

Interim Report – SBOE Incubation Grant Program
Enhancing Propagation Capability to Accelerate the Commercialization of
Domesticated Native Plants

A Project of the University of Idaho's College of Agricultural and Life Sciences (CALs)

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Principle Investigator:

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“Gap” Project Objectives:

The objective of this project is to enhance the transference of domesticated native plant germplasm from UI to the Idaho nursery industry, with two specific sub-objectives:

1. Develop a “breeder” seed production and increase system to facilitate the transfer of valuable germplasm from the University of Idaho to a private partner nurseryman.
(Breeder seed is the original, principle source of propagation material for plant varieties.)
2. Establish a public/private cooperative “foundation” seed production system that is compatible with product improvement and preparation for product sales. (Foundation seed is the second generation of propagation material used for commercialization of new plant varieties.)

Progress Toward Objectives

Objective 1: Activities and state of completion.

1. Weed barrier fabric and a fabric laying machine were purchased. Over 5,000 linear feet of weed-barrier fabric were laid in the field and breeder source plants established on the fabric at the Aberdeen R & E Center. (Project element complete.)
2. A drip irrigation system was designed for the Aberdeen R & E breeder seed plots.
(Project element essentially complete. System components have been purchased and assembled. The equipment will be installed in the field in May, 2012 when first irrigation for the season is required.)

3. Seed cleaning equipment purchased and a dedicated seed cleaning laboratory established and equipped. (Project element complete. Purchase made and delivery taken on a South Dakota Seed Blower, Office Clipper Tester and Cleaner, and a Shutte-Buffalo hammermill. In combination with an existing inventory of hand screens and threshing boards, this equipment was set up in a vacant room and the Aberdeen R & E Center to create a first-class experimental seed cleaning facility. The laboratory was utilized to clean hundreds of seed samples collected from research plots and native collection sites. Personal note from the PI: “The establishment of the seed cleaning laboratory has been an incredible advancement for the project and will enhance the work into the foreseeable future.”)

Objective 2: Activities and state of completion.

1. An irrigation pump was purchased and delivered to the Conservation Seeding and Restoration foundation seed farm. This was installed as a portion of a drip system for the company’s new state-of-the-art foundation seed production facility in Filer, ID (Project element complete).
2. During the summer of 2011, CSR spun off a new subsidiary company called “Native Roots” to market native plants for landscaping purposes. “Native Roots” negotiated a partnership agreement with UI to be the marketing agent for the native plant products emerging from this research project. In early summer 2011, sixty-nine new native plant products were transferred from UI to “Native Roots”.
3. At the fiscal expense of the “Native Roots” partner, a modern seed production farm was established near Filer, ID. Ten acres of land were cleared, prepped, blocked, and covered with weed barrier fabric. In the fall, the first installment of UI-developed plant materials was planted in preparation for large-scale propagation. This paves the way for wholesale economic exploitation of new native plant products beginning in 2014.

Funding Impact: The SBOE Incubation Fund facilitated and expedited the development of a viable native plant seed and nursery plant production system. This money enhanced and

ensured the development of a legal partnership between the University of Idaho and the new company Native Roots. In addition to the sixty-nine plant products delivered to the private partner in 2011, 28 additional products have been prepared for transfer in the spring of 2012. This ongoing partnership will be the source of many new products designed to enhance the profitability of Idaho's nursery industry.

Budgetary Update:

Total SBOE funding received:	\$49,770
Total spent as of 7 Sep 2011:	\$44,850

Funds remaining by category:

Salary/fringe benefits:	\$4,141
Capitol outlay (equipment):	\$ 0
Operating (planting supplies):	\$ 369
Travel:	\$ 410

See additional information in the form below:

Detailed Allocations	
Library Support	None
Graduate Research Assistantships/Research Associates	None
Post Doctoral Fellows	None
Technician Support	\$16,400 requested for salary and fringe benefits. To date, \$12,259 has been expensed with the remainder to be paid out during the spring completion phase of the project. These funds were used to support salaries for activities directly related to the project, including seed and evaluation plot management, seed collection, seed cleaning, and new equipment installation and operation.
Maintenance Contracts	None
Research Equipment	\$29,360 requested for laboratory and field research equipment related to breeder seed production. Equipment acquired as a result of the grant included an Office Tester Seed Cleaner, a South Dakota Seed Blower, and Shutte-Buffalo Hammermill, a mulch layer, an irrigation pump for water delivery to commercial seed blocks, and a complete drip irrigation system for breeder seed blocks.
Competitively Awarded Summer Research Support	None
Start-Up Funds for New Hires	None
Incentives to Reward Faculty for Research Achievements	None
Other	
Total Allocation	

Detailed Allocations	University of Idaho
Publications in refereed journals	<p>Two manuscripts are in preparation for the Native Plants Journal. Both deal with research on enhancing seed production of horticulturally valuable accessions of rabbitbrush. In addition, these papers were published in editor-reviewed journals:</p> <p>Love, SL and T Salaiz. 2010. Studies on Indian paintbrush establishment. Report of the Native Plants Cooperative 2:15-19.</p> <p>Stevens, MR, B Geary, RB Dockter, KG Dockter, SR Broderick, SL Daley, and SL Love. 2010. Identifying germplasm for breeding native Intermountain drought tolerant flowers. Report of the Native Plants Cooperative 2:44-48.</p> <p>Salaiz, T and SL Love. 2010. Selection and improvement of Idaho fescue (<i>Festuca idahoensis</i>) germplasm for turf applications. Report of the Native Plants Cooperative 2:39-43.</p> <p>Love, SL. 2011. Penstemon spotlight – <i>Penstemon montanus</i>. Bulletin of the American Penstemon Society 70:2-6.</p>
Presentations at professional meetings and conferences	<p>The following invited presentations about the native plant project were given during the past year:</p> <p>Native plants from the Rocky Mountain areas. Invited by the ProGreen Expo, Denver, CO, February 2011.</p> <p>Domesticating and commercializing native plants for horticultural use. Invited by the Intermountain Native Plant Summit, Boise, ID, March 2011.</p> <p>Progress of the Idaho native plant domestication project. Contributed at the annual meeting of WERA-1013, Fort Collins, CO, Oct 2011.</p>
Grants Received as a result	<p>As part of the UI, private industry partnership, the Native Roots company committed \$30,000 to the project over the next 3 years.</p>
Grants Pending	
Student Participation	

<i>Faculty Participation</i>	
<i>Other Participation</i>	
<i>Patents Awarded</i>	Although no legal patents have resulted from this work, a legal partnership has been designed to transfer intellectual property to private industry in the form of new native plant varieties. This partnership included a partial return of profits to UI and the native plant domestication project.
<i>Patents Pending</i>	
<i>Manuscripts Submitted</i>	

Notes: