

Application Submittal Checklist

The following items are required for submittal of the grant application. Please verify and check off that the items have been included in the application packet.

- 1) Certificate of Good Standing (If the Applicant is an Organization)
- 2) Declaration Statement
- 3) Verify that grant shall be used for a public purpose
- 4) Background and Summary
- 5) Service Summary and Outcomes
- 6) Budget
 - a) Budget request by source of funds ([Link](#))
 - b) Personnel salaries and wages ([Link](#))
 - c) Equipment and motor vehicles ([Link](#))
 - d) Capital project details ([Link](#))
 - e) Government contracts, grants, and grants in aid ([Link](#))
- 7) Experience and Capability
- 8) Personnel: Project Organization and Staffing


AUTHORIZED SIGNATURE

STEPHANIE A. WHALEN, EXECUTIVE DIRECTOR
PRINT NAME AND TITLE

1/17/2020
DATE

received
1/17/20 20

3:21 pm

**THE THIRTIETH LEGISLATURE
APPLICATION FOR GRANTS
CHAPTER 42F, HAWAII REVISED STATUTES**

Type of Grant Request:

Operating Capital

Legal Name of Requesting Organization or Individual: Db: _____
Hawaii Agriculture Research Center

Amount of State Funds Requested: : 597,200 _____

Brief Description of Request (Please attach word document to back of page if extra space is needed):
The primary goal of this project is to provide an opportunity for Hawaii to increase local food production through the use of indoor, vertical farming technology. The Hawaii Agriculture Research Center (HARC) will lead a private partnership with HSI Mechanical to transfer and demonstrate the Sky Greens (SG) Vertical Farm System in Hawaii. This proven vertical farm technology will provide Hawaii the opportunity to meet local food production and economic development for both urban and rural areas. The SG systems was developed in Singapore, and is now used in several countries in Southeast Asia and China (www.skygreens.com).

Amount of Other Funds Available:

State: \$ _____
Federal: \$ _____
County: \$ _____
Private/Other: \$ _____

Total amount of State Grants Received in the Past 5 Fiscal Years:

\$ _____
Unrestricted Assets:
\$ 167,894

New Service (Presently Does Not Exist): Existing Service (Presently in Operation):

Type of Business Entity:

501(C)(3) Non Profit Corporation
 Other Non Profit
 Other

Mailing Address:

PO Box 100
City: Kunia State: HI Zip: 96734

Contact Person for Matters Involving this Application

Name:
Tyler Jones

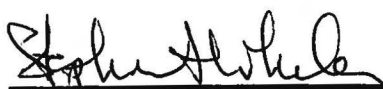
Title:
Assistant Director

Email:
tjones@harc-hspa.com

Phone:
808-927-7508

Federal Tax ID#:

State Tax ID#


Authorized Signature

STEPHANIE A. WAILEN
Name and Title

1-17-2020
Date Signed



Department of Commerce and Consumer Affairs

CERTIFICATE OF GOOD STANDING

I, the undersigned Director of Commerce and Consumer Affairs of the State of Hawaii, do hereby certify that

HAWAII AGRICULTURE RESEARCH CENTER

was incorporated under the laws of Hawaii on 08/08/1978 ; that it is an existing nonprofit corporation; and that, as far as the records of this Department reveal, has complied with all of the provisions of the Hawaii Nonprofit Corporations Act, regulating domestic nonprofit corporations.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Department of Commerce and Consumer Affairs, at Honolulu, Hawaii.

Dated: January 13, 2020

Director of Commerce and Consumer Affairs



**DECLARATION STATEMENT OF
APPLICANTS FOR GRANTS PURSUANT TO
CHAPTER 42F, HAWAII REVISIED STATUTES**

The undersigned authorized representative of the applicant certifies the following:

- 1) The applicant meets and will comply with all of the following standards for the award of grants pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is licensed or accredited, in accordance with federal, state, or county statutes, rules, or ordinances, to conduct the activities or provide the services for which a grant is awarded;
 - b) Complies with all applicable federal and state laws prohibiting discrimination against any person on the basis of race, color, national origin, religion, creed, sex, age, sexual orientation, or disability;
 - c) Agrees not to use state funds for entertainment or lobbying activities; and
 - d) Allows the state agency to which funds for the grant were appropriated for expenditure, legislative committees and their staff, and the auditor full access to their records, reports, files, and other related documents and information for purposes of monitoring, measuring the effectiveness, and ensuring the proper expenditure of the grant.

- 2) If the applicant is an organization, the applicant meets the following requirements pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is incorporated under the laws of the State; and
 - b) Has bylaws or policies that describe the manner in which the activities or services for which a grant is awarded shall be conducted or provided.

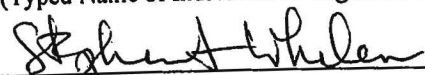
- 3) If the applicant is a non-profit organization, it meets the following requirements pursuant to Section 42F-103, Hawaii Revised Statutes:
 - a) Is determined and designated to be a non-profit organization by the Internal Revenue Service; and
 - b) Has a governing board whose members have no material conflict of interest and serve without compensation.

Pursuant to Section 42F-103, Hawaii Revised Statutes, for grants used for the acquisition of land, when the organization discontinues the activities or services on the land acquired for which the grant was awarded and disposes of the land in fee simple or by lease, the organization shall negotiate with the expending agency for a lump sum or installment repayment to the State of the amount of the grant used for the acquisition of the land.

Further, the undersigned authorized representative certifies that this statement is true and correct to the best of the applicant's knowledge.

Hawaii Agriculture Research Center

(Typed Name of Individual or Organization)


(Signature)

1-17-2020
(Date)

Stephanie A. Whalen
(Typed Name)

Executive Director
(Title)

II. Background and Summary

1. Description of the Applicant's Background

The Hawaii Agriculture Research Center (HARC) is a private, nonprofit organization (501c3) supporting diversified agriculture in Hawaii through scientific research, technology transfer and business development. Stephanie Whalen is the Executive Director of HARC and has been closely involved in Hawaii's agricultural industry for many years. Mrs. Whalen led the transition of HARC from the sugarcane industry funded, Hawaii Sugar Planters' Association (HSPA), to its current status with expertise and close relationships in most aspects of Hawaii's diversified agriculture industry. In addition, Mrs. Whalen has overseen the conversion of Del Monte pineapple acreage and camp to a vibrant agricultural complex and Kunia Village housing for low income farm workers. HARC has a long track record of successful projects in collaboration with local, state and federal agencies, universities and private industry. HARC's diverse expertise in a wide range of agricultural subjects provides a valuable resource for Hawaii's farmers in a rapidly changing agricultural environment.

2. Goals and Objectives

The primary goal of this project is to provide an opportunity for Hawaii to increase local food production through the use of indoor, vertical farming technology. The Hawaii Agriculture Research Center (HARC) would lead a private partnership with HSI Mechanical to transfer and demonstrate the Sky Greens (SG) Vertical Farm System in Kunia, HI. The SG systems was developed in Singapore, and is now used in several countries in Southeast Asia and China (www.skygreens.com). HARC is partnering with private industry to build a demonstration and research facility using this SG Vertical Farm system. The requested state funds would provide funding to cover the initial operating costs for the project, enabling both commercial production and research and development.

Sky Greens Vertical Farm System, Singapore.



Vertical Farming offers a unique opportunity to improve both the productivity and sustainability of modern agriculture. The Sky Greens Vertical Farm System is proven to use 95% less water on 1/10th the amount of land versus traditional production of lettuce and other greens. Unlike most vertical farm technology currently used in the United States, the system utilizes natural sunlight to grow the plants, therefore requiring minimal energy input. Hawaii's subtropical climate ensures sufficient sunlight throughout the year, enabling continual production without the need for artificial lighting. The enclosed greenhouses allow for improved pest and disease control, as well as compliance with the ever-increasing food safety regulations. The Sky Greens system has proven commercial success in Singapore, a high costs, land restricted, tropical business environment similar to Hawaii.

In addition to demonstrating the commercial viability of the Sky Greens system in Hawaii, the project serves to create a Vertical Farm Research and Development Center. The vertical farm industry is projected to grow over 20% annually, reaching over \$12billion by 2026. The United States Department of Agriculture recently completed a review of the current industry and identified plant breeding, pest management and systems engineering as three of the top R&D needs. The proposed project is a partnership between HARC and HSI Mechanical, and is therefore uniquely suited to address these R&D needs. HARC's experience in plant breeding and pest management research, combined with HSI Mechanical's experience in developing high-tech engineering systems provide the opportunity to improve upon the Sky Greens system through the development of new technology. The R&D component of the project will thus provide the opportunity for Hawaii to enter the technology development sector of the vertical farming industry, and support Hawaii's high-tech job growth.

3. Public purpose and need to be served

As large commercial agricultural production of sugarcane and pineapple decreased in the state, many agricultural workers and their families have struggled to survive. Furthermore, Hawaii imports the majority of its food from outside the state, raising concerns over food security and loss of economic opportunity. The State of Hawaii has set ambitious goals for increased local food production. The high labor, energy, input and land costs are significant hurdles to meeting these goals, and Hawaii must take advantage of new technology to be competitive. As described above, the Sky Green Vertical Farm system addresses these hurdles and has a proven commercial track record.

4. Target population

The immediate population served by the project will be the general public in Hawaii through the increased availability of local produced lettuce and other greens. Furthermore, the agricultural workers and research staff hired for the project in Kunia/Wahiawa are direct beneficiaries. The creation of high-tech R&D jobs will provide Hawaii workforce with increased economic opportunity.

5. Geographic

The project has statewide implications as all inhabited islands have suitable land for Vertical Farming. The immediate project is to be based in Kunia or Wahiawa on Oahu, with distribution of product across Oahu.

III. Service Summary and Outcomes

1. Scope of work, tasks and responsibilities

Initial hiring of staff and early stage project operations are to be managed by Tyler Jones, Assistant Director of Research at HARC. The requested funds are to be used for the initial operating costs, enabling HARC to hire a new project manager, research technician and agriculture workers to operate the facility. In the early stages, the project manager will oversee all tasks related to commercial production and distribution. HARC will work closely with HSI Mechanical staff to ensure efficient system design and installation.

2. Timeline

- A: Hire project manager and production staff: Months 1-3
- B: Finalize installation of Sky Greens Vertical Farm System: Months 1- 6
- C: Acquire necessary greenhouse supplies for commercial production: Months 1-6
- D: Plant first crop: Month 6
- E: Production and distribution of crop: Months 6 – 12
- F: Testing of new varieties and early engineering improvements (light sensors etc.): Months 9 -12

3. Quality assurance and Evaluation Plans

HARC has long, successful history of R&D on a wide range of crops. HARC utilizes an internal review process to ensure proper quality control. HARC hires a third-party auditor annually for financial compliance.

4. Measure of effectiveness

Reports will be made to the legislature describing the success of proposed activities. HARC shall provide relevant yield, sales, efficiency and profitability data to promote expansion of the project and construction of additional greenhouses. The long-term effectiveness is to be measured by the increased production in local produce using the Vertical Farm technology demonstrated and developed through the project.

IV. Financial

1. See Enclosed Budget Forms

2. Quarterly Funding Needs

Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total Grant
\$250,000	\$150,000	\$100,000	\$97,200	\$597,200

3. No other funding sources are requested at this time.

4. HARC has not applied for or received any tax credits in the past three years and does not anticipate receiving any in the foreseeable future.

5. Government contracts, grants and grants in aid received by HARC

A: Federal:

B: State of Hawaii: 2019 OP GIA, AGR 192, \$50,000

C: County:

6. As of December 31, 2019, HARC had unrestricted current assets of \$167,894

V. Experience and Capability

1. Necessary Skills and Experience

HARC staff has extensive experience in research on a wide range of crops. HARC operates several greenhouses on Oahu and therefore has internal greenhouse operation expertise. HARC's diversity of professional staff including a geneticist, agronomist and pathologist provides significant value to the project and ensures sufficient capability to address any unforeseen issues.

2. Facilities and Equipment

The project is to be built on agriculture land in Kunia and/or Wahiawa on Oahu. HARC has multiple properties in the area, and is home to several commercial farms and agriculture businesses. The existing infrastructure is a significant cost saver for the project. HARC's private partner, HSI Mechanical is to provide the capital and expertise to purchase the Sweet Green Fields technology and construct the greenhouse facility.

VI. Personnel: Project Organization and Staffing

1. Proposed staffing, qualifications, supervision and training

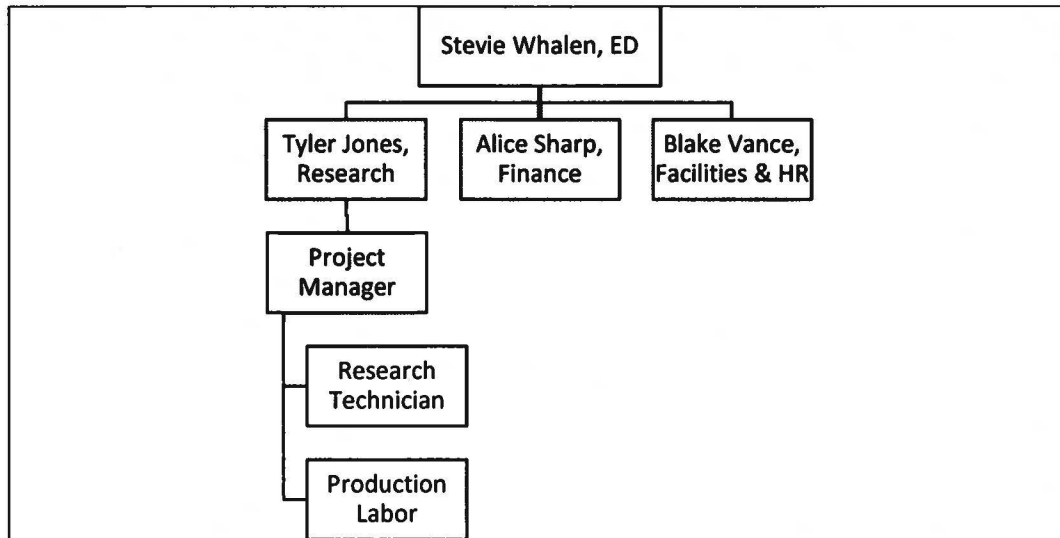
Tyler Jones, Assistant Director of Research, MS, MBA: Tyler Jones has over a decade of experience in conducting field trials on a wide range of new crops across the state of Hawaii. Tyler will work with HSI Mechanical to install the infrastructure improvements and equipment purchases. Through his education, training and experience, Tyler has proven an effective team leader, supervisor and trainer for complex projects that require a range of specialty expertise.

Project Manager: A new project manager is to be hired to oversee the daily operations of the project. Tyler Jones will work closely to train the project manager and ensure compliance.

Research Staff: HARC has numerous field staff that have significant experience in research trials on a wide range of crops. The existing experience provides significant value to the proposed project as little additional training is needed.

Production Staff: Production staff will be hired from the existing agricultural labor workforce. The proposed site's location in Kunia, provides access to existing agricultural workforce and HARC's Kunia Village Agricultural Housing project provides opportunity for affordable housing.

2. Organizational Chart



3. Compensation

The top three highest compensation employees at HARC for the three Assistant Directors. The salaries of the three Assistant Directors are \$86,520, \$76,980 and \$76,800.


VII. Other

1. *HARC has no pending litigation or outstanding judgements.*
2. *No special licensures or accreditation is necessary to complete the project.*
3. *No grant funds will be used to support or benefit a sectarian or non-sectarian private educational institution.*
4. *Future sustainability of the project will rely on private funding. Federal funding may be requested in future years for R&D purposes.*

BUDGET REQUEST BY SOURCE OF FUNDS

Period: July 1, 2020 to June 30, 2021

App HARC

BUDGET CATEGORIES	Total State Funds Requested (a)	Total Federal Funds Requested (b)	Total County Funds Requested (c)	Total Private/Other Funds Requested (d)
A. PERSONNEL COST				
1. Salaries	220,000			
2. Payroll Taxes & Assessments	19,800			
3. Fringe Benefits	92,400			
TOTAL PERSONNEL COST	332,200			
B. OTHER CURRENT EXPENSES				
1. Airfare, Inter-Island				
2. Insurance				
3. Lease/Rental of Equipment				
4. Lease/Rental of Space				
5. Staff Training				
6. Supplies	120,000			
7. Telecommunication				
8. Utilities				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
TOTAL OTHER CURRENT EXPENSES	120,000			
C. EQUIPMENT PURCHASES	105,000			
D. MOTOR VEHICLE PURCHASES	40,000			
E. CAPITAL				
TOTAL (A+B+C+D+E)	597,200			
SOURCES OF FUNDING		Budget Prepared By:		
(a) Total State Funds Requested	597,200	Tyler Jones 808-927-7508		
(b) Total Federal Funds Requested		<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  Signature of Authorized Official </div> <div style="text-align: right;"> 1-17-2020 Date </div> </div>		
(c) Total County Funds Requested				
(d) Total Private/Other Funds Requested		Stephanie A. Whalen, Exec Director Name and Title (Please type or print)		
TOTAL BUDGET	597,200			

BUDGET JUSTIFICATION - EQUIPMENT AND MOTOR VEHICLES

Period: July 1, 2020 to June 30, 2021

Applicant: _____

DESCRIPTION EQUIPMENT	NO. OF ITEMS	COST PER ITEM	TOTAL COST	TOTAL BUDGETED
Automated greenhouse equipment	1.0	\$ 30,000	\$ 30,000	\$ 30,000
Climate control systems	1	\$ 40,000	\$ 40,000	\$ 40,000
Soil sanitation equipment	1	\$ 35,000	\$ 35,000	\$ 35,000
			\$ -	\$ -
			\$ -	\$ -
TOTAL:	3		\$ 105,000	\$ 105,000

JUSTIFICATION/COMMENTS:

DESCRIPTION OF MOTOR VEHICLE	NO. OF VEHICLES	COST PER VEHICLE	TOTAL COST	TOTAL BUDGETED
Delivery Van	1.00	\$40,000	\$40,000	\$40,000
			\$0	
			\$0	
			\$0	
			\$0	
TOTAL:	1		\$40,000	\$40,000

JUSTIFICATION/COMMENTS:

I requested funds to be used to complete project as described in proposal

GOVERNMENT CONTRACTS, GRANTS, AND / OR GRANTS IN AID

App:

HARC

Contracts Total:

50,000

	CONTRACT DESCRIPTION	EFFECTIVE DATES	AGENCY	GOVERNMENT ENTITY (U.S. / State / Haw / Hon / Kau / Mau)	CONTRACT VALUE
1	2019 GIA, project number AGR 192	11/2019 - 10/2020	HDOA	State of Hawaii	\$ 50,000.00
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