**Live Green Loan Fund – Project Proposal**

**Live Green Loan Fund – Project Profile**

**Seed Science Center**

**Project Background:**

The Seed Science Center at Iowa State University provides a focus for teaching, research, and extension programs on seeds in the College of Agriculture and Life Sciences. Through this center, Iowa State University has provided accurate, professional seed testing services to the seed industry for over 100 years. The [Seed Testing Laboratory](http://www.seeds.iastate.edu/seedtest/) component of the Center annually performs tests on tens of thousands of seed samples, making it one of the world's largest seed testing programs.

In accommodating the needs and objectives of the Testing Laboratory, considerable energy is required, especially in the germination bays related to lighting needs as well as managing increased heating generated by high usage lighting fixtures.

In considering facility operations’ efficiency, replacement of T12 fluorescent bulbs and ballasts with LED lighting and fixtures offers significant opportunities for energy savings. In addition, LED lighting delivers a more uniform lighting product adding improved and consistent light output and uniformity.

**Project Description: Project # LG0020:**

This project focuses on the opportunity to increase energy savings and provide an enhanced light product in three bays of the Seed Testing Laboratory’s 25oC walk-in germinator. LED lighting will replace 6’ fluorescent bulbs on a 1:2 exchange ratio and be placed within the same area of the laboratory currently housing the current fluorescent fixtures.

Specific project deliverables include:

* Reduced energy consumption;
* Mercury-free lighting alternative;
* Efficient and effective replacement option for T12 fluorescent lamps and ballasts, no longer being produced in the United States through legislation effective July 2012;
* Reduced labor time and expense related to replacing fluorescent bulbs and ballasts and bulb disposal (vendor estimation of a 10 year lifespan for LED lighting);
* Improved and consistent light output and uniformity; and
* Improved coloration and growth of seedlings under LED lighting (in-house pilot studies showed LED lighting produced as good or slightly better growth than fluorescent lighting).

Project completion is targeted for summer of 2013.

**Project Contact:**  Michael Stahr, [mgstahr@iastate.edu](mailto:mgstahr@iastate.edu) 515-294-0117

Seed Science Center/College of Agriculture and Life Sciences

**Project Return on Investment:**

Total costs are estimated at $42,731. Supporting funds of $17,731are being provided by the Seed Science Center and Seed Testing Laboratory. A $25,000 loan is requested. Expected annual savings equals $8,551/year ($2,071 energy savings and $6,480 annual maintenance and bulb replacement and disposal savings) with a payback period of 3 years.

**Project Outcomes:**

In addition to annual budget savings for ISU and Iowa taxpayers, the College of Agriculture and Life Sciences will have an opportunity to showcase significant reduction in energy consumption and annual maintenance costs, through an alternative lighting product in the Seed Science Center’s Seed Testing Laboratory. Successful installation provides a place for people on and off campus to see that LED lights are a viable, successful, and environmentally-responsible alternative to energy intensive fluorescent lighting.

**Applicant**

Name/Contact Info: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Name/Location: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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The Iowa State University Seed Testing Laboratory and Seed Science Center are known nationally and internationally for innovations in seed testing (dating back to the early 1900’s) as well as active involvement in training. On an ongoing basis, domestic and international visitors tour the building and attend workshops. In addition to highlighting progressive operations in the College of Agriculture and Life Sciences, this project offers a unique and highly visible opportunity to showcase Iowa State University’s Live Green! initiative and commitment to sustainability.

In all facets of a learning, working, and strategic planning environment, as the College of Agriculture and Life Sciences represents, implementing energy efficiency products and processes, as outlined above, provides unique and valuable ongoing relevant demonstration for students, faculty, staff, alumni, grantors, donors, and ISU’s academic and research peers and partners throughout the US and around the world.

**Confirmation of Due Diligence:**

Technical and financial viability is considered satisfactory for the scope of this project.

Required signatures for project administrative approval have been received (see attached application signature page).

**Funding Recommendation by Live Green Loan Fund Committee:**

$25,000

**Recommended Action by Live Green Loan Fund Committee:**

Project approval by President and signature of attached Funding Agreement.

**On Behalf of the Live Green Loan Fund Committee**

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Merry Rankin, Director of Sustainability Date