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Hawaii Crop Improvement Association

Growing the Future of Worldwide Agriculture in Hawaii

Testimony By: Alicia Maluafiti
HB 1663, Relating to Taro Security
House HAW Committee
Wednesday, Feb.18, 2009
Room 329, 9:10 am

Position: Strong Opposition

Chair Carroll, and Members of the House HAW Committee:

My name is Alicia Maluafiti, Executive Director of the Hawaii Crop Improvement Association. The Hawaii Crop Improvement Association (HCIA) is a nonprofit trade association representing the agricultural seed industry in Hawaii. Now the state's largest agricultural commodity, the seed industry contributes to the economic health and diversity of the islands by providing high quality jobs in rural communities, keeping important agricultural lands in agricultural use, and serving as responsible stewards of Hawaii's natural resources.

As stated in previous years, HCIA member companies do not grow taro nor do we have an interest in taro as a commercial research and development crop. We consistently affirm and respect the cultural meaning of Hawaiian taro and firmly believe that the Hawaiian community must lead the discussion of the future of Hawaiian taro, and Hawaiian taro research and education programs.

HCIA does not support legislating a moratorium on taro or any other agricultural crop grown in Hawaii. Such policies send a chilling message that Hawaii is not in support of science and technology. It undermines future investments and growth potential for responsible use of agricultural biotechnology as a 21st Century tool for farmers.

We stand firmly on the thousands of science-based and peer reviewed studies and 3,400 scientists around the world that attest to the safety of agricultural biotechnology. (The Safety of Agricultural Biotechnology study listing is available upon request) Plant research using this technology is not only safe but has the advantage of being more efficient. It requires significantly less time to produce new cultivars and is more precise than traditional plant breeding. As a result, varieties can be developed which are more productive and better adapted to local needs. It is an option or tool for plant breeding when other methods fail.

Thank you for the opportunity to present testimony.

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'Ewa Beach, HI 96706
Tel: (808) 224-3648
director@hciaonline.com
www.hciaonline.com



PO Box 2352, Kealahou, Hawaii 96750
hawaiiseed@hawaiiseed.org
promoting sustainable agriculture
educating about the risks of genetic engineering

COMMITTEE ON HAWAIIAN AFFAIRS

Rep. Mele Carroll, Chair

Rep. Maile S.L. Shimabukuro, Vice Chair

Tuesday, February 18, 2009

9:10 a.m.

Conference Room 329

Testimony in SUPPORT HB1663

Chairs & Members of the Committees,

My name is Meleana Judd and I am the Oahu Coordinator for Hawaii SEED—a statewide nonprofit dedicated to promoting sustainable agriculture and educating the public about the risks genetic engineering pose to the health of our islands.

As you saw with last year's SB958 there is an overwhelming level of public interest in protecting Taro, our State plant and the Hawaiian Culture's ancestor, from technology that results in irreversible genetic alteration. Do not be confused with traditional plant breeding and genetic engineering, they are different and the majority of Hawaiian taro farmers are not asking for a genetically engineered solution. They are asking for appropriate resource allocation to grow healthy plants so they can perpetuate a history of sustainable farming practices. Please also consider amending this bill to expand its application to all taro, as although flowering is rare there is no boundary between Hawaiian and non-Hawaiian taro varieties for interbreeding.

There is still much to learn about genetic engineering and its threat to our food supply and environment. We invite you to attend a presentation and question session with GMO health expert Jeffrey Smith on Tuesday 2/24 room 224 between 10AM and 1PM.

Thank you for this opportunity to testify.

Malama Pono,
Meleana Judd
Hawaii SEED
Meleanajudd@gmail.com
551-8132

HPACH
919 4th Street
Pearl City, Hawaii 96782

February 18, 2009

Representative Mele Carroll, Chair
Representative Maile S. L. Shimabukuro, Vice Chair
And Committee Members on Hawaiian Affairs
House of Representatives, 2009 Legislature Session
State of Hawaii

Subject: HB 1663, Relating To Taro Security, SUPPORT

ALOHA Kakou,

My name is Richard Pomaikaiokalani Kinney. On January 17, 1993 after reading Public Law 103-150 I renounced my citizenship to the United States. I come here today as a Hawaiian Nationalist of the Hawaiian Kingdom. I strongly support the restoration of the Hawaiian Kingdom government that was invaded and occupied thru an Act of War on January 16, 1893 with the involvement of the diplomatic and military forces of the United States.

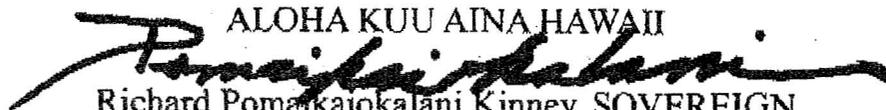
As Sovereign of the Hawaiian Political Action Council of Hawaii, I strongly SUPPORT the passage of HB 1663.

The State of Hawaii needs to join the Hawaii County Council in their protection and perpetuation of Taro in Hawaii. GMO products should be outlawed in Hawaii.

Once more HPACH Supports the passage of HB 1663.
Mahalo Nui for allowing me to give testimony on this Bill.

Attachment: 1993 Renouncement Document

ALOHA KUU AINA HAWAII



Richard Pomaikaiokalani Kinney, SOVEREIGN
Hawaiian Political Action Council of Hawaii
87-168 Maaloo Street, Waianae, Hawaii, 96792
Email: HIAHAWAII@aol.com

HPACH

919 4th Street
Pearl City, Hawaii 96782

AUGUST 6, 1993

LETTERS TO THE EDITOR, THE ADVERTISER, HONOLULU STAR BULLETIN

DEAR SIR,

ON JANUARY 17, I RENOUNCED MY CITIZENSHIP TO THE UNITED STATES (LETTER ENCLOSED). ALL THE RECENT EVENTS SURROUNDING THE MOVEMENT FOR HAWAIIAN SOVEREIGNTY, TELLS ME THAT I MADE THE RIGHT DECISION.

THE HAWAIIAN KINGDOM WAS CREATED BY HAWAIIANS. HAWAIIANS FIGHTING HAWAIIANS AND SPILLING THEIR BLOOD TO BE AN INDEPENDANT NATION OF THEIR OWN AND THE FREE WORLD.

AFTER THE WARS WERE OVER, THE HAWAIIAN KINGDOM ORGANIZED ITSELF AS A NATION IN ACCORDANCE WITH INTERNATIONAL LAWS.

EVERYTHING, FROM A NATIONAL CONSTITUTION, TREATIES WITH FOREIGN NATIONS INCLUDING THE UNITED STATES TO BUILDING A NEW PALACE WERE ALL PARTS OF THE NEW NATION.

THE HAWAIIAN KINGDOM WAS CREATED FOR THE PERPETUATION OF HAWAIIAN SOVEREIGNTY OVER HAWAII.

THE PROVISIONAL GOVERNMENT OF HAWAII, THE REPUBLIC OF HAWAII, THE TERRITORY OF HAWAII AND THE STATE OF HAWAII GOVERNMENTS WERE ALL CREATED BY NON-HAWAIIANS TO HAVE AMERICAN SOVEREIGNTY RULE OVER HAWAII.

AFTER ONE HUNDRED YEARS OF BEING UNDER AMERICAN SOVEREIGNTY, HAWAIIANS TODAY SHOULD REALIZE THAT IT IS TIME FOR HAWAIIANS TO REUNITE OURSELVES AS A FREE AND INDEPENDANT NATION ONCE MORE.

HAWAIIANS TODAY MUST STAND UP FOR COMPLETE INDEPENDANCE FROM THE UNITED STATES. HAWAIIANS MUST SECURE HAWAII AS A NATIONAL HOMETLAND FOR OUR CHILDREN AND THEIR CHILDREN'S CHILDREN TO COME.

HAWAIIAN SOVEREIGNTY MUST BE THE SUPREME LAW OF HAWAII.

UA MAU KE EA O KA AINA I KA PONO!

"HANA LIKE KAKOU NA HAWAII"

R. Pomaikaikalani Kinney
RICHARD POMAIIKAIOKALANI KINNEY

SOVEREIGNTY, HAWAIIAN POLITICAL ACTION
COUNCIL OF HAWAII

731 McCULLY ST., PH-3, HONOLULU, 96826

HPACH
919 4th Street
Pearl City, Hawaii 96782

STATE OF HAWAII
City and County of Honolulu } ss.

I, Henry Richard Kinney, Jr., a Native Hawaiian descendant and Sovereign, born on December 26, 1938 at Queen's Hospital in Honolulu, Hawaii, do hereby renounce my citizenship to the United States of America as of 6 P.M. Hawaiian Standard Time on January 17, 1993.

I protest against any and all acts done against my native country, the Hawaiian Kingdom and its constitutional sovereign, Queen Liliuokalani by United States troops on January 17, 1893. *Mo*

Now, to avoid any collision of arrest from agents of the United States, and perhaps the loss of my life and freedom, I seek the full independence of the Hawaiian Islands as an independant nation of the Free World. *Mo*

Henry R. Kinney

Henry R. Kinney, Jr.
731 McCully Street
Honolulu, Hawaii
96826

Subscribed and sworn to before me this
15th day of January, 1993

Kenn H. O'Brien

Notary Public, First Judicial Circuit
State of Hawaii

MY COMMISSION EXPIRES 6-1-96

ls.

Rep. Maile Shimabukuro

From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 16, 2009 10:47 PM
To: HAW/testimony
Cc: martaned@gmail.com
Subject: Testimony for HB1663 on 2/18/2009 9:10:00 AM

Testimony for HAW 2/18/2009 9:10:00 AM HB1663

Conference room: 329
Testifier position: support
Testifier will be present: No
Submitted by: Marta Whitlock
Organization: Individual
Address:
Phone:
E-mail: martaned@gmail.com
Submitted on: 2/16/2009

Comments:

I like the taro the way it is, as nature made it.
I do not want to be part of the irresponsible science experiment that messes around with genetic codes, our health, and our Earth with all its existing living beings.
Thanks,
Marta Whitlock

Rep. Maile Shimabukuro

From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 16, 2009 11:05 PM
To: HAWtestimony
Cc: splash48@hotmail.com
Subject: Testimony for HB1663 on 2/18/2009 9:10:00 AM

Testimony for HAW 2/18/2009 9:10:00 AM HB1663

Conference room: 329
Testifier position: support
Testifier will be present: No
Submitted by: Sandra Ishikawa-Long
Organization: Individual
Address: 1400 Pensacola St., #1404 Honolulu, HI
Phone: 808-651-6291
E-mail: splash48@hotmail.com
Submitted on: 2/16/2009

Comments:

I value and want to protect our islands, our culture, our agriculture, our people, future generations, and our lives. So please, NO GMO or any other type of chemicals (for that matter) in our taro or any other crops or imported produce. Keep ALL chemicals/chemical-laden produce out of our state.

This bill will protect ALL of us who live on these islands including you and your family. Air borne chemicals will only contaminate other island crops. Please support this bill.

Thank you, Sandra Ishikawa-Long

Caren Diamond
P. O. Box 536
Hanalei, Hi. 96714
February 16, 2009

Testimony in Strong Support HB 1663,

HAW

Room: 329
Hearing Date 2/18/2009
9:10:00 AM

Aloha Committee Members,

Please support HB 1663. Our Aina, translated as that which feeds us, needs your help. Taro, is different than other crops, providing a living link to our history, and ancestors, as each huli planted reaches back in time to our ancestors and past farmers who sustained their families farming taro, caring for the land.

Taro is often synonymous with Hanalei. Our verdant green valley is home to many varieties of taro. As a resident of Kauai's North Shore, our community and culture is steeped in taro, it is both historically very significant, and crucial for our future.

Variety and diversity is the key to life, and in this time of high food insecurity, all taro should remain "natural", not modified by science. No other plant has the very same beginnings as in the past. Taro is an amazing plant, where the future and past are one. There is no reason for biotechnology to enter this sacred dance of nature. Truly, taro, in all its varieties, belong to the Hawaiian People. Why mess with a staple crop of the Hawaiian people? Each Taro plant has its history rooted with the ancestors, and it should remain that way.

Both the unknown risks and unintended consequences of genetic engineering of taro are unacceptable. The loss of

taro's natural genetic integrity may compromise the plants ability to naturally adapt. Biodiversity is the key to plant life and Hawaii's agriculture , necessary for our sustainability into the future .

If researchers insert genes from corn, wheat, rice and other organisms, you don't know what is in it and it's not taro anymore. The genetic manipulation of taro is undesirable and unnecessary. There are many traditional means of building good soil health and improving crop quality that should be utilized, rather than the use of genetic manipulation of such an important staple to the people of Hawaii.

Please support this important bill.

Mahalo for your support, Caren Diamond

No testing by the FDA has shown GMO foods to be safe. There appears to be a substantial body of evidence that demonstrates the potential for serious health risks to people and the environment. Until the FDA has developed testing protocols to ensure safety and the appropriate environmental impact studies have been made I request that no GMO Taro or other crops be grown in Hawaii. I ask that HB 1663 be passed.

Sincerely,

Neil Brosnahan
Kalaheo, Kauai

Thomas T Shirai Jr
P O Box 601
Waialua, HI 96791
Email: Kawaihapai@hawaii.rr.com

House Committee on Hawaiian Affairs (HAW)
Representative Mele Carroll (Chair) / Representative Maile Shimabukuro (Vice Chair)
Notice of Hearing
Wednesday, February 18, 2009
9:10 AM / State Capitol Conference Room 329

February 16, 2009

RE: Testimony Supporting HB 1663 (Relating to Taro Security)

Aloha Chair Carroll, Vice Chair Shimabukuro & Committee Members,

I Support HB 1663. My Grandpa and his Kupuna were Taro (*Kalo*) mahiai (farmers). They were Cultural Informants for Bishop Museum who provided information about Waialua Moku:

The Hawaiian Planter by E. S. Craighill Handy (1940) – Page 85
“Kaaimoku Kekulu (sic: Kaaemoku Kakulu), native of the district says that the name of spring and the terrace section noted above is Kaaiea.”

Kawaihapai. “There is a sizable area of terraces in the lowlands (now surrounded by sugar cane), watered by Kawaihapai Stream. These terraces have evidently been lying fallow for some time, though several were being plowed for rice or taro in the summer of 1935. At the foot of the cliffs, watered by a stream the name of which was not learned, are several small terraces in which taro is grown by David Keaau (sic: David Keao).”

There is no need to improve taro (*kalo*) thru *Genetically Modified Organism (GMO)* because our ancestors had a more traditional, effective and respectful way regarding this matter for many generations. Growing *GMO Taro*, has a direct effect upon the entire *Ahupua’a System* when the water from the *lo’i* goes in the *kahawai (stream)*, *muliwai (head water)* and *kahakai (ocean)* affecting our seafood subsistence including all marine life. This has quietly and potentially affected *Mokule’ia*.

Verse 2 of the chant entitled *Kalena Kai* (http://huapala.org/KAL/Kalena_Kai.html) composed by King *Liholiho* in 1820 which describes the agricultural productivity of *Mokule’ia* was not meant to be interpreted as *Genetically Modified Crops*:

Kalena Kai by King Liholiho (1820) – Verse 2
‘O ka ehu’ ehu o ke kai – The sea spray
Ka moena pawehe o Mokule’ia – Geometric designs of the plains of Mokule’ia

Thank you for the opportunity to provide testimony supporting HB 1663. *Malama Haloa.*

Thomas T Shirai Jr
Kawaihapai Ohana – Po’o

Kawaihapai Ohana
c/o Thomas T Shirai Jr
P O Box 601
Waiialua, HI 96791
Email: Kawaihapai@hawaii.rr.com

House Committee on Hawaiian Affairs (HAW)
Representative Mele Carroll (Chair) / Representative Maile Shimabukuro (Vice Chair)
Notice of Hearing
Wednesday, February 18, 2009
9:10 AM / State Capitol Conference Room 329
February 16, 2009

RE: Testimony Supporting HB 1663 (Relating to Taro Security)

Aloha Chair Carroll, Vice Chair Shimabukuro & Committee Members,

The *Kawaihapai Ohana* is a Recognized *Native Hawaiian Organization (NHO)* by the *Department of Interior (<http://www.doi.gov>)* and its *kuleana* includes cultural and historical preservation applicable to *Kawaihapai Ahupua'a*. Some of the *Kupuna of Kawaihapai* were *Taro (Kalo) mahiai (farmers)* and were Cultural Informants for Bishop Museum who provided information about *Waiialua Moku*:

The Hawaiian Planter by E. S. Craighill Handy (1940) – Page 85

“Kaaimoku Kekulu (sic: Kaaemoku Kakulu), native of the district says that the name of spring and the terrace section noted above is Kaaiea.”

Kawaihapai. “There is a sizable area of terraces in the lowlands (now surrounded by sugar cane), watered by Kawaihapai Stream. These terraces have evidently been lying fallow for some time, though several were being plowed for rice or taro in the summer of 1935. At the foot of the cliffs, watered by a stream the name of which was not learned, are several small terraces in which taro is grown by David Keaau (sic: David Keao).”

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Verse 2 of the chant entitled *Kalena Kai (http://huapala.org/KAL/Kalena_Kai.html)* composed by King *Liholiho* in 1820 which describes the agricultural productivity of *Mokule'ia* was not meant to be interpreted as *Genetically Modified Crops*:

Kalena Kai by King Liholiho (1820) – Verse 2

'O ka ehu' ehu o ke kai – The sea spray

Ka moena pawehe o Mokule'ia – Geometric designs of the plains of Mokule'ia

Thank you for the opportunity to provide testimony supporting HB 1663. *Malama Haloa.*
Thomas T Shirai Jr
Kawaihapai Ohana – Po'o

Rep. Maile Shimabukuro

From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 16, 2009 4:20 PM
To: HAWtestimony
Cc: hawaiiipat4@hotmail.com
Subject: Testimony for HB1663 on 2/18/2009 9:10:00 AM

Testimony for HAW 2/18/2009 9:10:00 AM HB1663

Conference room: 329
Testifier position: support
Testifier will be present: No
Submitted by: Pat L Puaa
Organization: Individual
Address: 74 Moai Loop Kaunakakai, Hi 96748
Phone: 808 553 3369
E-mail: hawaiiipat4@hotmail.com
Submitted on: 2/16/2009

Comments:

I am just a concerned citizen trying to protect the future of my grandchildren. Please consider the protection of our naturally propagated varieties of taro, our consumers, the local taro industry, and the respect of our Hawaiian culture.

Aloha Ke Akua

Rep. Maile Shimabukuro

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 17, 2009 1:03 PM
To: HAWtestimony
Cc: freeman@aloha.net
Subject: Testimony for HB1663 on 2/18/2009 9:10:00 AM

Testimony for HAW 2/18/2009 9:10:00 AM HB1663

Conference room: 329
Testifier position: support
Testifier will be present: No
Submitted by: Margery Freeman
Organization: Individual
Address: 6448 Kaahele St. Kapaa, HI 96746
Phone: (808)822-4605
E-mail: freeman@aloha.net
Submitted on: 2/17/2009

Comments:

A great many of the crops grown in Kauai are fields of GMO crops. These GMO crops are contaminating many of our non-GMO crops. Until this cross-contamination can be contained no GMO crops should be allowed in the state. This is especially true of historic crops such as taro. Please vote for HB1663.

Rep. Maile Shimabukuro

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 17, 2009 1:05 PM
To: HAWtestimony
Cc: andrea@malamakauai.org
Subject: Testimony for HB1663 on 2/18/2009 9:10:00 AM

Testimony for HAW 2/18/2009 9:10:00 AM HB1663

Conference room: 329
Testifier position: support
Testifier will be present: No
Submitted by: Andrea Brower
Organization: Malama Kaua`i
Address: 4900 Kuawa Road Kilauea, HI.
Phone: 808-828-0685
E-mail: andrea@malamakauai.org
Submitted on: 2/17/2009

Comments:

Malama Kaua`i, dedicated to a sustainable future for Kaua`i and beyond, strongly supports the prohibition of GMO kalo.

GMO TARO—A TARO FARMER'S PERSPECTIVE

Aloha, my name is Jim Cain, my family and I farm taro in Waipi'o Valley, island of Hawai'i. We also own and operate a family-run poi shop, King Laulau Brand Poi, where we process the taro we grow on our 6 acre farm, as well as taro we obtain from other farmers, providing poi for our Big Island community. I stand united with all the farmers of Waipi'o and strongly oppose the genetic modification of taro. My opposition to genetic engineering of taro is based on cultural, economic, and nutritional concerns.

The cultural concerns relating to the genetic manipulation of kalo cannot be overstated. Kalo's position as a high ranking family member in Hawaiian cosmology reflect deep rooted cultural values. These values, reinforced by kalo's role as a kinolau of Kane, show reverent respect for the natural world and kalo's ability to sustain and nourish people. These sacred family relationships can be traced back centuries to the very beginnings of Hawaiian culture, and every week when I deliver poi to my loyal customers, I am reminded of the importance of this ancestral food and its ability to nourish physically as well as spiritually. Genetic manipulation of Haloa shows utter disrespect for Hawaiian culture. In addition, recent attempts to patent and own taro hybrids derived from Hawaiian cultivars of taro are a cultural violation of these precious gifts that have been handed down to us generation to generation and are a direct link to our past.

Economically, genetic modification poses several risks to taro farmers and the poi industry. In recent years, there have been efforts to hybridize new varieties of taro in an attempt to produce disease resistance and increased yields. Cultivars of taro have been brought to Hawai'i from many places in the taro growing world to hybridize with Hawaiian varieties. After showing some initial promise, extensive testing by poi processors has shown that these hybrids produce inferior quality poi. Also, foreign cultivars of taro such as Palauan have been introduced into lo'i all around the state. While high-yielding, these varieties produce a low quality poi. Farmers have been left with no market for their crop, which takes over a year to produce, as poi millers universally reject these inferior taros. Subsequently, the availability of huli of the preferred Hawaiian varieties has been reduced. This has created both short-term and long-term economic hardships for taro farmers and poi processors and has contributed to the recent shortage of poi.

Of primary concern is the very real danger of contamination. A genetically engineered taro huli will look identical to the original Hawaiian variety from which it is derived. Once released into the lo'i, either controlled or by accident, recall will be impossible. Should problems arise, the effects of this contamination would be devastating to our industry. A history of contamination of other food crops world-wide by GE varieties has proven that containment, despite the reassurances of the bio-tech industry, is impossible.

Another economic concern of taro farmers is the issue of patenting of taro varieties. The traditional system of sharing huli between farmers is a proven way of ensuring the availability of planting material. The introduction of GE taro would seriously disrupt the ability of farmers to share huli and reduce the availability of suitable planting material.

Recent attempts by the University of Hawai'i to patent and sell huli to farmers is seen as an unacceptable precedent to make money off those who can least afford it. The bio-tech industry is not here for community service, but is predicated on the goal of controlling the incredibly profitable seed supply.

Nutritionally, poi has a world-wide reputation as a pure and healthy complex carbohydrate. There are no known allergies to poi, it is a food that can be assimilated by anyone. As a poi maker, I am honored to provide this nutritious food to babies whose parents use our poi as the first food to nourish their children, to elders who have been eating poi all their life, and to a wide range of people in between. Also, poi plays such an important role in celebrating families' life events such as baby lu'aus, graduations, weddings and funerals. A lu'au is not complete without poi on the table. Genetic engineering of taro consists of imposing genes from other plants such as rice and wheat into taro's DNA. The resulting changes could have untold effects on the hypo-allergenic qualities of taro and poi. When researchers are asked if they can guarantee the safety of their work, they honestly answer no. The dangers posed to the nutritional quality of this ancestral staff of life are completely unacceptable.

From my perspective as a Waipi'o taro farmer and poi processor, the disagreement over this issue is really a clash of values. University researchers value and are concerned about their perceived right to academic freedom. The bio-tech industry values and is concerned about their perceived right to unregulated free-market economics. Waipi'o, where I come from, is a very traditional Hawaiian valley. The still intact protocols and values that have been handed down are based on the value of Kuleana—rights that are based in the concept of responsibility. While moving forward, it is important to remember our connection to the past. That is why, in Waipi'o, the titles that garner the most respect are not Dr. or Professor, but begin with Auntie or Uncle or Tutu. It is important to note that the UH researcher responsible for the GE research on taro has never even been to Waipi'o Valley. Technology is seen as a tool not as a guiding principle. Science can be a wonderful tool for advancement, but science without a conscience, without the guidance of the precautionary principle, can wreak havoc. There must be a balance. In other words, Go easy. Be respectful.

In these troubled times of global warming, resource depletion, and world-wide unrest, the buzz word in Hawai'i has become sustainability. Reducing our dependence on off-island petro-chemical control, and becoming self-sufficient in food production are of huge concern. The proven methods of producing taro and poi can be seen as a model for the future of sustainable agriculture in Hawai'i. Producing taro with little or no outside resources, and providing food for our local population is a practice that has a track record that is centuries old in Hawai'i and stretches back many thousands of years in the history of mankind. It is vitally important that we support farmers who are feeding our local population.

The decline of taro production can be seen as a mirror duplicating the problems of self-sufficient food production in Hawai'i. The problems are rooted in availability of land and water and re-elevating the job of farmer to a viable occupation and way of life. Claims made by the bio-tech industry of impending devastating diseases are seen as scare tactics. Any good farmer knows that the key to crop health is soil fertility and it is in this direction we should be focusing our policies and research efforts. These are not new concepts, but lessons handed down to us from our kupuna. We just need to listen.

There is nothing wrong with our Hawaiian taros. They were developed over centuries by some of the most respected farmers the world has ever known. The sad decline in the number of varieties of taro that was grown by our ancestors has nothing to do with disease, but lies in the fact that, over the last century, people have moved off the land and instead of growing their food, are now buying all their food. In the interest of Hawai'i's long term security we need to reverse this practice.

Support for the passage of HB 1663 and SB709 that calls for a ban on the genetic engineering of taro in Hawai'i has swelled as people have become educated about this issue. The Hawaiian community, the taro farming community, and the poi eating community will continue to be passionately vocal in their efforts to protect Haloa. This will not go away because this is ohana. Precedence for the careful regulation of biotechnology has been established at every level of government world-wide, and it is important that the decision makers in Hawai'i educate themselves about the risks associated with this potentially dangerous technology.

In conclusion, I advise people that the best way to identify a taro farmer is to look at their feet. No can help, us taro farmers have ugly feet, it's an occupational hazard. So when someone claims to be speaking in the interest of the taro farmers, look at their feet. Look at who they represent. Please support our local farmers. Please malama Haloa.

Jim Cain, Waipi'o Valley
775-9001
kinglaulau@hotmail.com

February 17, 2009

TO: House Hawaiian Affairs Committee

Representative Mele Carroll, Chair

FROM:

Hector Valenzuela, Ph.D.

94-1070 Anania Cr. No. 107

Mililani, Hawaii 96789

Tel. 808-625-1277

hectoruh@yahoo.com

<http://www2.hawaii.edu/~hector/>

RE: TESTIMONY- IN SUPPORT for HB1663- Ban on GMO-taro
Ban research and planting of GM taro in Hawaii

Dear members of the House Hawaiian Affairs Committee:

I write this testimony in strong support of bill HB1663, which would ban the research and field planting of genetically modified (GM) taro in Hawaii

I have worked as a UH-Manoa Professor and Crop Production Specialist for 18 years, but write this on a personal capacity. My research is in the area of sustainable and ecological agriculture. As someone who supports sustainable agriculture, I have become increasingly concerned about the unregulated open-field plantings of GM crops in Hawaii. In general I have concerns about the health risks, about environmental risks, and also about the long-term cultural and socioeconomic impacts on our communities.

Below I summarize my key positions:

1. Lack of data showing the safety of GM crops.

Statements made by GM proponents are not backed by scientific, peer-reviewed data. No studies have been conducted in Hawaii or elsewhere to evaluate the short- or long-term effects on humans from having consumed GM crops over the past 12 years.

2. Lack of oversight/regulations.

GM crops are poorly regulated or even deregulated. Our federal courts and internal USDA and FDA reports have found that our regulatory agencies are often incapable of detecting potential side-effects from the consumption or planting of GM crops.

3. Unintended Consequences (see references below).

Recent findings in the scientific literature have shown that GM crops do indeed pose potential health risks, environmental risks, and that the benefits to farmers have not always been matched with the promises made by GM proponents.

- a. A comprehensive literature review published this month in a scientific journal documents a large number of potential health side effects from the few animal feeding studies that have been conducted to date (Dona and Arvanitoyannis, 2009).
- b. A recent refereed publication showed that the commercial planting of GM cotton was NOT more profitable than that of conventional varieties (Post et al. 2008). Similarly, several publications have shown that the yields of GM crops are similar or lower than that of conventional crops.
- c. A recent publication from Spain showed that contamination was inevitable and that the principle of co-existence was not working in that country (Binimelis, 2008). Contamination has occurred in all regions where GM crops have been planted. GM corn contamination has been documented in several states of Mexico, even though there is a ban on GM plantings in that country.
- d. There are still many unknowns about potential environmental risks. For instance the toxic Bt from GM crops was found to affect non-target organisms in nearby aquatic habitats (Harwood et al. 2005; Rosi-Marshall, 2008). Also, antibiotic genes from Bt crops were found to transfer to microbes in nearby aquatic habitats and aquifers (Koike et al 2007). As another example the Bt toxin from GM corn was found to affect the growth of earthworms in the soil (Zwalhen, 2003).

4. GM taro is not the answer for Hawaii.

My overall assessment is that GM taro is not the answer for farmers in Hawaii, and that GM taro would not contribute toward our self-sufficiency and sustainability. The only plant disease epidemiologist at UH-Manoa concurs, having stated that we already have all of the tools at our disposal to manage the major pests and diseases in taro- by following traditional pest control strategies.

Mahalo for your consideration in support of HB1663.

Sincerely,

Hector Valenzuela
94-1070 Anania Cr. No. 107
Mililani, HI 96789
<http://www2.hawaii.edu/~hector/>
tel. 808-625-1277

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Binimelis, R. 2008. Coexistence of plants and coexistence of farmers: Is an individual choice possible? *J. Agric. Environ. Ethics.* 21(5):1187-7863.

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Professional Bio:

Dr. Hector Valenzuela a full Professor and Vegetable Crops Specialist at the University of Hawaii-Manoa received his Ph.D. from the University of Florida. Dr. Valenzuela has conducted applied agroecology research for 23 years in support of commercial farmers, organic farming, and sustainable agriculture. He has authored over 380 technical and educational publications, has conducted over 200 field research trials with over 60 different vegetable and cover crop species, has organized over 60 field days and workshops for farmers in Hawaii and the Pacific Region, given over 200 presentations, and has participated in 13 international assignments. A staunch supporter of organic and

sustainable farming in Hawaii, Dr. Valenzuela established the first long-term organic research plots in Hawaii in 1993, the longest-running organic research project in the Pacific Region, and established the first Web sites to assist vegetable farmers (1998) and organic farmers (2005) in the Pacific Region.

Professional contact Information

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<http://www.ctahr.hawaii.edu/organic/>

Testimony
In Support of Ban on GMO-Taro

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,

J. Zender
P.o. Box 10897
Hilo, HI 96721

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Malama 'Aina,

David M. K. Inciong, II
1107 Acacia Road # 113
Pearl City, HI 96782-2581

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Malama 'Aina,

Carrie Brennan
6050 A Kapahi Rd
Kapaa, HI 96746

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Aloha mai kakou

Aloha Senators,

Ban GMO taro research and growing in Hawaii.
Contamination is real.
Contaminate one, you contaminate all.
Just look at the papaya industry.

Please change the language of this bill SB 709 so that it bans all GMO taro in Hawaii.

I am an organic kalo farmer and this is my livelihood.
We cannot coexist with GMOs.

Malama Haloa
Malama `aina
Mahalo

nancy kobayashi
p.o.box 44
hanalei, HI 96714

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In Support of Ban on GMO-Taro

Aloha mai kakou

Aloha Senators,

Ban GMO taro research and growing in Hawaii.
Contamination is real.
Contaminate one, you contaminate all.
Just look at the papaya industry.

Please change the language of this bill SB 709 so that it bans all GMO taro in Hawaii.

I am an organic kalo farmer and this is my livelihood.
We cannot coexist with GMOs.

Malama Haloa
Malama `aina
Mahalo

nancy kobayashi
p.o.box 44
hanalei, HI 96714

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

Preserve haloa! No Frankenstein farming!

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,

Cory (Martha) Harden
P.O. Box 10265
P.O. Box 10265
Hilo, HI 96721

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

Aloha Senators,

Please change the language of SB 709, a moratorium on the genetic modification of Hawaiian varieties of taro, to that of HB 1663 which calls for a ban on gmos on ALL varieties of taro.

A ban on Hawaiian varieties of taro is not enough.
We want a ban on all varieties of taro in Hawaii.
Contamination is forever. Coexistence is impossible.

There are those who say they simply want the research to continue just in case. And they also claim they would never plant it. Do you really believe that? Do you think that this research and technology would stay "safely" in the lab? For the safety of all of us who kanu taro, who cherish it as a family member because it provides and feeds us, for our aina - the land and water- which supports the growing of our food. It is time to stop and think what we are doing to all that is real and all that matters to us as human beings on this planet. Money and the drive to own and control does not make for anything healthy.

Malama Haloa. Malama kalo. Malama `aina.
One earth, one land, one air, one people.
Mahalo ke akua.

nancy kobayashi
p.o.box 44
hanalei, HI 96714

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Malama 'Aina,

Kamuela Meheula Naihe
76-436 Kealoha ST
Kailua Kona, HI 96740

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Kaeo Bradford
6938 Lekia Pl.
Kapaa, HI 96746

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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,

Cha Smith
4117 Black Point Road
4117 Black Point Road
Honolulu, HI 96816

Testimony

In Support of Ban on GMO-Taro

Aloha mai kakou

I was born in Honolulu and started my life precariously, thriving under the care of the doctors and nurses at Kapi`olani, and with the help of Hawaiian friends and neighbors. I learned the value of poi and its incredible nutrition.

Although I live far away, I still buy Hawaiian poi when it's available. It is an incredible food that can be given infants to help them thrive. It should not be tampered with!

I join communities across Hawaii in rejecting the genetic modification of all taro varieties, by supporting a ban on GMO-taro.

Too often we change things, not realizing the harm we're doing. For example, cars became preferred over horses, even though at the time they were not as fast, simply because they did not soil the streets with manure. Instead, we have learned they poison our air with fumes. We do not always know how changes will impact us in the future.

I stand with those who ask me to say, and I repeat their words, because they are speaking eloquently:

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.

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Malama 'Aina,
Donna Beth Weilenman

Donna Weilenman
10 Morello Heights Drive
Martinez, CA 94553

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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,

Craig Elevitch
P.O. Box 428
Holualoa, HI 96725

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

I am concerned about possible GMO experimentation on all crops and especially taro. Taro is a crop that is an important part of Hawaiian culture. Since they are against experimenting on their national crop, it should NOT be done.

Therefore please vote for SB709 and HB1663 to protect the Hawaiian people's most important crop.

Margery Freeman
6448 Kaahele Street
6448 Kaahele Street
Kapaia, HI 96746

Testimony
In Support of Ban on GMO-Taro

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.

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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,

Lisa Ann Hookano
911085 kauiki st
ewa beach, HI 96706

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

My husband Norbert Roessler and I Ina Roessler are fulltime residents of Kauai. We support the ban on GMO Taro and specifically ALL varieties of Taro not just Hawaiian varieties.

Malama 'Aina,
The Roesslers

Ina Roessler
4184 kekuanaoa
princeville, HI 96722

Testimony

In Support of Ban on GMO-Taro

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.

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-Help Taro, Don't Hurt Taro!-

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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,

Lorilani Keohokalole-Torio
POB 675
Anahola, HI 96703

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

Although the wording of my message (below) is taken directly from the generic message eloquently composed by Na Kahu o Haloa, I totally agree with every point and could not have phrased it any better.

Please listen to the people of Hawai'i!

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.

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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,

Joan Lander
PO Box 29
Naalehu, HI 96772-0029

Testimony
In Support of Ban on GMO-Taro

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.

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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,

Ho'ala Rivera
73-1109 Oluolu St.
Kailua Kona, HI 96740

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

GMO Free Kaua`i represents over 3000 concerned citizens on Kaua`i. Kaua`i produces the most taro in the state. Most people here grow taro in their yards for their family and friends.

We join communities across Hawaii in rejecting the genetic modification of all taro varieties, by supporting a ban on GMO-taro. We are 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.

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As a strong supporter of taro farming on Kaua'i and in Hawaii, we 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,

Jeri Di Pietro
PO Box 338
Koloa, HI 96756

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

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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.

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-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 actual need to tamper with 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.

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Malama 'Aina,

Marie Brown
430 Keoniana St.
Apt. 301
Honolulu, HI 96815

282-2758

Testimony

In Support of Ban on GMO-Taro

Aloha mai kakou

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Malama 'Aina,

Ingrid Tillman
HCR2 Box 6954
HCR2 Box 6954
Keaiaua, HI 96749

808-966 5093

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Malama 'Aina,

gia baiocchi
po box 30899
Anahola, HI 96703

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

Aloha Kakou --

As an advanced student of la'au lapa'au, a professional with a background in Public Health, a descendant of maka'ainana who grew kalo for generations, a peacemaker and a mother, I ask that you support the protection of kalo through the passage of SB709 with amendments that include all varieties of kalo, to reflect the protections articulated in HB1663. No GMO's, please!

Mahalo nui to all who have worked on this effort.

Me ke aloha,

Laulani Teale, MPH

Laulani Teale
45-666 Uhilehua St.
Kane'ohe, HI 96744

Testimony
In Support of Ban on GMO-Taro

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Malama 'Aina,

Cathie alana
PoBox 17418
honiolulu, HI 96817

Testimony
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Bernard Fickert
141 Kuloli Place
Haiku, HI 96708

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Walter Andrade
P.O. Box 586
Holualoa, HI 96725

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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 worlds 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-

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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 actual need to tamper with 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,

Dayle Bethel
1441 Victoria Street, #402
Honolulu, HI 96822

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

I am against the genetic modification of all taro varieties. I was deeply disturbed last year when some members of the legislature changed the bill that was submitted to them. It showed, at best, a lack of understanding of the issue of genetically modified Taro and, at worst, it showed that some members were willing to give in to greed by changing the bill to reflect the methods and ideas of others.

Please support this bill without adding improper changes to it such as the ones made last session.

Yours truly,
Vicki McCarty
Honokohau Valley, Maui, HI

Vicki McCarty
30 Kahana Place
30 Kahana Place
Lahaina, HI 96761

Testimony
In Support of Ban on GMO-Taro

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.

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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.

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-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 actual need to tamper with 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,

Abilynn Rita
P.O. Box 594
Anahola, HI 96703

Testimony

In Support of Ban on GMO-Taro

Aloha mai kakou

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Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

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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,

Leonard W Rita jr
p.o. box 594
Anahola, HI 96703

Testimony

In Support of Ban on GMO-Taro

Aloha mai kakou

I have severe food allergy and have researched GMO foods because of this. ALL literature and research on the subject done by independent scientists points to the very real existence of allergic responses. Not only that but GMOs are being released into the wild and contaminating other plants.

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.

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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,

B.A. McClintock
Disabled-email only
Honolulu, HI 96825

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

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Malama 'Aina,

Tracey Schavone
POBox 676
Anahola, HI 96703

Testimony

In Support of Ban on GMO-Taro

Aloha mai kakou

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-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.

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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 a 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.

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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 actual need to permanently change 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,

Diana Bethel
1441 Victoria St.
Honolulu, HI 96822

Testimony

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Malama 'Aina,

Kiope Raymond
310 Kaahumanu Avenue
Kahului, HI 96732-1617

Testimony
In Support of Ban on GMO-Taro

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Malama 'Aina,

Kamuela Kala'i
46-337 Kahuhipa Street
Kaneohe, HI 96744

Testimony
In Support of Ban on GMO-Taro

Aloha mai kakou

I urge you to add the amendments suggested by the taro farmers. There is no crop, including taro, that requires any genetic modification. We have seen all too many times how the most well intentioned efforts of scientists have nonetheless caused inestimable damage to our planet.

I reject all GMO and urge you to do likewise.

Thank you for your time, and attention to my concerns.

Aloha,

Vicki Vierra
HC 1 Box 5077
Keaau, HI 96749

Testimony In Support of Ban on GMO-Taro

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Malama 'Aina,

LorrieAnn Santos
45-41 Lolii Street
Kaneohe, HI 96744

Testimony

In Support of Ban on GMO-Taro

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Malama 'Aina,

clare loprinzi
po box 400
holualoa, HI 96725

Testimony

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Malama 'Aina,

Haunani Francisco
1025 Ala Lilikoi St
Honolulu, HI 96818

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In Support of Ban on GMO-Taro

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Malama 'Aina,

Kapua Francisco
1025 Ala Lilikoi St
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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.

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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.

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-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 actual need to permanently change 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,

Michael Saiz
PO Box 562
Haleiwa, HI 96712

Testimony
In Support of Ban on GMO-Taro

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Malama 'Aina,

Fred Flores
1216 wilder ave. apt 202
honolulu , HI 96822

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Erica Taniguchi
4841b hokualele rd
Anahola, HI 96703

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Malama 'Aina,

Mary C. Goodman
1322 Kaupakalua Road
Haiku, HI 96708

Testimony

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Malama 'Aina,

susan patner
5600 weke rd
hanalei, HI 96714

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po box 450
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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.

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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.

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-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 actual need to permanently change 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,

pono kealoha
1107 Acacia Rd. #113
Pearlcity, HI 96782

Testimony

In Support of Ban on GMO-Taro

Aloha mai kakou

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Malama 'Aina,

Kehaulani Wong
3513 Pakui St.
Honolulu, HI 96816

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Malama 'Aina,

Deborah DiPiero
5221 I Kohi Street
Lahaina, HI 96761

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Malama 'Aina,

miwa tamanaha
9999 9st
999, HI 96817

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Malama 'Aina,

Kathleen Carr
PO Box 335
Honaunau, HI 96726

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CarolLee Averill
538 Pohai St
Kahului, HI 96732

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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 a 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 actual need to permanently change 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,

Katherine Ross
PO Box 603
Papaikou, HI 96781

Testimony

In Support of Ban on GMO-Taro

Aloha mai kakou

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