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## A BILL FOR AN ACT

RELATING TO AGRICULTURE.

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

1           SECTION 1. The legislature finds that Hawaii must commit  
2 to different forms of sustainable agriculture through the  
3 utilization of new technologies. Sustainable agriculture is  
4 defined by the United States Department of Agriculture as "an  
5 integrated system of plant and animal production practices  
6 having a site-specific application that will, over the long  
7 term: satisfy human food and fiber needs, enhance environmental  
8 quality and the natural resource base upon which the  
9 agricultural economy depends, make the most efficient use of  
10 nonrenewable resources and on-farm resources and integrate,  
11 where appropriate, natural biological cycles and controls,  
12 sustain the economic viability of farm operations, and enhance  
13 the quality of life for farmers and society as a whole."

14           Sustainable farming also allows farmers to transform their  
15 farms into giant recycling centers. They can turn crop waste  
16 and animal manure into fertilizers, use crop rotation to enrich  
17 the soil, and reroute rainwater to fuel the irrigation system.



1 Not only does this save money, but it also conserves natural  
2 resources.

3 The legislature further finds that new technologies  
4 supporting sustainable agriculture must be pursued to improve  
5 and create an innovative agricultural economy in the State.

6 Accordingly, the purpose of this Act is to provide funds  
7 for a pilot project at the college of tropical agriculture and  
8 human resources at the University of Hawaii at Manoa to create  
9 new technologies for sustainable agriculture in the State  
10 through scientific research and support services.

11 SECTION 2. There is appropriated out of the general  
12 revenues of the State of Hawaii the sum of \$1,000,000 or so much  
13 thereof as may be necessary for fiscal year 2014-2015 for the  
14 creation of a pilot project to create new technologies for  
15 sustainable agriculture at the college of tropical agriculture  
16 and human resources at the University of Hawaii at Manoa.

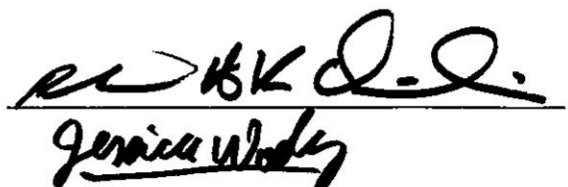
17 The sum appropriated shall be expended by the University of  
18 Hawaii for the purposes of this Act.

19 SECTION 3. This Act shall take effect on July 1, 2014.

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INTRODUCED BY:



H.B. NO. 2180

[Signature]  
Gregory Taylor  
James Kelly  
Tom Brown  
Rory M. Smith  
Jim White Matlock  
[Signature]

Blakeskern

JAN 21 2014



# H.B. NO. 2180

**Report Title:**

New Technologies for Sustainable Agriculture Pilot Project;  
Appropriation

**Description:**

Funds a pilot project at the College of Tropical Agriculture and Human Resources at the University of Hawaii at Manoa to create new technologies for sustainable agriculture in the State through scientific research and support services. Appropriation. Effective July 1, 2014.

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*





# UNIVERSITY OF HAWAII SYSTEM

## Legislative Testimony

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Written Testimony Presented Before the  
House Committee on Higher Education  
Tuesday, February 11, 2014 at 2:00 pm

by

Maria Gallo, Dean

and

J. Kenneth Grace, Interim Associate Dean

College of Tropical Agriculture and Human Resources

University of Hawai'i at Mānoa

### HB 2180 – RELATING TO AGRICULTURE

Chair Choy, Vice Chair Ichiyama, and members of the House Committee on Higher Education, thank you for this opportunity to testify in support of HB 2180, which would fund a pilot project in the College of Tropical Agriculture and Human Resources, University of Hawai'i at Mānoa, to create new technologies for sustainable agriculture in the State through scientific research and support services.

We strongly support this bill provided that its passage does not replace or adversely impact priorities as indicated in the University's Board of Regents Approved Executive Biennium Budget.

Limiting factors in agriculture in Hawai'i are increasingly high energy costs, waste management needs, water availability and the costs of imported soil amendments. These steadily rising costs are serious threats to the practicality and profitability of farming and ranching in the state, and severe impediments to the goals of food security and sustainability.

HB 2180 supports research and development of integrated approaches to low-input, sustainable agriculture on a model farm scale in order to extend the results to Hawai'i's farmers and ranchers. Pilot projects under the umbrella of an integrated agricultural system will include (1) development of a multi-soil-layer treatment system to remediate R-3 to R-1 water, (2) the use of a combined solar light and biological treatment to degrade and detoxify water contaminants such as endocrine disruptors and pharmaceutical wastes that are polluting land and the coastline, and (3) construction of a pilot-scale anaerobic biorefinery system to convert organic waste to biogas, and further to refined fuel and co-products such as soil amendments.

The College of Tropical Agriculture and Human Resources experiment station intended as the site for this pilot research and demonstration project, the Waiale'e Experiment Station on the north shore of O'ahu, provides an excellent example of mixed animal/crop, small farm/ranch operations in Hawai'i, and the challenges of input costs, effective waste management and protection of natural resources. Training in the skills needed to address these challenges is an integral part of the pilot project.

This pilot project is intended to provide and extend model technologies for sustainable food and energy production, combined with effective waste remediation and environmental protection in Hawai'i. Thank you for the opportunity to express our support for this effort towards a sustainable Hawai'i represented by HB 2180.



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February 11, 2014

HEARING BEFORE THE  
HOUSE COMMITTEE ON HIGHER EDUCATION

TESTIMONY ON HB 2180  
RELATING TO AGRICULTURE

Room 309  
2:00 P.M.

Chair Choy, Vice Chair Ichiyama, and Members of the Committee:

I am Christopher Manfredi, President of the Hawaii Farm Bureau Federation (HFB). Organized since 1948, the HFB is comprised of 1,832 farm family members statewide, and serves as Hawaii's voice of agriculture to protect, advocate and advance the social, economic and educational interests of our diverse agricultural community.

**HFB supports the intent of HB 2180** which appropriates funds for the creation of a pilot project to create new technologies for sustainable agriculture at the University of Hawaii CTAHR through scientific research and support services. We agree that these technologies could benefit Hawaii's agricultural industry, especially as it evolves into the production of new food and energy crops.

Sustainable farming in Hawaii is certainly not a new idea. Most people don't realize that the Hawaii sugar industry was a world leader in sustainable agriculture from its inception well over a century ago. Nothing went to waste; flowing stream water from rainfall is still used today to produce clean renewable hydroelectricity, reducing the use of fossil fuels, before it's used to irrigate the crop. The innovation and use of drip irrigation greatly reduced waste of precious water supplies by allowing the delivery of a precise amount of water directly to the root of the sugarcane plants. Often, water used to wash the cane as it comes into the mill is recycled by sending it back out to the fields to irrigate the next crop. And, after extracting the sugar from the plant, the residual cane fiber, or bagasse, is burned in the mill to produce energy to run the factory and also supply energy to the community.

Development of new farming practices and technologies that improve farming viability, protect the land, and make wise use of the State's natural resources, while hopefully increasing our energy self-sufficiency, is necessary as Hawaii moves to increase its food security. HFB supports the concept of this project and is interested to learn more about its details.

Thank you for the opportunity to comment on this measure.