9/27/12

(9)

MTSU Clean Energy Initiative Project Funding Request

There are five (5) sections of the request to complete before submitting. See http://www.mtsu.edu/~sga/cleanenergy.shtml for funding guidelines. Save completed form and email to cee@mtsu.edu or mail to MTSU Box 57.

1. General Information	
Name of Person Submitting Request David Kaauwai, Ashley Ferrell, et.al. under the direction Dr. Nathan Phillips	
Department/Office Agribusiness and Agriscience	Phone # (Office)
MTSU Box #	Phone # (Cell) 1(615)545-2355
E-mail dak2u@mtmail.mtsu.edu	Submittal Date September 28, 2012

2. Project Categories (Select One)			
Select the category that best describes the project.			
☐	Energy Conservation/Efficiency	✓	Sustainable Design
☐	Alternative Fuels	✓	Other (Water Conservation)
☐	Renewable Energy		

3. Project Information

a. Please provide a brief descriptive title for the project.
b. The project cost estimate is the expected cost of the project to be considered by the committee for approval, which may differ from the total project cost in the case of matching funding opportunities. **Any funding request is a 'not-to-exceed' amount. Any proposed expenditure above the requested amount will require a resubmission.**
c. List the source of project cost estimates.
d. Provide a brief explanation in response to question regarding previous funding.

3a. Project Title
MTSU Self-Sustainability Initiative through Alternative Horticulture: Research and Development

3b. Project Cost Estimate
$10,000

3c. Source of Estimate Aquatic Eco-Systems, Nelson + Pade Aquaponics
Aquatic Eco-Systems, Nelson+Pade Aquaponics, GreenAcre Aquaponics, World Aquaculture Society, Aquaponic Association, Aquaponics Journal, Growing Power, Inc. Green Acre Aquaponics, etc.

3d. If previous funding from this source was awarded, explain how this request differs?
n/a

4. Project Description

(Completed in as much detail as possible.)

a. The scope of the work to be accomplished is a detailed description of project activities.
b. The benefit statement describes the advantages of the project as relates to the selected project category.
c. The location of the project includes the name of the building, department, and/or specific location of where the project will be conducted on campus.
d. List any departments you anticipate to be involved. Were any departments consulted in preparation of this request? Who? A listing may be attached to this form when submitted.
e. Provide specific information on anticipated student involvement or benefit.
f. Provide information for anticipated future operating and/or maintenance requirements occurring as a result of the proposed project.
g. Provide any additional comments or information that may be pertinent to approval of the project funding request.

4a. Scope: Work to be accomplished

The objective of the work proposed is to construct a model of a commercial aquaponic system in Zones Three and Four of the horticulture center's greenhouse, research data from experiments conducted in this small system will evaluate the efficacy of a variety of different aquaponic systems in cultivating both food and ornamental crops in Tennessee, specifically, the Cumberland Basin. This project will span over one year to measure the relationship between how effective an aquaponics system is during all four seasons in Tennessee. Funds remaining after construction and other costs associated with the research system will be used to offer extracurricular learning opportunities from industry-leading commercial aquaponics courses for students and professors associated with the project and literature associated with the research to to evaluate the ability of commercial aquaponics systems to provide MTSU with self sustaining alternative dining options.

4b. Scope: Benefit Statement

Aquaponics is a newly burgeoning industry in both the North American and world marketplace that has the potential to be a highly productive method of producing high quality, organic, and sustainable food. Research published by other institutions indicates that aquaponics is highly profitable and productive, but whether or not it would be financially feasible to construct a large commercial system that would be able to meet the food demands of MTSU's student population and beyond needs to be evaluated before a large scale project is to be pursued. Results from this research will be published in one or more reputable agricultural science journals and MTSU's Clean Energy Initiative would be acknowledged for its financial support. Once published, students and professors would be able to use this and other published research literature to work in conjunction to determine the best course of action in developing alternative production methods of producing intensively managed horticultural food and ornamental crops to be used by the University.
Furthermore, the development of a self-sustaining, student managed and supported system of agriculture at MTSU would bring considerable attention to the University and is likely to be a highly visual project that would project MTSU to the forefront of sustainable industry.

4. Project Description (continued)

4c. Location of Project (Building, etc.)

Horticulture Center Greenhouse, Zones 3 and 4

4d. Participants and Roles

David Kaauwai - Undergraduate researcher

Ashely Ferrell - Undergraduate researcher

Dr. Nathan Phillips - Professor Coordinator

4e. Student participation and/or student benefit

Students will perform and publish research pertaining to the efficacy of aquaponics systems to produce food and ornamental crops in a sustainable way. Dr. Nathan Phillips will assist when needed and provide guidance through experience and they will also receive extracurricular training from industry leaders in the burgeoning North American aquaponic industry.

4f. Future Operating and/or Maintenance Requirements

After research is completed, no further funding will be required, However, it should be noted that this research could pave the way for MTSU to catch the quickly cresting wave of sustainable agricultural industry and research.

4g. Additional Comments or Information Pertinent to the Proposed Project

5. Project Performance Information

Provide information if applicable.

a. Provide information on estimated annual energy savings stated in units such as kW, kWh, Btu, gallons, etc.
b. Provide information on estimated annual energy cost savings in monetary terms.
c. Provide information on any annual operating or other cost savings in monetary terms. Be specific.
d. Provide information about any matching or supplementary funding opportunities that are available. Identify all sources and explain.

5a. Estimated Annual Energy Savings (Estimated in kW, kWh, Btu, etc.)

See Below

5b. Annual Energy COST Savings ($)

The research in this proposal does not produce energy cost savings, however, it is the beginning of identifying new, innovative, and sustainable ways to produce high quality, organic food at a lower prices, with less energy, and water/nutrient inputs than conventional agriculture allows. In the long term, the methodology we research will provide highly competitive food sourcing for the University, which would place us among the few campuses with sustainable dining options.

5c. Annual Operating or Other Cost Savings. Specify. ($)

5d.Matching or Supplementary Funding (Identify and Explain)