

# OSU receives \$1.2 million to expand fermentation science program

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Demonstrating broad bipartisan support, Oregon lawmakers approved \$1.2 million for Oregon State University to enhance the Agricultural Experiment Station's fermentation sciences program.

The funding will support university research in all aspects of the production of high value wine, beer, cheese, breads and distilled spirits, all products of fermentation.

Among other enhancements to the existing program, the legislative funding will help establish a new research distillery at OSU, adding another key feature to its fermentation program.

In addition, legislative funding will expand OSU's fermentation research in areas such as:

- New varieties of aroma hops and new methods for assessing beer bitterness
- Key components driving wine quality and microbial factors that affect them
- Cheese fermentation methods for greater consistency and food safety



80 Gallon Alembic Pot Still donated by King Estate Winery  
Photo: Lynn Ketchum, OSU

Funding will also support research into the sustainable production of high quality ingredients used in fermentation, with emphasis on:

- Wine grape research and innovative vineyard management
- Barley, hop and wheat breeding, creating new varieties for new products
- Milk production research and teaching at the OSU Dairy herd and student experience producing Beaver Classic cheese
- Anticipating agricultural challenges from emerging pests, disease, and climatic conditions



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Department of Food Science & Technology

## Fermentation Sciences...

encompassing beer, wine, cheese, distilled spirits, and bread



Oregon State  
UNIVERSITY

# Fermentation Sciences at Oregon State University

## A program begins

OSU's Fermentation Science program began in 1995 when the Oregon legislature voted to match a \$500,000 gift from Jim Bernau, founder of the Willamette Valley Vineyards.

This gift and matching grant established the nation's first endowed professorship in fermentation science. The endowment quickly grew into a full suite of programs in brewing science, enology and viticulture, dairy, and breads.

Today, OSU's Fermentation Science program is one of just a handful in the nation, and our graduates are in great demand. With the addition of a research distillery supported by the 2013 legislative funding,

OSU will be the first university in the nation with a working research winery, brewery and distillery, keeping pace with Oregon's rapidly diversifying fermentation industries, according to Bob McGorin, Jacobs-Root Professor and head of OSU's Food Science and Technology Department.

To meet this demand, Fermentation Science students study all aspects of producing wine, beer, and fermented foods. They address the biological, chemical, and physical processes of fermented foods and beverages, while learning about the engineering, processing, quality, and safety aspects of the industry.

## Career Opportunities

Our graduates have historically experienced a high placement rate and enjoy a variety of employment opportunities—we have graduates at the largest wineries and breweries, as well as at local cellars and craft breweries. We also have graduates at coffee, soy, and pickle companies, as well as artisan cheese producers. Some of our graduates find satisfaction in owning their own production facilities, while others enjoy the upward mobility of the corporate world.



OSU Mini Malter  
Photo: Sam Beebe, Ecotrust



Wine press, OSU research winery  
Photo: Lynn Ketchum, OSU



Beaver Classic™ aging in cheese cave of remodeled specialty cheese plant

## Facilities

**Pilot Plant Brew/Malt House** - A state-of-the-art, two-barrel, temperature-controlled brewing system allows students to participate in the brewing process from malt milling to lagering, and is complete with packaging and pasteurization capabilities. The Food and Fermentation Science Club does a monthly brew throughout the school year providing hands on experience for those involved.

**Pilot Plant Winery** - The pilot winery is well equipped to support the research and teaching needs of the program with grape processing equipment, temperature controlled tanks, and filtration and bottling equipment. University owned vineyards provide wine grapes for teaching and research purposes.

**Specialty Cheese Plant** - The cheese plant is completely remodeled, featuring state-of-the-art equipment from France and Holland, and is the home of the OSU Beaver Classic™ Cheese. Students make multiple cheeses during dairy processing classes and informal club events. Students also participate in all steps of Beaver Classic™ Cheese production, from picking up milk at the university dairy farm through sales and marketing.

**Sensory Science Laboratory** - Evaluation of beers and wines has been a major focus of the sensory science laboratory for over twenty years. Funding by Indie Hops and the Hop Research Council has supported many studies on hop quality. Wine industry members regularly participate in sensory studies on experimental wines.

**Baking Lab** - Cereal Scientist, Dr. Andrew Ross, conducts research in quality and utilization of Oregon grains. His well equipped baking laboratory is available to students enrolled in courses he teaches for FST, as well as to students involved in research in the laboratory.

