Research Pre-Proposal

OREGON DEPARTMENT OF AGRICULTURE
OAN NURSERY RESEARCH COMMITTEE

November 15th, 2019

Principal Investigators:

Luisa Santamaria, Associate Professor, Nursery Plant Pathology, Oregon State University, Aurora, OR, phone: 971-801-0389; E-mail: luisa.santamaria@oregonstate.edu

Lloyd Nackley, Assistant Professor, Nursery Research and Extension, Oregon State University, Aurora, OR, phone: 971-801-0385; E-mail: lloyd.nackley@oregonstate.edu

Chal Landgren, Christmas Tree Specialist, Oregon State University, Aurora, OR, phone: 971-801-0381; E-mail: chal.landgren@oregonstate.edu

Title: Oregon State University North Willamette Research and Extension Center Nursery Production Internship

Background

The internship program at the North Willamette Research and Extension Center (NWREC) supported by the ODA/OAN is a successful, effective, educational program that immerses undergraduate and post-baccalaureate students into nursery related projects and experiences. Interns have arrived from local (community colleges and universities), regional (California, Washington, Oregon), national (Rhode Island, Minnesota, Illinois, Indiana) and international (Europe, Asia, South America) locations. The interns are co-supervised by all of the Nursery faculty at the NWREC providing a rich and more diverse experience covering a breadth of skills and topics important to nursery crop (including Christmas tree) production in Oregon.

The students train in nursery-related tasks including irrigation scheduling, irrigation maintenance, fertilizer application, propagation, IPM, greenhouse construction, and plant pathology. In addition, the interns gain research experience including oral presentations, report writing, experimental design, data collection, data entry and analysis, and critical thinking. During the course of the internship, the students will develop and carry out an independent research/extension project allowing him or her to focus on a specific topic of interest. This project allows them to gain insight into industry challenges as well as gain aptitude in research protocol. A final research paper about the project gives experience with scientific writing. On occasion, this paper has been modified and submitted for a *Digger Magazine* article.

Through this internship, connections are strengthened, and entrepreneurship opportunities are born. For example, last year, Luke, an Oregonian attending Oregon State University, worked with Dr. Nackley's team on a project related to soilless media. In addition to this project, Luke gained extensive experience from the diversity of daily opportunities. After the internship, he realized that his new knowledge of materials science could impact the nursery industry. He solidified a partnership with the Warm Springs tribe and is currently exploring options with this tribe to use a bi-product of their industrial processes as a potential amendment in soilless media. New interests are also discovered by students. Working with Chal Landgren and Judy Kowalski, another 2019 intern, Jen, discovered an interest in the Christmas tree industry and how Christmas trees are grown and cultured. Jen worked closely with Judy Kowalski on a trial investigating treatment to increase seedling survival in newly planted noble fir seedlings. As she learned more about this recently initiated project, she decided to make this her focused intern project. She extensively researched various products being evaluated and assisted with soil moisture monitoring and temperature data collection and analysis. During this time, she asked many relevant questions and even explored the possibility of pursuing a graduate degree related to Forestry. Both Jen and Luke remarked that until this internship, they had no idea how much went into growing Christmas trees in Oregon.

We are dedicated to exposing students to the Oregon nursery, greenhouse and Christmas tree industries. Therefore, the opportunity to tour industry facilities as well as assist with on-site nursery research and extension is highlighted, giving the student a chance to interact with industry members. Exploring the different areas of

research at NWREC as well as establishing collaborations with faculty members provides interns with valuable information and skills they can use as they pursue their own careers. A recent intern reflects on his time at NWREC: "No other summer internship has provided such a diversity of different tasks and opportunities. I thought the job taught me how to work with people of different backgrounds/viewpoints and how to come up with collaborative solutions."

For this internship, we are seeking students who are studying horticulture or plant science and are from a university or college in the U.S. or Canada. Students hired on OAN/ODA grant funds will work full-time for 3 to 4 months in 2020. Preference is given to students with coursework and career interests in horticulture, plant pathology, entomology and related fields.

Project Objectives

1. To further the nursery research efforts at Oregon State University.
2. To provide students with plant science education and training that will help prepare them for careers in the Nursery or Christmas tree industries.

Methods and Timeline

Winter 2020. Develop position announcements and distribute to universities and colleges throughout North America that have horticulture/plant science programs.

Spring 2020. Screen applicants and conduct interviews. Select candidate(s).

Summer 2020. Schedule will reflect the following division of work hours:

- 70% Assist in research projects including set up, plant maintenance, and data collection.
- 30% Pursuit of student research/extension project. Select a project of interest and work with NWREC faculty to establish a study.

Fall/Winter 2020. Program review and accomplishment reporting.

Benefit to Nursery Industry

Nursery interns at the North Willamette Research and Extension Center are essential in allowing research to be performed in a timely and efficient manner. This research, in turn, will be disseminated to the industry benefiting growers and stakeholders. Interns will also gain experience and education benefiting the industry when they join the workforce.

Budget summary

Intern(s) -approx. 3 months full-time at $13/hr.	12,500
Other Payroll Expenses (Intern)	1,250
Salary- Supervisor (0.05 FTE)	2,250
Other Payroll Expenses (OPE)	1,800
Materials and supplies	300
Travel for research and education	300
Total	$18,400