

JAN 20 2017

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## A BILL FOR AN ACT

MAKING AN APPROPRIATION FOR RESEARCH, DEVELOPMENT, MARKETING,  
AND CONSERVATION OF 'ULU.

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

1           SECTION 1. Hawaiian breadfruit ('ulu) has a long history in  
2 Hawaii as an important and consistent food source. This  
3 illustrious history includes a period during which breadfruit  
4 played a significant role in providing an annual production of  
5 millions of pounds of nutritious food that sustained the  
6 traditional population across the islands. Research has shown  
7 that Kona alone produced fifty thousand to sixty thousand tons  
8 of breadfruit per year in what is now the coffee belt.  
9 Breadfruit is believed to have arrived on the Hawaiian islands  
10 approximately seven hundred years ago. Since this introduction  
11 to the climate and soil environment of Hawaii, breadfruit has  
12 consistently contributed to and enhanced all aspects of Hawaii,  
13 including traditional diet, culture, and lifestyle. Its  
14 distinctive beauty and mythical origins, historical, cultural,  
15 religious, and social significance, and the diversity of its  
16 forms in traditional methods of food production have all



1 contributed to the legacy of breadfruit in the Hawaiian heritage  
2 and culture. This significant presence and abundance  
3 illustrates how breadfruit flourishes in modernity as the  
4 contemporary manifestation of Hawaii Nei.

5 The combination and collective force of discrete factors  
6 over the past decade have demonstrated that breadfruit  
7 consumption and research is growing in relevance, including the  
8 availability of large numbers of breadfruit trees, expansion of  
9 the gluten-free market, confirmation of value in breadfruit by-  
10 products, and the increasing market movement toward locally  
11 grown food. For the first time in the technological era,  
12 breadfruit has the potential to become a major commercial crop,  
13 even while remaining closely connected to traditional Hawaiian,  
14 Polynesian, Micronesian, and Melanesian values.

15 Conservation of breadfruit agrobiodiversity and development  
16 of micropropagation methods by the Breadfruit Institute at the  
17 National Tropical Botanical Garden provide the means to rapidly  
18 expand breadfruit plantings and utilization for commerce and for  
19 food sustainability. The Pacific Business Center Program at the  
20 Shidler school of business administration at the University of  
21 Hawaii has initiated a program for analysis and testing of



1 shelf-stable breadfruit products, such as gluten-free flour, as  
2 well as developing technology for processing breadfruit latex  
3 and inflorescence for its insect repellent properties in  
4 collaboration with the college of tropical agriculture and human  
5 resources at the University of Hawaii, National Tropical  
6 Botanical Garden Breadfruit Institute, University of British  
7 Columbia, and Department of Grain Science and Industry at Kansas  
8 State University. The Hawaii 'Ulu Producers Cooperative is a new  
9 commercial venture led and operated by Hawaii farmers to push  
10 the burgeoning breadfruit market significantly forward by  
11 developing shelf stable products for year round consumption and  
12 by aggregating their fruit to ensure consistent supply. Dozens  
13 of other small breadfruit producers around the state make  
14 diverse products such as chips, hummus, pies, and baking mixes.

15 Additional research and market support are required to  
16 develop sustainable breadfruit production methods, postharvest  
17 handling, processing and refinement, manufacturing methods,  
18 scalable flour mill design, packaging, market product  
19 development and testing, distribution and regional sustainable  
20 capacity for supply for breadfruit products.



**S.B. NO. 228**

1       A projected \$10,000,000 per year farm value is anticipated  
2 within ten years based on trees currently in the ground that  
3 have yet to be productive. There is also room in local markets  
4 to expand significantly thereafter. This injection of value may  
5 provide direct benefit to farmers, as well as ancillary economic  
6 impact through value-added production. The gluten-free market  
7 servicing United States consumers is expected to exceed  
8 \$15,000,000,000 in 2016, on top of the current commodities value  
9 for organic latex priced at \$900 per gallon. Furthermore, the  
10 profit projected from processing and marketing the breadfruit  
11 flower as an organic insecticide is estimated to exceed the  
12 million dollar mark. This profit may be due to the far more  
13 potent nature of the breadfruit flower that contains a natural  
14 tri-chemical compound combination that so powerfully acts as a  
15 repellant that the breadfruit outperforms its synthetic  
16 competitors.

17       The economic development potential for the processing,  
18 refinement, packaging, and exporting of breadfruit products for  
19 the state and national market is substantial considering the  
20 general employment and economic benefits to the State



# S.B. NO. 228

1 simultaneously strengthens the authentic Hawaiian experience for  
2 the visitor industry.

3 As everyone who has tasted extraordinary dishes made from  
4 'ulu knows, there is now high potential for 'ulu to contribute to  
5 healthy diets and food security ideals based on locally grown  
6 foods. 'Ulu is a long-lived, easy to grow, productive,  
7 nutritious, starchy staple crop that will continue to contribute  
8 to environmental, social, and economic health for generations.

9 The purpose of this Act is to make an appropriation for the  
10 research, development, marketing, and conservation of  
11 breadfruit.

12 SECTION 2. There is appropriated out of the general  
13 revenues of the State of Hawaii the sum of \$650,000 or so much  
14 thereof as may be necessary for fiscal year 2017-2018 and the  
15 same sum or so much thereof as may be necessary for fiscal year  
16 2018-2019 for the research, development, marketing, and  
17 conservation of breadfruit.

18 The sums appropriated shall be expended by the college of  
19 tropical agriculture and human resources at the University of  
20 Hawaii for the purposes of this Act.

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# S.B. NO. 228

1 SECTION 3. This Act shall take effect on July 1, 2017.

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# S.B. NO. 228

**Report Title:**

Agriculture; Breadfruit; 'Ulu; Appropriation; University of Hawaii College of Tropical Agriculture and Human Resources

**Description:**

Appropriates funds for the research, development, marketing, and conservation of 'ulu.

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