

Idaho Incubation Fund Program

Final Report Form

Proposal No. IF11-011
Name: Stephen L. Love
Name of Institution: University of Idaho
Project Title: Enhancing propagation capability to accelerate the commercialization of domesticated native plants

Information to be reported in your final report is as follows:

1. Provide a summary of overall project accomplishments to include goals/milestones met, any barriers encountered, and how the barriers were overcome: **See accompanying report document for a discussion of accomplishments. The only major barrier to completion of the project was lack of availability of some required seed cleaning equipment. Optional equipment increased the purchase price. Partial donation by businesses of drip irrigation system components offset the increased costs and allowed completion of essential purchases. No problems were encountered with product development and intellectual property transfer.**
2. Describe the current state of the technology and related product/service: **As a result of the SBOE grant funding, 110 potential native plant products have been transferred to the partnering company, Conservation Seeding and Restoration. Seed production blocks have been established for many of the products and**
3. List the number of faculty and student participants as a result of funding: **One faculty member.**
4. What are the potential economic benefits: **Economic analysis of this technology by a student competition team indicated potential value of domesticated native plant products to be in the range of \$4-5 million dollars per year.**
5. Description future plans for project continuation or expansion: **The partnership with CSR will be ongoing for as long as it proves of value to both parties. Continuing collection, evaluation, and seed production activities will**

ensure a continuing stream of potential native plant products.

6. Please provide a final expenditure report (attached) and include any comments here: **See attached Excel document.**

7. List invention disclosures, patent, copyright and PVP applications filed, technology licenses/options signed, start-up businesses created, and industry involvement: **As a result of this technology and the associated partnership with Conservation Seeding and Restoration, a new subsidiary company (Native Roots) was spun off.**

8. Any other pertinent information: **All proposed aspects of the project were completed within the timeframe specified.**

FINAL EXPENDITURE REPORT

A. FACULTY AND STAFF		
Name/Title	\$ Amount Requested	Actual \$ Spent
Thomas Salaiz, support scientist	\$11,800	\$11,776.59
B. VISITING PROFESSORS		
Name/Title	\$ Amount Requested	Actual \$ Spent
C. POST DOCTORAL ASSOCIATES/OTHER PROFESSIONALS		
Name/Title	\$ Amount Requested	Actual \$ Spent
D. GRADUATE/UNDERGRADUATE STUDENTS		
Name/Title	\$ Amount Requested	Actual \$ Spent
E. FRINGE BENEFITS		
Rate of Fringe (%)	\$ Amount Requested	Actual \$ Spent
43%	\$4,600	5,073.27
PERSONNEL SUBTOTAL:		
F. EQUIPMENT: (List each item with a cost in excess of \$1000)		
Item/Description	\$ Amount Requested	Actual \$ Spent
1.Irrigation pump	\$7,500	\$7,500
2.Seed production and cleaning equipment	\$21,860	20,473.25
3.		
4.		
EQUIPMENT SUBTOTAL:		
G. TRAVEL		
Description	\$ Amount Requested	Actual \$ Spent
1.None expended	\$410	\$0
2.		
3		
TRAVEL SUBTOTAL:		

H. PARTICIPANT SUPPORT COSTS:			
Description		\$ Amount Requested	Actual \$ Spent
1. Assorted field and greenhouse research supplies		\$3,600	\$4,976.89
2.			
3			
PARTICIPANT SUPPORT COSTS SUBTOTAL:			
I. OTHER DIRECT COSTS:			
Description		\$ Amount Requested	Actual \$ Spent
1.			
2.			
3.			
OTHER DIRECT COSTS SUBTOTAL:			
TOTAL COSTS (Add Subtotals):			
TOTAL AMOUNT REQUESTED:			\$49,770
TOTAL AMOUNT SPENT:			\$49,800

Enhancing propagation capability to accelerate the commercialization of domesticated native plants

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In 2005, UI researchers initiated a project to domesticate native plants for use in home and commercial landscapes. This work had a two-fold purpose, first to provide plants suitable for creating and maintaining attractive water-conserving landscapes, and second to provide the Idaho nursery industry with new and unique plant products capable of enhancing marketing opportunities. In 2010, discussions were opened with an Idaho company, Conservation Seeding and Restoration (CSR), to establish a partnership with UI to market the native plant products emerging from this research. As discussions moved forward, it became evident that enhancements in plant production capabilities for both partners were required in order to make a smooth transfer of plant-based intellectual property and to capitalize on this new business opportunity.

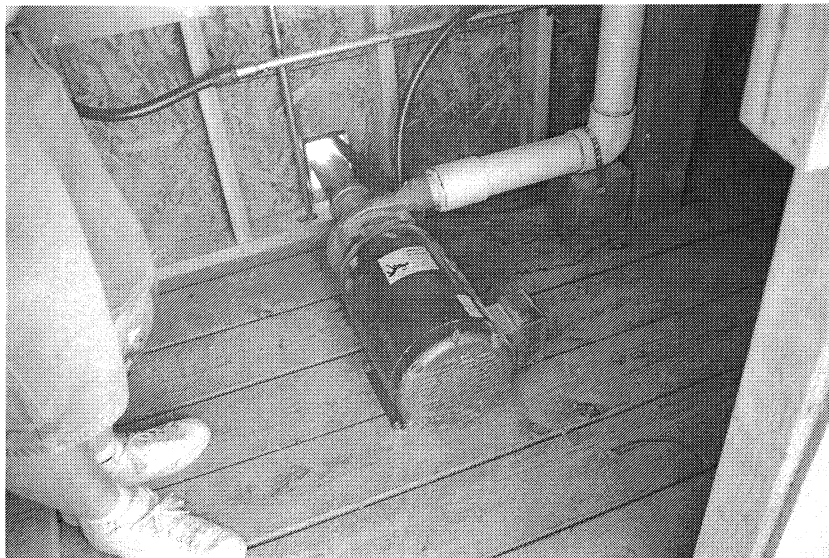
In 2011, personnel operating the native plant domestication project at UI's Aberdeen R & E Center successfully competed for a State Board of Education grant for the amount of \$49,770. This funding directed at improving seed production capabilities and enhancing technology transfer between the partnering public and private organizations.

Three objectives were generated in connection with this grant proposal and the associated research and technology transfer activities. They were to:

1. Assist the partnering company, Conservation Seeding and Restoration of Kimberly, ID in establishing a commercial scale seed farm wherein the essential tasks of producing marketable quantities of high quality seed and maintaining propagation blocks for vegetatively propagated species can be completed.
2. Improve the breeder seed blocks at the Aberdeen R & E Center to increase the capability of quality breeder seed production for use in technology transfer activities.
3. Equip a seed cleaning laboratory that can be used to clean and condition seed in preparation for storage, field production, and transference to CSR.
4. Build a mist chamber for the purpose of propagating vegetative species.

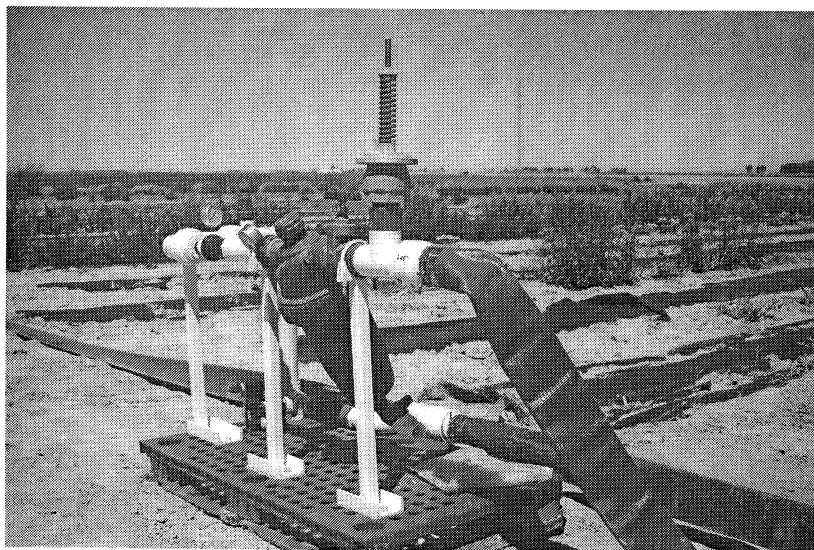
This document contains a brief report of work completed in association with SBOE funding and granting objectives. As a direct result of financial support by SBOE, the following activities were completed:

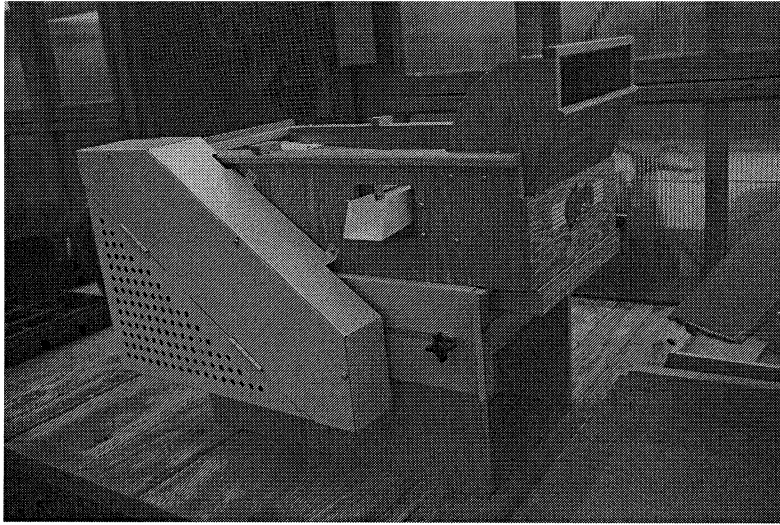
A pump was installed at the CSR seed production facility. This allowed the company to install drip irrigation for seed production blocks, plant parental material, and begin production of commercial quantities of seed.



A mulch layer and weed barrier mulch was purchased for the purpose of improving conditions for maintaining and increasing breeder seed blocks. As a result, it was possible to establish an additional 50 accessions of native plants in increase blocks over those already in place. These accessions represent the next generation of plants to be transferred to CSR for seed production and commercialization.

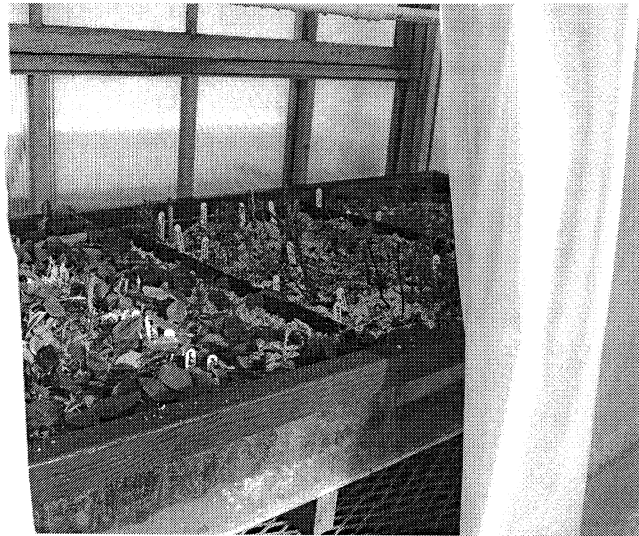
Equipment was purchased for the purpose of installing a drip irrigation system in the breeder seed field. This was the most recently completed portion of the project and will allow for improved production and increased plant health. It will also simplify the serial addition of new native plant accessions to the field each year.





Seed cleaning apparatus was purchased and a breeder seed cleaning laboratory was equipped. This vastly improved ability to clean and condition large amounts of seed in preparation for transfer activities.

A mist propagation chamber was constructed to provide conditions for propagating native species that do not grow well from seed. The chamber allowed propagation and transfer of vegetatively propagated species.



The funding associated with this grant program was exceptionally valuable and timely in helping to launch a new business venture. Over the past year, CSR spun off a new subsidiary company called 'Native Roots' and 110 potential new products in the form of native plant accessions were transferred from the University of Idaho to the new company. Initial quantities of commercial seed will be collected this fall and preliminary marketing activities may begin a soon as next spring.

Everyone associated with this venture thanks the State Board of Education for funding this innovative project.