

# Year in Review 2021



Oregon State  
University





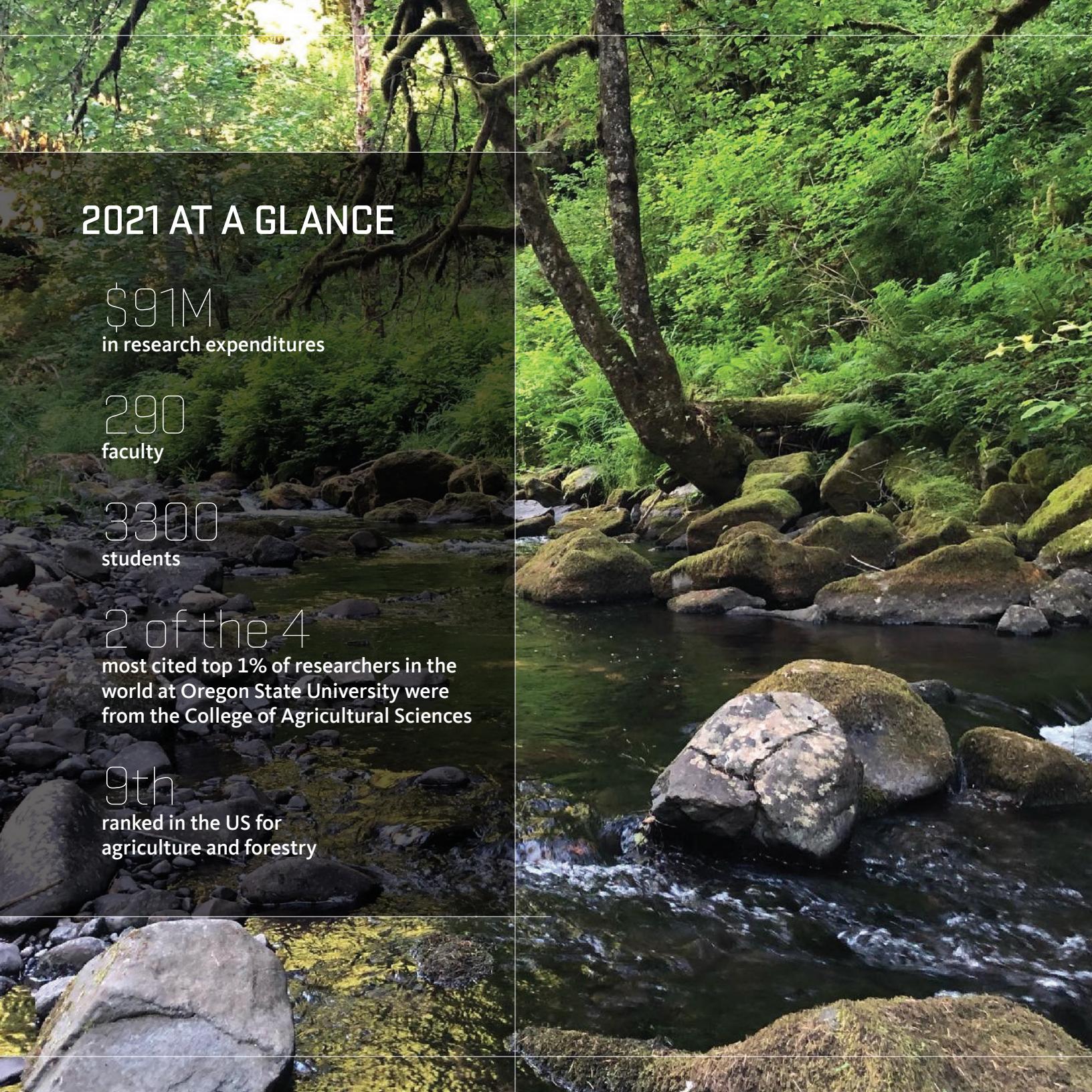


**For more than 150 years**, we have stood at the crossroads of conservation and production, innovating new ways to advance the future of agriculture and natural resources.

We partner with industries and communities each day to help the economy and all people thrive.

While 2021 continued to present challenges, it also revealed new opportunities.

Now more than ever, we are committed to our tireless pursuit to make tomorrow better.



## 2021 AT A GLANCE

\$91M  
in research expenditures

290  
faculty

3300  
students

2 of the 4  
most cited top 1% of researchers in the  
world at Oregon State University were  
from the College of Agricultural Sciences

9th  
ranked in the US for  
agriculture and forestry



The accomplishments of the College of Agricultural Sciences during 2021 continue to demonstrate the tenacity, rigor, and commitment of faculty, staff and students no matter what challenges come our way.

Set against a backdrop of continued uncertainty of a lingering pandemic and expansive wildfires that ravaged much of our agricultural and natural resource lands, this year's accomplishments are all the more remarkable.

We continued to see record research expenditures, securing an additional \$59M in funding. Of the four most cited scholars in the world who are at Oregon State, half are in the College of Agricultural Sciences and two of our leaders were named AAAS fellows. We expanded student experiential learning opportunities and announced a \$20 million renovation and expansion of our dairy research facility. We also partnered with the Oregon Department of Agriculture to publish a comprehensive economic impact report for the agriculture and food industries and developed a needs assessment for the beef and dairy industries in Oregon.

For the more than 20 years that I have been a part of this incredible institution, now leading it as its first female Dean and Director of the Oregon Agricultural Experiment Station, I have been continually amazed and humbled by the remarkable talent, passion and determination of our people.

I am particularly proud of our growing efforts to advance our firm and expanding commitment to diversity, equity, inclusion and belonging with the introduction of our Community Agreements for Real Engagement [CARE] Commitment.

It is an honor to serve as the leader of the College of Agricultural Sciences, not only because of the breadth of our accomplishments, but also because of the character of our people. It is nearly impossible to shine a light on the vast interdisciplinary and impactful work of our faculty, staff, students, and stakeholders. We continually find new ways to innovate and transform challenges into opportunities in our unrelenting commitment to make tomorrow better for everyone.

A handwritten signature in black ink that reads "Staci L. Simonich".

Staci Simonich, Ph.D., M.B.A.  
Reub Long Dean and Director  
College of Agricultural Sciences  
Oregon Agricultural Experiment Station

## TEACHING

The College of Agricultural Sciences has always been deeply committed to offering our students diverse educational opportunities. In the classroom, in the lab, in the field, around the world, and in remote online environments.



This past year, our students were able to broaden their educational experiences with internships and research opportunities that made them more competitive in the job market as they start their professional careers. Many students conducted research that led them to consider a career in scientific research for the first time. Others found mentors in Extension who gave them opportunities to apply discovery to serving communities.

They also took part in more than 30 College clubs and took on leadership roles at national organizations representing Oregon State University as officers in both MANNRS (Minorities in Agriculture, Natural Resources and Related Sciences) and Future Farmers of America (FFA).

And in September, our faculty and students returned to on-campus classes while still appropriately managing remote teaching and research to ensure a safe learning experience.





\$625K  
Scholarships awarded

476  
Bachelor's Degree graduates

85  
Certificates

69  
Master's Degree graduates

22  
PhD graduates

3,300  
students enrolled

## Expanding Experiential Learning Opportunities

- ▶ Relaunched Beaver Classic™ to establish more opportunities for student-led agricultural product and business development under faculty supervision
- ▶ Strengthened our program with **Eastern Oregon University** to enhance rangeland research opportunities across the state
- ▶ A record **245 students** attended this year's Career Fair, featuring **24 organizations** representing academic and career opportunities. **35% of students attending identified as BIPOC** or international students and **40 first-generation students** attended with more than half of all students reporting that they received an invitation from an employer for an interview or internship opportunity
- ▶ **Introduced new international learning opportunities**, including a partnership with **Wageningen University** in The Netherlands – the #1 institution in the world in Agriculture & Forestry
- ▶ The College launched the **fifth national student chapter and first west** of the Mississippi of Cultivating Change and – a club for agriculture community members identifying as LGBTQ+ and their allies

- ▶ Oregon State University researchers and a team of West Coast university collaborators received a \$7.65 million grant to study the impact of smoke exposure on grapes, a project that will provide critical knowledge to grape growers and the winery industry
- ▶ The College's Global Hemp Innovation Center was awarded a \$10 million grant to study the hemp market in the western U.S.
- ▶ Emerging research led by College of AgSci researchers demonstrated potential methods of counteracting the effects of nitrogen in agricultural runoff
- ▶ Scientists in the College's Global Hemp Innovation Center explored the nutritional value of spent-hemp biomass in feed for sheep, dairy cows and poultry to aid both the CBD industry and animal agriculture
- ▶ A multiyear research project at one of the coastal experiment stations in Astoria studied new ways to turn seafood byproducts into, high-quality protein
- ▶ The Marine Mammal Institute in Newport was awarded a \$2 million grant to collect data about distribution and density of marine mammals and seabirds that will be used to inform decisions about offshore wind energy development
- ▶ A distinguished professor and toxicologist in the College received a \$7 million grant to study the biological impacts of chemicals, which could potentially lead to reducing or eliminating the need for chemical testing on animals
- ▶ A new grant studied the nutritional value for bees of more than 100 bee-pollinated crops, native plants and commonly used ornamental plants to help better understand the global decline of bee populations
- ▶ Investments by private industry coupled with university funding enabled the start of construction on a \$20 million state-of-the-art dairy processing facility to further advance the university and Oregon's dairy industry as national leaders in dairy quality, innovation and sustainability

## RESEARCH

2021 was one of the most productive research years in the history of the College of Agricultural Sciences. We maintained last year's significant 22% increase over FY19 and secured an additional \$59M in funding.



In 2021 our researchers found ways to expand opportunities for hemp markets and advance equity and opportunities in the emerging agricultural commodity. New advances in food packaging and nutrition were discovered as we also deepened understanding of the impacts of climate change on agricultural production.

Our researchers continued to be tapped for national and international collaborative projects, including partnerships with other leading western U.S. institutions to better understand the impacts of wildfire smoke on the wine industry.

In addition, half of the researchers at Oregon State University noted by Clarivate — a global leader in providing solutions to accelerate the lifecycle of innovation — as the top 1% of the most cited researchers in the world were from the College of Agricultural Sciences.

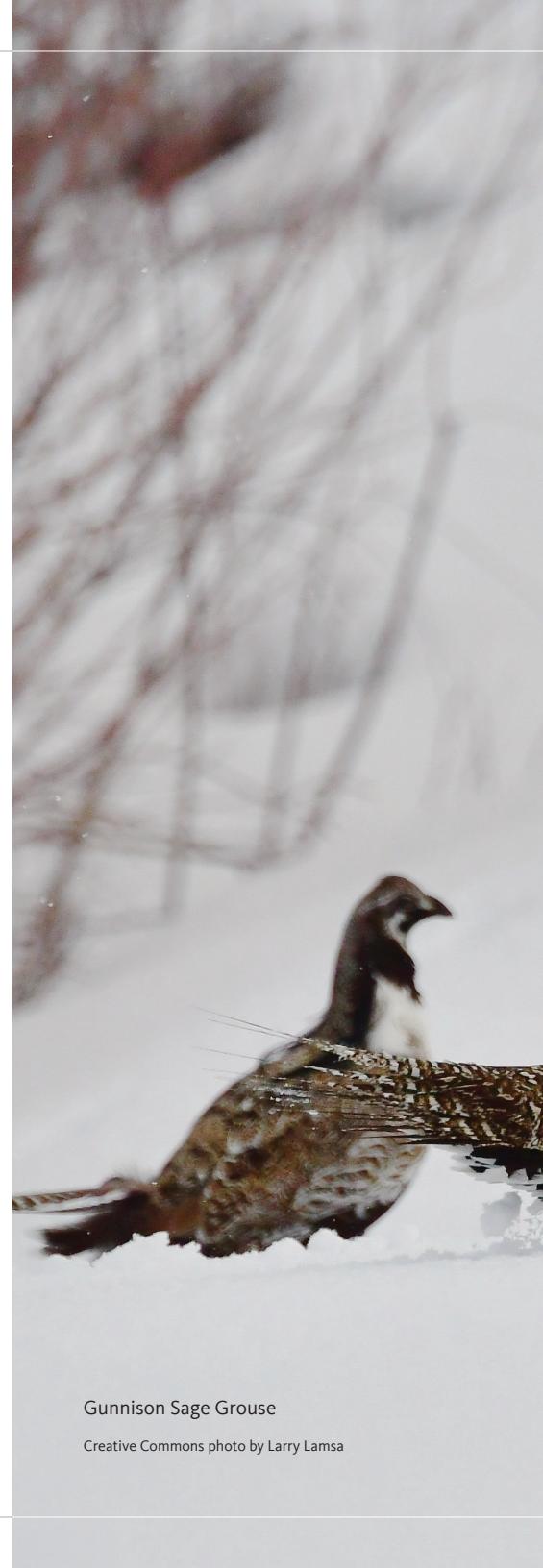
We also partnered with the Oregon Cattlemen's Association, Oregon Dairy Farmers Association, Oregon Beef Council, Oregon Dairy and Nutrition Council to publish a needs assessment for the beef and dairy industries in Oregon. This pivotal report recognizes that the increase in market, regulatory and production pressures on these industries, requires us to identify areas of strength and programmatic gaps on the most critical needs of our stakeholders.

# EXTENSION

Our Extension efforts in 2021 continued to enhance opportunities for communities in all 36 counties.

As noted in our economic impact report developed in partnership with the Oregon Department of Agriculture, more than 531,000 jobs are associated with the agriculture, food and fiber industry with a total farmgate production of \$5.5 billion and overall economic impact from the food system of \$42 billion. It is a part of our culture and our values in Oregon. 95% of our farmland is family held and 60% of all private land in Oregon is used for farming. In addition, the global reach of our agricultural system continues to grow, with exports up 25% since 2015.

Researchers in Extension continued to work hand-in-hand with the agricultural community in both urban and rural settings. As unprecedented heat and drought impacted the state, Extension researchers explored dry farming practices working with more than 50 farmers involving crops ranging from vegetables to wheat. In addition, two Extension Service Small Farms program projects were awarded U.S. Department of Agriculture grants totaling more than \$800,000 to strengthen the viability of Oregon's small and mid-scale farms and food businesses.



Gunnison Sage Grouse

Creative Commons photo by Larry Lamsa



- ▶ Groundwater specialists led efforts to repair fire-damaged septic systems and wells in Lincoln County following the Echo Mountain Complex wildfire that ignited in Lincoln County on Labor Day in 2020 destroying 300 homes – and leaving hundreds of wells and septic systems needing to be repaired, pumped or replaced
- ▶ Interest in home and community gardening stayed strong in 2021. Despite COVID restrictions on in-person programming, Extension Master Gardener faculty, staff and volunteers answered 17,224 gardening questions, representing a 65% increase from the previous year, and 175% increase from 2019
- ▶ A research project launched to determine the effectiveness of using electricity to control weeds, especially on organic farms where using herbicides aren't an option
- ▶ Extension scientists found promising alternatives to glyphosate as weeds continue to demonstrate resistance as they wreak havoc on crops, such as Russian thistle which infests nearly 5 million acres and costs farmers more than \$50 million annually in control measures
- ▶ The distribution and abundance of greater and Gunnison sage grouse species has steadily declined in the region over the last century. Conservation of the birds prompted research led by the Oregon State University Extension Service to determine whether hunting affects the birds' population



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