

## IGEM Grant Report

X Progress (due January 1)       Annual (due July 31)       Final (due August 31)

IGEM Grant #: IGEM26-009      Principal Investigator: Daniel Robertson

Name/Full Title of Project: Driving Idaho's Energy and Agricultural Economy via High-Throughput Phenotyping of Biofuel Feedstocks and Grains

Submission Date: Feb 28, 2025      Primary Institution: University of Idaho

**Section 1:** Provide a short one paragraph summary describing the project and its goals

- Advance the Technology Readiness Level of two electromechanical devices for measuring biomechanical plant attributes related to crop lodging resistance and move the devices towards commercialization.

**Section 2:** Summary of project accomplishments for the reporting period and plans for the upcoming reporting period.

- Lowered cost to manufacture both devices. Shipping and packaging for DARLING devices has been validated. Several DARLING devices were created and used by a new group of researchers in Georgia. SOCEM device continues to be used by research group in Israel, and DARLING device by research group in Texas. Design improvements and field validation will continue.

**Section 3:** High-level summary of budget expenditures for the period just completed. If budget is underspent at time of report, explain why and plans for expending funds.

- Salary, Fringe, and Materials and supplies funds have been expended or encumbered and budget is on track.

**Section 4:** Demonstration of economic development/impact, including the following as applicable: patents, copyrights, plant variety protection certificates received or pending; technology licenses signed, start-up businesses created, and industry involvement; private sector engagement; jobs created; external funding; any other pertinent information.

- 1 new research group is using devices. 1 US patent was awarded

**Section 5:** Number of faculty and student participants as a result of funding, and brief description of student efforts.

- 1 faculty and 3 students in Idaho. 4 faculty and 6 students in other jurisdictions. Students are developing and implemented DARLING and SOCEM devices in field trials. Faculty are overseeing trials and design efforts.

**Section 6:** Updated details and/or progress on the long-term sustainability plan for the project and description of future plans for project continuation or expansion.

- Awarded \$75,000 to continue developing devices from M.J. Murdock Charitable Trust
- Submitted 2 grant proposal with plans to submit two more in coming year.
- Continue to receive new requests by other researchers to use / purchase devices



### **Expenditure Report**

**Section 7:** Expenditure Report – Attach an expenditure report as a separate document showing expenses toward the original budget submitted for this project. The expenditure report does not count toward the page limit. A written summary of budget expenditure should be provided in section 2 of this report.

<b>Category</b>	<b>Year 1 Request</b>	<b>Expenditures to Date</b>
Salary + Fringe	\$31,932	\$25,055
Travel	\$5,156	\$0
Participant Support	\$18,900	\$0
Materials	\$12,200	\$5,082
<b>Total</b>	<b>\$68,188</b>	<b>\$30,137</b>

<b>Metric</b>	<b>Status</b>
<b>Time Elapsed</b>	~45%
<b>Expended</b>	45%
<b>Overall Health</b>	<b>On Track</b>

The above budget numbers are current as of 12/10/2025. The budget is on track. Participant support funds and travel funds will be expended during spring and early summer of 2026 as originally planned.