exposed to the risk altering its proven "super-food" qualities. Genetic modification is commonly known to inherently introduce undesirable properties including possible allergens and antibiotic resistant genes. Keep kalo pure! Altering taro is unsafe and is BAD SCIENCE!

The po'e kahiko were extremely knowledgeable of the 'aina and of our fragile yet bountiful environment. They knew how to properly utilize the resources and viewed the land as a sacred. "Ua mau ke 'ea o ka 'aina i ka pono: the life of the land is perpetuated in righteousness" If we disturb the pono or balance of the 'aina, we are destined to suffer the consequences. It has been documented that the kanaka maoli once had upwards of 300 varieties of kalo developed naturally through generations of a natural conventional hybrid process. Today there is said to be only approximately 80 varieties remaining. The modern colonized ideals of profit, ownership, convenience, overdevelopment, misuse of land, water and other natural resources, overall short sightedness and a lack of due care has begun to outweigh our traditional values and has taken a toll on our 'aina and ultimately our beloved Kalo. Lo'i kalo or traditional wetland taro patches, once had thriving veins of cold water fed by a clean and well maintained kahawai or stream. Today, our streams are reduced, many to a trickle, some have gone dry. Mahi'ai kalo once had enough acreage to allow them to let their patches lay fallow after harvest in order to replenish natural nutrients, rather than immediately replanting time and time again in depleted soil compensated with large amounts of fertilizers and chemicals, a common practice today due to limited access to lands suitable for taro farming.

Testimony IN SUPPORT of SB709, with amendments consistent with HB 1663 PAGE 2

Another particularly interesting part of traditional methods of planting has actually been under review again in recent times, diversification. Planting many taro varieties with different characteristics that may adapt to various conditions such as higher salinity in lower elevations closer to the ocean, heat and drought resistant varieties, varieties that could be left without being harvested for extended periods of time. Another poor practice common in taro farming today is known as mono-cropping, of course the exact opposite of the traditional theories of diversification, single or limited varieties planted to fit commercial guidelines are forcing farmers to plant crops not ideal for their individual farm environments and conditions thus limiting proper growth and reducing crop volume and quality. These factors contribute to many of the struggles faced by taro farmers today. The poor practices of misuse and neglecting the 'aina need to be modified, not our kalo! GMO kalo is UNECESSARY!!

Our kupuna were truly the greatest scientists. They had hundreds of names for different winds, they studied thousands of different native plants and had thousands of different uses, they navigated the Pacific using the winds, stars and currents, in hand crafted vessels with hand made tools, they could build homes, fishponds, great altars and dry stacked stone walls that stood firm for centuries, they knew that in order to survive, they had to use what the 'aina had to offer, and that they did. It's time that we look to the past to learn for the future.

In closing, I have discussed only a few of the many reasons to protect our beloved elder brother Haloa Nakalaukapalili, the taro. I strongly feel that a BAN on GMO taro is imperative. Let us remember that the 'aina is a limited resource and our decisions today will have great impacts for the generations of tomorrow. Keep our kalo pure and preserve it for generations to come. I sincerely hope that you, the elected lawmakers of this state, will heed my recommendation. It is time that we the people of Hawai'i heed the advice of our Kupuna. "He ali'i ka 'aina, he kauwa ke kanaka; The land is the chief and we the kanaka are the servants"

Malama 'aina, Malama Haloa Nakalaukapalili!

Robert Kealohapumehana Domingo

LATE

2-10-09
3:45pm

Testimony of Ed Wendt
on Senate Bill 709

Dear Committee Members:

Please support Senate Bill 709, that would impose a moratorium on all testing, propagating, cultivating, growing and raising genetically engineered taro in Hawai'i, and apply to genetically-modified plants brought in from outside Hawai'i as well. Passage of this bill will ensure the safety and perpetuation of our native kalo, and I urge your support.

Our `ohana have been full-time kalo farmers in Wailuanui, East Maui for many generations. My sons and grandchildren work lo`i kalo alongside me and my brother. The species of kalo that we farm have been cultivated in our village families for many generations. The kalo is strong, nutritious and although our `ohana has encountered many challenges (various diseases, foreign snail infestations, lack of water), we have preserved and continue to grow kalo for our families. Allowing GMO kalo would put our lo`i kalo at great risk and adulterate Hawaiian kalo species that our families have been cultivating for many generations. There is data which suggests there is no way to secure existing species from contamination once GMO experimentation is permitted.

We urge your support of S.B. 709 in order that we can continue to perpetuate, practice and honor our Hawaiian traditions and culture.

Mahalo for this opportunity to testify.

Ed Wendt
P.O. Box 961
Haiku, Hawai'i 96708



UNIVERSITY OF HAWAII SYSTEM
Legislative Testimony

LATE

2-10-09
3:45pm

Testimony Presented Before the
Senate Committee on Energy and Environment
February 10, 2009 at 3:45pm

by
James R Gaines
Vice President for Research, University of Hawaii'i

SB 709 RELATING TO AGRICULTURE

The University of Hawaii (UH) is sensitive to and mindful of the spiritual and cultural significance of taro in Hawaii. By releasing its patents on disease resistant, traditionally cross-bred, hybrid taro into the public domain and entering into an agreement to consult with the Hawaiian community before conducting any research on genetically engineered Hawaiian taro, the University has demonstrated not only its respect for the cultural significance of Hawaiian taro, but also its desire to expand and enhance its interactions with the Hawaiian taro farmers and the native Hawaiian community.

UH is working on many fronts to establish trust with the Hawaiian community, including, among other efforts, its participation on the Taro Task Force. That Task Force, created by the Legislature as Act 211 in 2008, is currently meeting and driving positive dialogue to address the multitude of threats to Hawaiian taro. We believe it would be prudent for this Legislature to examine the outcomes of the Taro Task Force's efforts before supporting any further legislation regarding taro.

The UH strongly believes that any legislation should use an accurate and scientifically accepted definition of terms. The definition of "genetic modification" as provided in this bill is scientifically inaccurate and serves only to add confusion to this issue.

The UH is troubled by the list of Hawaiian taro varieties contained in the bill in that none of the listed varieties have been genetically characterized. This lack of genetic characterization places the UH in a situation whereby any accusation of genetic engineering of any taro variety puts the institution in an indefensible position. Because we do not know the genome of a 'pure' variety, we would have difficulty defending any accusation that the genome was altered. Taro growers claim that they can distinguish between all of the varieties of Hawaiian taro listed in this bill. And while that may be true, there is little evidence that they could identify genetically engineered varieties as opposed to naturally occurring hybrids. This bill, as written, would also prevent any laboratory work to establish the identity of Hawaiian taro, and thus would jeopardize UH's efforts to systematically identify and preserve Hawaiian taro.

For the reasons cited above, the requirements of Section B(b) are unenforceable. The Office of the Attorney General, even with the assistance of the Department of Agriculture does not have the technical ability nor the properly trained personnel to accurately identify the varieties named in the bill.

Furthermore, Section B(c) creates liability for “damages resulting from violation...including adverse effects on other crops and the health of other individuals exposed to genetically modified taro.” This section is based on numerous negative assumptions that genetic engineering causes adverse effects in other plants and/or causes negative health effects in humans. There is no scientific data to support such assertions and it would be unwise to legislate legally binding liability based on unfounded fears and rumors. The unintended consequences of increasing costs for insuring farmers could negatively affect agriculture across the state.

In closing, UH reiterates that it is not now, nor does it have plans to genetically engineer Hawaiian taro. UH has an agreement in place with the Hawaiian community and UH has every intention of upholding the terms of that agreement. We continue to participate in the Taro Task Force and do not believe our agreements, partnerships and collaborations need to be legislated. The continued introduction of bills such as this does little to protect taro and build collaborative relationships with the Hawaiian taro community. Not only do bills of this nature continue to divide people who need to be working together to address real problems facing taro production in Hawaii, but they perpetuate ignorance of science and unfounded fears of new technologies that may, even indirectly, come to bear on solutions to the problems facing taro in Hawaii.

The University of Hawaii opposes passage of SB 709. Thank you for the opportunity to testify on this bill.

LATE

TESTIMONY ON SB709

Moratorium on the growth of genetically modified taro

2-10-09
3:45pm

Senate Committee on Energy and Environment

Tuesday, February 10, 2009 3:45 pm

Senate conference Room 225

Senator Mike Gabbard – Chair

Senator J. Kalani English – Vice-Chair

Committee Members:

Senator Josh Green

Senator Gary L. Hooser

Senator Les Ihara

Senator Russell S. Kokubun

Senator Fred Hemmings

Aloha Senators,

Hawaii Farmers Union supports SB 709 with qualifications. We hope this bill will be amended to reflect and include farmer/producer concerns that are addressed in HB1663, a bill developed by taro farmers working with the Hawaiian Caucus.

Hawaii Farmers Union is the newest subdivision of the National Farmers Union. NFU (est.1902,) is the oldest general farming organization in the United States, representing nearly 300,000 family farmers, ranchers and fishermen. Farmer/producer grassroots developed policy is the hallmark of Farmers Union. The NFU policy on Genetically Modified Organisms and Biotechnology articulates the position of family farmers in relation to GMO crops. This policy is a product of farmer/producers actual experience in growing genetically modified crops. I will attach this policy as an appendix to this testimony.

Thank you for taking up the imperative to address the concerns that farmers and citizens here and around the world have regarding the complex issue of genetic engineering and food sovereignty. It will require continued effort to educate everyone about the implications of this technology. Thank you for making the effort yourselves and for considering ways to safeguard Hawai'i's sustainable economy, environment and culture. It must be daunting for each of you lawmakers to fathom the importance of your decision-making related to biotechnology activity in Hawai'i. This complex issue presents us with a microcosm of the challenges the world faces today, including



KAHEA

THE HAWAIIAN-ENVIRONMENTAL ALLIANCE

PROTECTING

NATIVE HAWAIIAN

CUSTOMARY &

TRADITIONAL RIGHTS

AND OUR FRAGILE

ENVIRONMENT

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kahea-alliance@hawaii.rr.com

KAHEA: the Hawaiian-Environmental Alliance is a non-profit 501(c)3 working to protect the unique natural and cultural resources of the Hawaiian islands. KAHEA translates to english as "the call."

LIVE
2-10-09
3:45pm

S.B. 709- In Support, w. Amendments
February 10, 2009, State Capitol Rm. 225
Senate Committee on Energy and the Environment

Aloha mai kakou Chair Gabbard, Vice-Chair English and Committee Members,

We write in **strongest possible support of S.B. 709**, calling for a ban on the genetic modification and patenting of kalo (taro). *We also ask the Committee's assistance in amending the bill to reflect the comprehensive language presented in H.B.1663, a bill drafted by taro farmers and that is consistent with the mission of S.B. 709 to create a ban on GMO-taro.*

KAHEA: The Hawaiian-Environmental Alliance is comprised of over 7,000 individuals and organizations, Native Hawaiian cultural practitioners, kūpuna, conservationists, scientists, and educators working to protect Hawai'i's unique natural and cultural resources. We firmly believe that because "the land and the people are one," protecting Hawai'i's unique cultural heritage means defending our natural environment, and the public trust resources upon which our cultural practices depend.

Traditional taro farming is a unique and cherished cultural practice in Hawai'i. From working together to build 'auwai and lo'i to helping each other "pull" taro and trading huli for the next season, taro cultivation affirms traditional Native Hawaiian principles, identity, beliefs and health. It is where the land and the people literally become one. Like the rights afforded to cultural practice for gathering and accessing the shoreline, the traditions of taro farming in Hawai'i deserve of our highest protections.

Genetic modification and patenting of kalo is culturally inappropriate. Kalo is both a fundamental and sacred food source to Hawaiians, who understand that their shared ancestry began with Hāloa, the Kalo. Hāloanakalaukapalili was the first kalo plant born to Hawai'i's gods. He fed his younger brother, Hāloa, the Human - the first human ancestor of Hawaiians. Hāloa, the Human, was given the kuleana (responsibility) to care for his older brother, Hāloa the Kalo, who would in turn provide food for all humans.

There is no scientific research that proves that GMO-taro is safe for native ecosystems or for human consumption. In a social context, the consequences of privately owning and patenting taro are far-reaching and detrimental to the tradition and economy of taro farming in Hawai'i. When the risks of a particular decision are not well-understood, yet potentially severe and far-reaching, decision-makers should abide by the precautionary principle and proceed with extreme caution.

What we do know, is that GMO-taro can cross-pollinate with native kalo varieties and have effects upon soil and human health. We also know that the unknown longterm and potentially dangerous effects to the species, our environment and our local agricultural economy may be irreversibly permanent!

Informed community consent for genetic modification of kalo has not been sought. GMO-taro has no proven benefits to taro farmers or consumers that would justify the threats and risks posed to the great many who depend on kalo for a livelihood and for sustenance. Hawaiians have been successfully breeding and farming many varieties of kalo for two thousand years- time and experience have proven that species diversity and access to clean water and land is what is needed for a sustainable agriculture industry that can feed our islands.

Where the risks are unknown and the consequences irreversible, decision makers should abide by the precautionary principle and proceed with the greatest caution. We strongly urge this Legislature to fulfill its obligation to the people of Hawai'i by embracing a precautionary approach to the genetic modification and patenting of taro by passing S.B. 709 with amendments consistent with H.B. 1663. Mahalo for the opportunity to submit this testimony in strongest support of a ban on GMO-taro.

Malama 'Āina,



Miwa Tamanaha
Executive Director



Marti Townsend
Program Director

LAE
2-10-09
3:45pm

Testimony transmitted by email 10 Feb 2009 from:

Penny Levin
224 Ainahou Place
Wailuku, Maui 96793

TO: Committee on Energy and the Environment, Rm225, February 10th, 3:45pm

RE: Testimony for SB709 *Relating to Agriculture*

Aloha Honorable Committee members;

Regarding SB709 *Relating to Agriculture*, I support with amendments the proposed legislation to protect taro in the State of Hawaii from genetic engineering.

Taro farmers and Hawaiians have now been coming out of the lo'i and traveling to the legislature for three years to lay this threat to their crop, their livelihood and their culture to rest. Last year, more than 7,000 people testified in support of similar legislation including taro farmers, Hawaiians, three County Councils, consumers, organic farmers, scientists, health practitioners and specialists, and other supporters from across the state. In November 2008, the County of Hawai'i passed an ordinance banning the genetic engineering of taro.

As a taro farmer with a background in science and biodiversity conservation, I have weighed the benefits and risks of genetically engineered taro carefully and found it to be too great a risk to the integrity of the plant as a food crop, the environment, fragile taro markets, and consumer health. It is also inappropriate in the context of the significance of taro in Hawaiian culture.

For every proposed benefit, there are serious questions that remain in the highest standards of the science regarding the safety of transgenic crops for human consumption and the natural environment, as well as its true productivity and economic impact. The National Academy of Science, the highest regarded scientific organization in the US, along with the International Assessment of Agricultural Science and Technology for Development [IAASTD] project (a rigorous four year study involving 400 scientists worldwide and producing a 2,500 page report in 2008), the FAO and World Health Organization support this conclusion.

The State of California, recognizing the uncontrollable persistence and irreversibility of gmo plants that hybridize non-gmo crops or escape into adjacent fields, passed into law this year landmark legislation (AB541) protecting farmers from crippling lawsuits by the biotech industry over cross-contamination (the companies do not compensate farmers for contaminating their fields even when organic certification is destroyed, rather, they consider cross-pollination which occurs by wind, birds or insects to be theft of property rights).

But more important for taro in Hawaii are three clear facts;

First, there are many problems that face taro that cannot be resolved by genetically modifying the plant. I have spent the last six years documenting the impacts and researching

A BILL FOR AN ACT

RELATING TO AGRICULTURE.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. Kalo (colocasia esculenta), the Hawaiian word
2 for taro, is a culturally significant plant to the kanaka maoli,
3 (Hawai'i's indigenous peoples) and the State of Hawaii. According
~~to the kumulipo, the~~
4 ~~Hawaiian creation chant, kalo grew from the first-born son of~~
5 ~~Wakea, the sky father, and Papa, the earth mother, through~~
6 ~~Wakea's relationship with his and Papa's daughter, Hoohokulani.~~
7 ~~This son, named Haloa, was stillborn and buried. From Haloa's~~
8 ~~grave grew the first kalo plant. Wakea and Hoohokulani named~~
9 ~~their second son Haloa, after his older brother. From the~~
10 ~~second Haloa came the genesis of man. Kalo provides the kanaka~~
11 ~~maoli's life-giving sustenance, poi, and is seen as the older~~
12 ~~brother of mankind.~~
13 ~~More than three hundred kalo varieties may have existed at~~
14 ~~the time European explorers arrived. Today, there are~~
15 ~~approximately seventy varieties of taro, and of these, the~~
16 ~~majority are unique to the Hawaiian Islands due to the~~
17 ~~horticultural skills of native Hawaiian farmers.~~

~~1 State. The list of "Hawaiian taro" in this Act consists of
2 varieties of taro known to have grown in Hawaii over the past
3 sixty years, and the Act shall not apply to non-Hawaiian taro.~~

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 upon the crown of King Kalakaua. The State Seal
established in 1959 includes eight taro leaves below the shield
as described in Act 272 HRS §5-5 State Seal, description,
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. In 2008, the State of Hawaii further
recognized the cultural and historic significance of taro by
designating it as the Official State Plant (Hawaii State
Legislature Act 71, HRSS5-15.5 State plant).

Over three hundred kalo varieties may have existed at the
time of the arrival of European explorers (Pukui and Elbert,

(11,842 lbs per acre) at a value of \$2,565 million dollars
farmgate, an estimated per acre value of \$6,750 excluding lu'au
leaf. Raw taro and value-added taro products are 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 25 percent (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 to address non-gmo
alternatives to taro farmer issues; including, land and water
concerns, threats from pests, diseases and taro imports,
educational opportunities and economic issues. In this same
year, the Counties of Hawaii, Maui and Kauai supported a
moratorium on genetically modified taro. In November 2008, the
County of Hawaii passed Ordinance 361 banning the testing,
propagating, cultivating, raising, planting, growing,

16 technology.

17 "Growing" includes cultivating, propagating, and raising
18 irregardless of location.

19 ~~"Hawaiian taro" means the following varieties of~~
20 ~~taro: aweu, mana ulu, mana opelu, mana weo, mana ulaula, mana~~
21 ~~laulea, mana keokeo, mana kukulu hema, piko lehua apii, piko~~
22 ~~ulaula, piko kea, piko keokeo, piko uua, piko uliuli, piko~~
~~eleele, elepaio, uahi a Pele, manapiko, kai uliuli, kai ala, kai~~

~~Page 4~~

~~1 kea, apuwai, apu, piialii, paakai, moana, laulea eleele omao,~~
~~2 laulea eleele ula, laulea palakea eleele, laulea palakea ula,~~
~~3 laulea palakea papamu, laulea palakea keokeo, laulea keokeo,~~
~~4 eleele makoko, eleele naioca, manini owali, kumu eleele, nawao,~~
~~5 ulaula kumu, ulaula poni, ulaula moano, oopukai, manini uliuli,~~
~~6 manini kea, papakolea koae, ula, nihopuu, manini opelu,~~
~~7 hinupuaa, ohe, lehua maoli, lehua keokeo, lehua eleele, lehua~~
~~8 palaii, apowale, wehiwa, papapueo, kuoho, leo, maca, haakea,~~
~~9 kalalau, hapuu, laalea, laulea uliuli, lihilihimolina, mana~~
~~10 eleele, mana okoa, moi, oene, pikoete, pololu, Maui lehua, and~~
~~11 red moi.~~

12 "Recombinant DNA technology" means the transfer of genes,
13 regulatory sequences, or nucleic acid between hosts by the use
14 of vectors or laboratory manipulations and includes the

8 subject to a civil fine of not more than ~~\$1,000~~ \$10,000 for each
day a

9 violation occurs. The department of the attorney general shall
10 enforce this section and may establish procedures to
11 administratively adjudicate an alleged violation and recover
12 from a violator the department's cost to investigate and
13 adjudicate the violation and collect the fine. When requested
14 by the department of the attorney general, the department of
15 agriculture shall assist the department of the attorney general
16 in the performance of these duties.

17 (c) Any person who violates subsection (a) shall be
18 civilly liable for damages resulting from the violation,
19 including adverse effects on taro and other crops, taro markets
and the health of
20 ~~other~~ individuals exposed to the genetically modified taro."

SECTION 3. This Act shall not to be seen as a referendum
on the merits of biotechnology nor be applicable to any other
crop. It does not prohibit the use of controlled hand-
pollination taro breeding methods (taro-to-taro) to improve taro
as a crop.

1 SECTION 4. This Act shall take effect upon its approval.

LATE
2-10-09
3:45 pm
Eden Marie Peart
Hawai'i Farmers Union
P.O. Box 1863
Honokaa, HI 96727
hawaiifarmersunion@gmail.com
www.hawaiifarmersunion.org

TESTIMONY ON SB709

Moratorium on the growth of genetically modified taro

Senate Committee on Energy and Environment

Tuesday, February 10, 2009 3:45 pm

Senate conference Room 225

Senator Mike Gabbard – Chair

Senator J. Kalani English – Vice-Chair

Committee Members:

Senator Josh Green

Senator Gary L. Hooser

Senator Les Ihara

Senator Russell S. Kokubun

Senator Fred Hemmings

Aloha Senators,

Hawaii Farmers Union supports SB 709 with qualifications. We hope this bill will be amended to reflect and include farmer/producer concerns that are addressed in HB1663, a bill developed by taro farmers working with the Hawaiian Caucus.

Hawaii Farmers Union is the newest subdivision of the National Farmers Union. NFU (est.1902,) is the oldest general farming organization in the United States, representing nearly 300,000 family farmers, ranchers and fishermen. Farmer/producer grassroots developed policy is the hallmark of Farmers Union. The NFU policy on Genetically Modified Organisms and Biotechnology articulates the position of family farmers in relation to GMO crops. This policy is a product of farmer/producers actual experience in growing genetically modified crops. I will attach this policy as an appendix to this testimony.

Thank you for taking up the imperative to address the concerns that farmers and citizens here and around the world have regarding the complex issue of genetic engineering and food sovereignty. It will require continued effort to educate everyone about the implications of this technology. Thank you for making the effort yourselves and for considering ways to safeguard Hawai'i's sustainable economy, environment and culture. It must be daunting for each of you lawmakers to fathom the importance of your decision-making related to biotechnology activity in Hawai'i. This complex issue presents us with a microcosm of the challenges the world faces today, including

sustainability, globalization, trade, and human rights.

Very truly yours,

Eden Marie Peart
Hawaii Farmers Union

2008 Policy of the National Farmers Union
www.nfu.org

12. Genetically Modified Organisms and Biotechnology

Genetically modified organisms (GMOs) have created a series of ethical, environmental, food safety, legal, market and structural issues that impact everyone in the food chain. Consumer and producer concerns need to be addressed.

We acknowledge concerns that biotechnology is being used as a trade barrier. We respect all nations sovereignty and food policies and thus urge open dialogue, cooperation and understanding in trade negotiations relating to biotechnology. We support:

a) A moratorium on the patenting and licensing of new transgenic animals and plants developed through genetic engineering until the broader legal, ethical and economic questions are resolved. The moratorium should include the introduction, certification and commercialization of genetically engineered crops, including all classes of wheat, until issues of cross-pollination, liability, commodity and seed stock segregation and market acceptance are adequately addressed. Research conducted in an environmentally secure facility should be exempt from this moratorium. Research conducted in open field production should be subject to mandatory public disclosure of; persons or entities initiating the research, location of test sites, and specific species and traits involved and the characteristics of the intended resultant genetically modified plant to be created. Should commercialization of a new GMO become imminent, we encourage the appropriate regulatory authority to provide for a public input and review process, including production of economic and environmental impact analysis prior to

commercialization;

b) Legislation to exempt farmers from paying royalties on patented farm animals and technical fees on seeds which have been genetically modified;

c) Legislation to prohibit the patenting of heritage seed, animal and biological genetics;

d) Legislation to prohibit the further use of tax dollars in developing terminator technology, e.g., a gene to ensure that seed will not reproduce;

e) Legislation to prohibit the development and selling of seed that is sterile;

f) The right of farmers to plant seed derived from proprietary organisms on their own land;

g) New products involving GMOs be certified as safe by the FDA in testing done independently of the patent holder, at the specific patent holder's expense before being allowed on the market. Such testing is to be done at the expense of the specific patent holders seeking to market such products;

h) Legislation requiring that patent holders or owners of GMO technology be held strictly liable for damages caused by genetic trespass including safety, health, economic and environmental effects. Farmers are not to be held liable for food safety, human health or environmental problems, including cross pollination, related to the use of GMOs as long as generally accepted crop production practices are followed;

i) Congressional action to regulate the biotech industry's technology agreements. Farmers should not have to sign away their fundamental rights, including, but not limited to, a jury of their peers in court in exchange for the privilege of growing biotech crops. Grievances should be settled in the home state of the farmer, not the state of the biotech corporation;

j) Any damages caused to farmers through lower prices, lost markets or contamination shall be fully reimbursed to farmers, including legal fees, by the company producing the genetically modified product;

- k) All data used in the analysis of the health and environmental effects of GMOs be public record, and that criminal penalties be established for the willful withholding or altering of such data;
- l) Prohibiting government regulatory agencies from licensing genetically modified products that are not acceptable for both human consumption and animal feed;
- m) Until USDA and FDA improves oversight and regulation of pharma crops, NFU cannot endorse or support pharma farming based on economic, environmental, food safety and liability risks to producers and consumers;
- n) Requiring government regulatory agencies and input suppliers to ensure that farmers are informed of all potential market risks and segregation requirements associated with planting any licensed genetically modified crop;
- o) Government regulatory agencies shall consider domestic and foreign consumer acceptance of the product when licensing;
- p) Requiring all GMO seed to be clearly labeled with the following information: 1) markets (foreign or domestic) where the product is not accepted; and 2) all planting restrictions;
- q) Development of a paper verification system and a storage and marketing plan to aid farmers with non-GMO grains;
- r) Identity-preserved systems and insist they receive protection from cross contamination; and
- s) Requiring genetically altered or engineered food products to be appropriately labeled to inform consumers. Food products derived from cloned animals should be labeled at the retail level.

TARO FARMERS & CONSUMERS IN SUPPORT OF SB 709
(with amendments consistent with HB 1663)

Senate Committee on Energy & Environment
February 10, 2009

LATE
2-10-09
3:45 pm

Aloha mai kakou,

I join communities across Hawaii in rejecting the genetic modification of all taro varieties, by supporting a ban on GMO-taro. I am deeply concerned about the unknown health risks, irreversible threats to native ecosystems, cultural disrespect, patenting and bioprospecting of Hawaii's natural resources and potential harms to our local farming economy that are associated with GMO-taro.

-Taro Deserves the Best Available Science-

GMO-taro is claimed to potentially reduce one type of taro disease in one variety of taro by creating irreversible, unnatural genetic mutations whose safety to consumers and the environment is not scientifically proven. GMO-taro has no proven benefits to taro farmers or consumers and is not the best available science needed to safely perpetuate taro farming and protect consumers in Hawaii. Better and safer options exist. Long-term scientific studies and farming practices throughout the Pacific have resulted in proven scientific techniques to expand the local taro industry, protect unique Hawaiian taro varieties, farmlands and watersheds-- without GMOs. These community-accepted practices include: organically improving soil health, establishing appropriate water-flow standards to prevent disease and pests, stopping imports of diseased taro and pests into Hawaii, and growing many traditional varieties of natural taro with different natural disease resistance. Being that safer science exists, there is no need or demand for experimental GMO-taro from local taro farmers or consumers.

-Health and Environmental Safety Concerns about GMO-Taro-

Taro is a nutritious food crop, especially cherished as a baby food and staple dish in Hawaii for centuries; and around the world as an important medicinal food for diabetes, cancer, autism and serious food allergies. Taro is the world's only hypo-allergenic, or allergy-free, carbohydrate. GMO-taro, on the other hand, is not the same as natural taro. GMO-taro has never been in the human food supply before, and has NOT been scientifically tested on humans to prove that it is safe to eat. Moreover, the unnatural genetic mutations of GMO-taro can never be guaranteed to be hypo-allergenic, thus threatening consumers of this uniquely important medicinal food source. In fact, numerous scientific studies on laboratory animals show that GMOs can cause toxic, allergic, and even deadly reactions. Unnatural gene mutations introduced through GMO-taro may harm insects, birds, fish, and soil health. Risks and damages to Hawaii's people and lands could be irreversible.

-Community and Ethical Concerns about GMO-Taro-

Cultivated throughout centuries to be abundantly grown on Hawaii's diverse agricultural lands, taro is the sacred foundation of our unique local agriculture, society, traditions and family structure. Genetic modification of taro is an affront to the sacred Hawaiian tradition that respects the taro plant as a family member, an older brother to humanity. This family tradition is rooted in honoring the relationship of mankind with the very plants we depend on for healthy nourishment, and establishes an unique genealogical connection between taro and the Hawaiian people. The wisdom of such healthy community values must be encouraged, not disrespected or desecrated. Despite the unique and utmost importance of this plant to our community, GMO-taro has been developed without any informed community consent, raising serious ethical science concerns. Businesses and researchers in Hawaii should encourage informed community consent and review, not avoid oversight and involvement from the very communities most effected by their activities.

-Economic and Bioprospecting Concerns about GMO-Taro-

The right to grow taro naturally and traditionally belongs to the public, and should never be owned by a corporation or university. Private patents and control of our public food resources would cripple our food security, taro economy and violate our inherent public rights. GMO-taro experiments and patents cannot help taro farmers with the real problems that they face and will only endanger the valuable traditional biodiversity of taro in Hawaii.

-Legal and Governance Concerns about Preemption Legislation-

In "exchange" for a ban on GMO-taro, the biotech/GMO industry may attempt to turn our community's intentions to protect taro into unfair "preemption" legislation which would prohibit state or county oversight, and public notice of all other GMOs and biotech activities in Hawaii. We do not support any such attempts to preempt legitimate local government regulations to protect public health. Preempting local efforts to protect public health raises serious legal, ethical, and scientific concerns-- our public and environmental safety, as well as our local-governance authority, must be prioritized over private investment concerns and high-risk experiments.

-Help Taro, Don't Hurt Taro!-

Agricultural science has proven that the taro will be as healthy as the land in which it is grown and the care with which it is shown. There is no inherent need to alter the taro plant's natural genetic structure nor patent the plant for private profit in order to protect the local taro industry. Rather, farmers, scientists and decision makers must work to solve the broad resource management problems that face taro farming. Lack of meaningful support to address the drastically increasing challenges from invasive diseases, pests, excessive and illegal diversions of water, and operating costs, has led to a decrease in taro farming and a taro shortage in Hawaii. With appropriate political, scientific and community support, taro will once again be a primary resource for Hawaii's food security, contributing significantly to a healthy local diet and economy. GMO-taro and patents, however, could destroy the safety and sanctity of natural taro as an important allergy-free food, cultural resource and local agricultural industry in Hawaii.

As a strong supporter of taro farming in Hawaii, I ask you to protect the security of the health of natural taro and the local taro industry by establishing a ban on GMO-taro.

Malama 'Aina,

See attached supporter list.

Please contact NaKahuOHALoa@gmail.com , 808-349-4324
for more information about our community concerns with GMO-Taro.

**TARO FARMERS & CONSUMERS
IN SUPPORT OF SB 709 (with amendments consistent with HB 1663)
Senate Committee on Energy & Environment, Feb. 10, 2009**

NAME		CITY	STATE	ZIP CODE	DISTRICT
Denise	Lytle	Fords	NJ	98863	Senate District 19
Frederika	Ebel	Flemington	NJ	98822	Senate District 23
Forest	Shomer	Port Townsend	WA	98368	Senate District 24
Zachary	Klaja	Seattle	WA	98102	Senate District 43
Joy	bannon	ashland	OR	97520	
Ralph	davis	Scappoose	OR	97056	Senate District 16
sandra	phillips	OREGON CITY	OR	97045	Senate District 26
Mark Alapaki	Luke	Honolulu	HI	96828	Senate District 12
suzanne	garrett	honolulu	HI	96826	
Vickie	Innis	Honolulu	HI	96825	
B.A.	McClintock	Honolulu	HI	96825	Senate District 8
Dayle	Bethel	Honolulu	HI	96822	
Diana	Bethel	Honolulu	HI	96822	
Alana	Bryant	Honolulu	HI	96822	Senate District 10
Christy Rose	Ferreira	Honolulu	HI	96822	
Fred	Flores	honolulu	HI	96822	
Caroline	Ginnane	Honolulu	HI	96822	
Alison	Hartle	Honolulu	HI	96822	Senate District 10
Teri	Skillman	Honolulu	HI	96819	Senate District 14
Haunani	Francisco	Honolulu	HI	96818	
Kapua	Francisco	honolulu	HI	96818	
shanelle	Solomon	Honolulu	HI	96818	
Cathie	alana	honiolulu	HI	96817	
miwa	tamanaha	Honolulu	HI	96817	
Karsten	Zane	Honolulu	HI	96817	
donnalene	sing	honolulu	HI	96816	
Cha	Smith	Honolulu	HI	96816	Senate District 8
A. Ku'ulei	Snyder	Honolulu	HI	96816	
Kehaulani	Wong	Honolulu	HI	96816	
Marie	Brown	Honolulu	HI	96815	Senate District 12
Shawn	White	Honolulu	HI	96804	Senate District 12
Mimi	Forsyth	Waipahu	HI	96797	
Laurie	Kahiapo	Waimanalo	HI	96795	
CHRISTINE	Kauahikaua	WAIMANALO	HI	96795	Senate District 25
Curt	Sumida	Waimanalo	HI	96795	
Michelle	Hillen	Wailuku	HI	96793	
Gary	Wiseman	Wailuku	HI	96793	
chaunnel	salmon	Waianae	HI	96792	
Kiope	Raymond	Kula	HI	96790	
Mahealani	Carvalho	Volcano	HI	96785	Senate District 2
David M. K.	Inciong, II	Pearl City	HI	96782	
pono	kealoha	Pearlcity	HI	96782	Senate District 18
Katherine	Ross	Papaikou	HI	96781	

Sheet1

Miranda	Camp	Paia	HI	96779 Senate District 4
Bobbi	Lempert	Paia	HI	96779 Senate District 40
Janet	Codispoti	Pahoa	HI	96778
Luella	Crutcher	Pahoa	HI	96778
normand	dufresne	pahoa	HI	96778
Roger	Harris	Pahoa	HI	96778
Gemma	Lila	Pahoa	HI	96778
Joan	Lander	Naalehu	HI	96772 Senate District 2
Richard	Powers	Naalehu	HI	96772 Senate District 2
Chasity	Cadaoas	Pukalani	HI	96768
Momi	Kaikala	Pukalani	HI	96768
Tristen	Wanke	makawao	HI	96768
robert	mceldowney	laupahoehoe	HI	96764
Ronna	McEldowney	Laupahoehoe	HI	96764
Deborah	DiPiero	Lahaina	HI	96761
vicki	mccarty	lahaina	HI	96761 Senate District 5
Jeri	Di Pietro and GMO	Koloa	HI	96756
Beryl	Blaich	Kilauea	HI	96754 Senate District 7
robin	Torquati	Kilauea	HI	96754
Frances	Pitzer	Kihei	HI	96753
Bobbie	Alicen	Kea'au	HI	96749 Senate District 2
Elin	Sand	Kea'au	HI	96749
Ingrid	Tillman	Keaau	HI	96749
Vicki	Vierra	Keaau	HI	96749
Kaeo	Bradford	Kapaa	HI	96746
Carrie	Brennan	Kapaa	HI	96746
Margery	Freeman	Kapaa	HI	96746
Adele	Henkel	Kailua Kona	HI	96745 Senate District 3
Janice	palma-glennie	Kailua-kona	HI	96745 Senate District 3
Mara L. B.	Chang	Kāne'ohe	HI	96744
Kamuela	Kala'i	Kaneohe	HI	96744
LorrieAnn	Santos	Kaneohe	HI	96744
Laulani	Teale	Kane'ohe	HI	96744
Amy	Wiecking	Kaneohe	HI	96744 Senate District 23
Michelle	Baydo	Kamuela	HI	96743
JANICE	BRENCICK	KAMUELA	HI	96743 Senate District 3
Sara	McCay	Kamuela	HI	96743 Senate District 3
Mahina	Patterson	Kamuela	HI	96743
Mary Lu	Kelley	Kalaheo	HI	96741 Senate District 7
Lorraine	Kohn	Kailua Kona	HI	96740
Kamuela	Meheula Naihe	Kailua Kona	HI	96740
Ho'ala	Rivera	Kailua Kona	HI	96740
Lehua	Kaulukukui	Waikoloa	HI	96738 Senate District 3
Leslie	YEE hoy	Molokai	HI	96734
CarolLee	Averill	Kahului	HI	96732
Susan	James	Honokaa	HI	96727
Kathleen	Carr	Honaunau	HI	96726
Walter	Andrade	Holualoa	HI	96725
Craig	Elevitch	Holualoa	HI	96725

Sheet1

clare	loprinzi	holualoa	HI	96725
Shannon	Rudolph	Holualoa	HI	96725 Senate District 3
Ron	Dixon	Princeville	HI	96722
Ina	Roessler	princeville	HI	96722
Cory	Harden	Hilo	HI	96721 Senate District 1
Odette	Rickert	Hilo	HI	96721
J.	Zender	Hilo	HI	96721
Jesse	Fujimoto	Hilo	HI	96720
Mahealani	Jones	Hilo	HI	96720 Senate District 1
Keoki	Kahumoku	Hilo	HI	96720
Jeffrey	Lagrimas	Hilo	HI	96720 Senate District 1
Ron	Whitmore	Hilo	HI	96720 Senate District 1
Miguel	Godinez	Hanalei	HI	96714 Senate District 7
Jason	Ito	Hanalei	HI	96714
Scott	Jarvis	Hanalei	HI	96714 Senate District 7
chris	kobayashi	hanalei	HI	96714
susan	patner	hanalei	HI	96714
Gary	Gunder	Haleiwa	HI	96712
Michael	Saiz	Haleiwa	HI	96712
Jeff	Haun	Hakalau	HI	96710
hannah	bernard	haiku	HI	96708
Bernard	Pickert	Haiku	HI	96708
Mary C.	Goodman	Haiku	HI	96708
jennifer	jensen	HAiku	HI	96708
Helen anne	Schonwalter	Haiku	HI	96708 Senate District 4
pauahi	hookano	ewa beach	HI	96706
gia	baiocchi	Anahola	HI	96703
Andrea	Brower	Anahola	HI	96703
Lorilani	Keohokalole-Torio	Anahola	HI	96703
Rebecca	Miller	Anahola	HI	96703
Abilynn	Rita	Anahola	HI	96703
Leonard W	Rita jr	Anahola	HI	96703
Tracey	Schavone	Anahola	HI	96703
Erica	Taniguchi	Anahola	HI	96703
Leslie	Santos	Merced	CA	95340
Dennis	Lynch	Felton	CA	95018
Laura	Lee	Larkspur	CA	94939
Sandra	morey	Oakland	CA	94602 Senate District 9
Stepahine	Eike	Orinda	CA	94563
Donna	Weilenman	Martinez	CA	94553
Elisha	Belmont	Westminster	CA	92683 Senate District 35
Katie	Winchell	Huntington Beach	CA	92649 Senate District 35
Corey Ann	Lewin	West Hollywood	CA	90069
Desdra	Dawning	Sun Lakes	AZ	85248
Brooke	Lind	Queen Creek	AZ	85242
Carolyn	Moore	Mesa	AZ	85215 Senate District 19
Kathy-Lyn	Allen	Pueblo	CO	81003 Senate District 3
Ravi	Grover	Chicago	IL	60680 Senate District 5
Cathy	Robinson	Mobile	AL	36695 Senate District 34

Sheet1

Robert	Wagner	Lawrenceville	GA	30044 Senate District 5
Leimamo	Lind	Alexandria	VA	22314
isobel	storch	Pittsburgh	PA	15206
Bryan	Milne	Brooklyn	NY	11211 Senate District 17
Glen	Venezio	San Juan	PR	911

LATE
2-10-09
345pm

Testimony IN SUPPORT of SB709, with amendments consistent with HB 1663.

February 10, 2009

Attention: State of Hawai'i Legislators, Senate Committee on Energy and Environment

From: Robert Kealohapumehana Domingo
O O'ahu Kakuhihewa ka mokupuni
O Ko'olauloa ka moku
O Ka'a'awa ke 'ahupua'a

Aloha mai kakou,

O wau o Robert Kealohapumehana Domingo and I am writing to strongly encourage all legislators and lawmakers to support and pass SB709 moratorium on developing, testing, propagating, cultivating, growing and raising genetically engineered taro in the state of Hawai'i.

It is well known and documented within the Hawaiian genealogy chant or Kumulipo, that taro, kalo, or colocasia esculenta, honored Kupuna Haloa Nakalaukapalili is said to be the elder brother of Kanaka or mankind. As a Kanaka Maoli or native Hawaiian, Hawaiian cultural practitioner, head of household, husband, father of three children, haumana mahi'ai kalo, traditional style poi maker or ku'i 'ai practitioner, kalo grower and consumer, supporter and parent of the Hawaiian language immersion schools, taxpayer and voter, I must make my voice and mana'o or opinion heard loud and clear: *Genetic modification of kalo is DISRESPECTFUL !! GMO taro is NOT PONO! It is not necessary and not wanted. Genetic engineering of Hawaiian kalo should not be allowed within these islands or anywhere else for that matter.*

Kalo, not only a spiritual center or piko of Hawaiian culture, a traditional symbol of the 'ohana structure, has been the staple food of Hawaiians since the beginning of time, and for many other cultures in more recent years. We the Kanaka Maoli for well over a thousand years have been growing and have been sustained and nourished by kalo planted in the traditional methods. Especially in the form of poi, kalo was eaten by all branches of the 'ohana from the oldest kupuna perhaps in their deathbed to the newest of infants still upon their mother's breast. Poi was widely known by the po'e kahiko or people of the past, to have many benefits: tremendous nutritional value, ease of digestion (complex carbohydrate), it is also hypoallergenic thus eliminating the concern for allergic reaction. It would be disastrous to allow such an extremely valuable and irreplaceable resource to become contaminated, mutated and exposed to the risk altering its proven "super-food" qualities. Genetic modification is commonly known to inherently introduce undesirable properties including possible allergens and antibiotic resistant genes. Keep kalo pure! Altering taro is unsafe and is BAD SCIENCE!

The po'e kahiko were extremely knowledgeable of the 'aina and of our fragile yet bountiful environment. They knew how to properly utilize the resources and viewed the land as a sacred. "Ua mau ke 'ea o ka 'aina i ka pono: the life of the land is perpetuated in righteousness" If we disturb the pono or balance of the 'aina, we are destined to suffer the consequences. It has been documented that the kanaka maoli once had upwards of 300 varieties of kalo developed naturally through generations of a natural conventional hybrid process. Today there is said to be only approximately 80 varieties remaining. The modern colonized ideals of profit, ownership, convenience, overdevelopment, misuse of land, water and other natural resources, overall short sightedness and a lack of due care has begun to outweigh our traditional values and has taken a toll on our 'aina and ultimately our beloved Kalo. Lo'i kalo or traditional wetland taro patches, once had thriving veins of cold water fed by a clean and well maintained kahawai or stream. Today, our streams are reduced, many to a trickle, some have gone dry. Mahi'ai kalo once had enough acreage to allow them to let their patches lay fallow after harvest in order to replenish natural nutrients, rather than immediately replanting time and time again in depleted soil compensated with large amounts of fertilizers and chemicals, a common practice today due to limited access to lands suitable for taro farming.

Testimony IN SUPPORT of SB709, with amendments consistent with HB 1663 PAGE 2

Another particularly interesting part of traditional methods of planting has actually been under review again in recent times, diversification. Planting many taro varieties with different characteristics that may adapt to various conditions such as higher salinity in lower elevations closer to the ocean, heat and drought resistant varieties, varieties that could be left without being harvested for extended periods of time. Another poor practice common in taro farming today is known as mono-cropping, of course the exact opposite of the traditional theories of diversification, single or limited varieties planted to fit commercial guidelines are forcing farmers to plant crops not ideal for their individual farm environments and conditions thus limiting proper growth and reducing crop volume and quality. These factors contribute to many of the struggles faced by taro farmers today. The poor practices of misuse and neglecting the 'aina need to be modified, not our kalo! GMO kalo is UNECESSARY!!

Our kupuna were truly the greatest scientists. They had hundreds of names for different winds, they studied thousands of different native plants and had thousands of different uses, they navigated the Pacific using the winds, stars and currents, in hand crafted vessels with hand made tools, they could build homes, fishponds, great altars and dry stacked stone walls that stood firm for centuries, they knew that in order to survive, they had to use what the 'aina had to offer, and that they did. It's time that we look to the past to learn for the future.

In closing, I have discussed only a few of the many reasons to protect our beloved elder brother Haloa Nakalaukapalili, the taro. I strongly feel that a BAN on GMO taro is imperative. Let us remember that the 'aina is a limited resource and our decisions today will have great impacts for the generations of tomorrow. Keep our kalo pure and preserve it for generations to come. I sincerely hope that you, the elected lawmakers of this state, will heed my recommendation. It is time that we the people of Hawai'i heed the advice of our Kupuna. "He ali'i ka 'aina, he kauwa ke kanaka; The land is the chief and we the kanaka are the servants"

Malama 'aina, Malama Haloa Nakalaukapalili!

Robert Kealohapumehana Domingo



KAHEA

THE HAWAIIAN-ENVIRONMENTAL ALLIANCE

PROTECTING

NATIVE HAWAIIAN

CUSTOMARY &

TRADITIONAL RIGHTS

AND OUR FRAGILE

ENVIRONMENT

Office
1149 Bethel Street, Ste. 415
Honolulu, HI 96813

Mailing Address
P.O. Box 37368
Honolulu, HI 96837

toll-free phone/fax
888.528.6288

www.KAHEA.org
kahea-alliance@hawaii.rr.com

KAHEA: the Hawaiian-Environmental Alliance is a non-profit 501(c)3 working to protect the unique natural and cultural resources of the Hawaiian islands. KAHEA translates to english as "the call."

LATE

2-10-09
3:45 pm

S.B. 709- In Support, w. Amendments
February 10, 2009, State Capitol Rm. 225
Senate Committee on Energy and the Environment

Aloha mai kakou Chair Gabbard, Vice-Chair English and Committee Members,

We write in **strongest possible support of S.B. 709**, calling for a ban on the genetic modification and patenting of kalo (taro). *We also ask the Committee's assistance in amending the bill to reflect the comprehensive language presented in H.B.1663, a bill drafted by taro farmers and that is consistent with the mission of S.B. 709 to create a ban on GMO-taro.*

KAHEA: The Hawaiian-Environmental Alliance is comprised of over 7,000 individuals and organizations, Native Hawaiian cultural practitioners, kūpuna, conservationists, scientists, and educators working to protect Hawai'i's unique natural and cultural resources. We firmly believe that because "the land and the people are one," protecting Hawai'i's unique cultural heritage means defending our natural environment, and the public trust resources upon which our cultural practices depend.

Traditional taro farming is a unique and cherished cultural practice in Hawai'i. From working together to build 'auwai and lo'i to helping each other "pull" taro and trading huli for the next season, taro cultivation affirms traditional Native Hawaiian principles, identity, beliefs and health. It is where the land and the people literally become one. Like the rights afforded to cultural practice for gathering and accessing the shoreline, the traditions of taro farming in Hawai'i deserve of our highest protections.

Genetic modification and patenting of kalo is culturally inappropriate. Kalo is both a fundamental and sacred food source to Hawaiians, who understand that their shared ancestry began with Hāloa, the Kalo. Hāloanakalaukapalili was the first kalo plant born to Hawai'i's gods. He fed his younger brother, Hāloa, the Human - the first human ancestor of Hawaiians. Hāloa, the Human, was given the kuleana (responsibility) to care for his older brother, Hāloa the Kalo, who would in turn provide food for all humans.

There is no scientific research that proves that GMO-taro is safe for native ecosystems or for human consumption. In a social context, the consequences of privately owning and patenting taro are far-reaching and detrimental to the tradition and economy of taro farming in Hawai'i. When the risks of a particular decision are not well-understood, yet potentially severe and far-reaching, decision-makers should abide by the precautionary principle and proceed with extreme caution.

What we do know, is that GMO-taro can cross-pollinate with native kalo varieties and have effects upon soil and human health. We also know that the unknown longterm and potentially dangerous effects to the species, our environment and our local agricultural economy may be irreversibly permanent!

Informed community consent for genetic modification of kalo has not been sought. GMO-taro has no proven benefits to taro farmers or consumers that would justify the threats and risks posed to the great many who depend on kalo for a livelihood and for sustenance. Hawaiians have been successfully breeding and farming many varieties of kalo for two thousand years- time and experience have proven that species diversity and access to clean water and land is what is needed for a sustainable agriculture industry that can feed our islands.

Where the risks are unknown and the consequences irreversible, decision makers should abide by the precautionary principle and proceed with the greatest caution. We strongly urge this Legislature to fulfill its obligation to the people of Hawai'i by embracing a precautionary approach to the genetic modification and patenting of taro by passing S.B. 709 with amendments consistent with H.B. 1663. Mahalo for the opportunity to submit this testimony in strongest support of a ban on GMO-taro.

Malama 'Āina,



Miwa Tamanaha
Executive Director



Marti Townsend
Program Director

WAE
2-10-04
3:45pm

Testimony of Ed Wendt
on Senate Bill 709

Dear Committee Members:

Please support Senate Bill 709, that would impose a moratorium on all testing, propagating, cultivating, growing and raising genetically engineered taro in Hawai'i, and apply to genetically-modified plants brought in from outside Hawai'i as well. Passage of this bill will ensure the safety and perpetuation of our native kalo, and I urge your support.

Our `ohana have been full-time kalo farmers in Wailuanui, East Maui for many generations. My sons and grandchildren work lo`i kalo alongside me and my brother. The species of kalo that we farm have been cultivated in our village families for many generations. The kalo is strong, nutritious and although our `ohana has encountered many challenges (various diseases, foreign snail infestations, lack of water), we have preserved and continue to grow kalo for our families. Allowing GMO kalo would put our lo`i kalo at great risk and adulterate Hawaiian kalo species that our families have been cultivating for many generations. There is data which suggests there is no way to secure existing species from contamination once GMO experimentation is permitted.

We urge your support of S.B. 709 in order that we can continue to perpetuate, practice and honor our Hawaiian traditions and culture.

Mahalo for this opportunity to testify.

Ed Wendt
P.O. Box 961
Haiku, Hawai'i 96708