



DEPARTMENT OF HORTICULTURE

Managing plants for human food and enjoyment, the Department of Horticulture (HORT) enhances environments and reduces energy requirements, providing ecosystem services that contribute to human health and the beauty of our world. From the frontiers of genetics, genomics, molecular biology, physiology, ecology, soils, crop, and nutrient management to advancing water quality and conservation, tillage and cropping systems, integrated pest management, and sustainable and organic farming systems, HORT is on the front lines of the some of the most critical issues facing our agricultural and natural resource economies.

Degree Programs

Undergraduate

Horticulture B.S. | Minor
Entomology | Minor

Graduate

MS and Ph.D. degrees with focus areas of Horticulture, Plant Breeding and Genetics, and Entomology.

Certificate Programs/New Majors

Urban Agriculture, Organic Farming Systems, Biological Data Science, Expanding Plant Breeding and Genetics option



Faces of AgSci

“ I knew horticulture would bring me closer to helping reduce the impacts of global food insecurity.

Ty Seely
Horticulture & International Studies

Read more at agsci.oregonstate.edu

Experiential Learning Opportunities

Horticulture offers several experiential learning opportunities, from internships and undergraduate research and extension programs to international study-abroad experiences. In addition, the department features several unique clubs and other opportunities for faculty-student and student-student interactions.

In addition, Therapeutic Horticulture courses moved to OSU will soon enable students to register with the American Horticulture Therapy Association (AHTA)

THE DEPARTMENT OF HORTICULTURE AT A GLANCE

101



Faculty and Staff

283



Undergraduate Students

53

Graduate Students



Research

2022 Research Expenditures: \$8,627,500

Research Focus Areas:

Ecological and Environmental Landscapes

- Nursery crop breeding/genetics for reduced invasiveness, drought and disease tolerance, environmental services
- Nursery, Greenhouse production optimization – water and nutrient management automation
- Turfgrass improved management for environment protection, cost efficiencies, carbon sequestration, variety trials
- The Garden Ecology Lab; sustaining people, soil, plants, and insects
- Pollinator identification and protection; statewide inventory & mapping of pollinators

Sustainable Food and Farming Systems

- Hazelnut breeding/genetics and production
 - Disease resistance (Eastern filbert blight)
 - Water, pest, and production management
- Invasive pest management
 - Brown Marmorated Stink Bug
 - Spotted Wing Drosophila
- Weed Science, new technologies for integrated pest management
- Berries and Small Fruit variety development and production management
- Honeybee Research and Extension program for health, nutrition, and pollination
- Honeybee Diagnostic lab for promotion of bee health for beekeeping industry
- Turf disease and insect identification and disease management service
- Vegetable breeding/genetics and production technologies
- Wine grape production with irrigation, pest, and disease management
- Tree fruit pest management and production with integrated pest management (pear, cherry)
- Genomics; accelerated molecular breeding; predict and validate gene to trait associations in Oregon specialty crops

Extension Highlights

Extension and Community Outreach with Volunteers:

- Master Gardeners (46 years in 27 counties; 2,293 citizen volunteers, 38,373 direct contacts, 25 tons of fresh food to food banks, donated time valued at \$2.4M)
- Master Beekeepers (10 years old, new Spanish program, 2,564 citizens certified)
- Master Melittologist (70 citizens in Oregon, other states, and Canada)

Professional and Continuing Education (PACE) major focus areas:

- Berry production and physiology
- Community Horticulture
- Permaculture Design
- Landscape plant identification series
- School Integrated Pest Management (IPM)
- Turf management
- Urban Agriculture

The Future of the Department of Horticulture

Greenhouse and nursery crops are Oregon's number one agricultural commodity with a farm gate value of nearly \$1.2 billion. Our research helps ensure that our growers remain profitable and among the top Horticultural states in the nation. The hazelnut industry has tripled since 2009 to 93,000 acres, thanks to OSU breeding varieties that are resistant to Eastern Filbert Blight. Other fruit and vegetable commodities add millions to Oregon's economy and include new OSU varieties and improved production practices.

At the same time, we are witnessing explosive growth in our volunteer programs and delivery of credit and non-credit education online. Going forward, ag producers will be challenged with labor supply and cost issues, water shortages, invasive and chronic weed, pest, and disease issues. Our programs start with basic science investigations in gene control of plant traits, progressing to breeding of improved varieties, development of cost and labor-saving technologies, along with management of many pests, weeds, and diseases will help Oregon Agriculture thrive. We are developing new intellectual property which is benefiting the industries we serve and provide revenue to our programs.

Our efforts contribute to a more favorable environmental impact, improved profitability, and product quality. Our engagement with a diverse public contributes to improving the quality of life for citizens.

