P4

Office of the President

TO THE MEMBERS OF PUBLIC ENGAGEMENT AND DEVELOPMENT COMMITTEE:

DISCUSSION ITEM

For Meeting of November 13, 2024

HARVESTING EXCELLENCE THROUGH INNOVATION: UC'S CONTRIBUTIONS TO THE WINE INDUSTRY, PAST, PRESENT, AND FUTURE

EXECUTIVE SUMMARY

Associate Professor Ben Montpetit, Chair of the UC Davis Department of Viticulture and Enology, will highlight the Department's 144-year history and explore its growth and evolution alongside California's grape and wine industry. The presentation will showcase the contributions of faculty, alumni, partnerships, and groundbreaking research that have shaped both California wine and the global industry into internationally renowned and competitive multibillion dollar enterprises. He will also detail how the Department is investing in diverse talent and innovative approaches to address emerging challenges with the goal of continued excellence.

BACKGROUND

On April 15, 1880, the California Legislature mandated the Regents of the University of California to establish a program providing instruction and research in viticulture and enology. The leaders in business and State government at the time realized that California had the potential to become one of the world's foremost wine and grape producing regions. The current Department of Viticulture and Enology was established on the Davis campus in 1935 following the repeal of Prohibition. The Department combines the sciences of viticulture and enology in a single research and teaching unit that encompasses all the scientific disciplines that impact grape growing and winemaking.

Today, one hundred forty-four years after the mandate, the California grape and wine industries are internationally renowned with an $73 billion economic impact in the state alone. California is the fourth largest wine producer in the world, behind Italy, France, and Spain. The wine industry supports over 400,000 full-time equivalent jobs in California, and 1.1 million jobs across the country, with 25 million people visiting California wineries and spending an estimated $8.6 billion annually. The success of this industry is a testament to the partnership forged by State government between the University of California and the table grape, raisin, and wine industries worldwide.

ORGANIZATIONAL STRUCTURE

Administrative Structure

The Department of Viticulture and Enology (V&E) is housed within the College of Agricultural and Environmental Science at UC Davis. Yeast geneticist and biochemist Ben Montpetit is the Department Chair.

Advisory Board

The Executive Leadership Board (ELB) is composed of invited industry leaders, educators, wine appreciators, and selected friends and colleagues. ELB members lend expert counsel and assistance to the Department in setting and accomplishing its long-range strategic goals. Current members of the ELB are listed in Appendix A.

STATEMENT OF PURPOSE

"The Department of Viticulture and Enology unites a diverse community of faculty, staff, and students under a shared passion for wine and a vision that wine is everyone. Our primary goal is to nurture students into the next generation of wine growers, makers, researchers, and educators. This commitment is embodied in our curriculum, blending a strong scientific foundation with immersive hands-on experiences in the winery and vineyard."

CONTRIBUTIONS TO CALIFORNIA AND THE GLOBE

Alumni

Each year, approximately 25 to 35 undergraduate and ten to 15 graduate students complete bachelor's and master's degrees in viticulture and enology. The department's alumni are faculty members, grape growers, winemakers, researchers, and leaders across the globe. They are owners of some of the most recognized and respected wineries, top teachers and consultants in countries all over the world, and they develop new tools and equipment to improve wine quality and sustainability. Wines made by our graduates regularly appear in the annual Wine Spectator Top 100 rankings, and our graduates and faculty are strongly represented in Wine Business Monthly's annual list of Industry Leaders. Graduates are involved in companies that produce 85 percent (by volume) of all the wine made in the United States.

Research

The Department is uniquely multidisciplinary and includes chemists, chemical engineers, microbiologists, a sensory scientist, and plant biologists who collaborate with each other and researchers around the world to address acute and chronic problems faced by the wine industry. The Department's development of new technologies and knowledge is crucial to helping the wine industry ensure the continued improvement of wine quality and production sustainability.

As a result, UC Davis has the highest productivity by a factor of two (in terms of publications) and the highest impact by a factor of three (in terms of scholarly citations) of any other university in the areas of grapes and wine. Examples of this impact are:

An estimated $3.5 billion reduction in Cork Taint spoiled product: UC Davis developed a new analytical technique allowing rapid sampling and detection of trichloroanisol (TCA) for use in quality control programs. Industry adoption of these methods led to a significant decrease in TCA incidence between 2006 and 2012.

About 75 percent of all Chardonnay vines in California are varieties developed by UC Davis Professor Harold Olmo: Chardonnay clones 4 and 5, best suited to California's climate and produce higher yields are the most widely planted variety in the state at about 90,000 acres representing a value of $15 billion dollars between 1980 and 2019.

Teaching

The Department trains future leaders in grape growing and winemaking by offering both bachelor's and master's degrees in viticulture and enology. This learning occurs within the most sustainable winery in the world using grapes from the most renowned vineyard in Napa Valley (ToKalon) where the Oakville Experimental Station is located. The curriculum follows a core of basic science and intensive hands-on instruction in the lab, winery and vineyard so that students experience every phase of the grape growing and winemaking process. From establishing and trellising their own vines to making their own wine, our students interact extensively with faculty, staff and fellow students, and graduate with the experience they need to become creative problem solvers and trend-setting and successful practitioners.

Extension and Public Outreach

Cutting-edge knowledge is only useful when it gets into the hands of the people who put it into practice. That's why the department extends critical information from the UC Davis campus to industry and public stakeholders. On campus, the department organizes approximately five to six programs per year that blend continuing education with talks on the latest research. Off campus, the department provides four to six events per year (planned with local farm advisors) that address critical issues in the major grape and wine producing regions around the state. In addition, the department provides virtual programs on specific topics. These in person programs have attracted over 6,000 attendees in the last six years. The department's Facebook, LinkedIn, Instagram pages and quarterly newsletter round out our ability to reach a diverse group of stakeholders with the latest research developments and departmental news.

Sustainability

A sustainable future involves meaningful participation of all members of a community. The Department of Viticulture and Enology is committed to sustainability, which can be defined as the integration of environmental health, social equity and economic vitality to create thriving,

healthy, diverse and resilient communities for this generation and generations to come. Department leadership on this front is exemplified by:

The UC Davis Teaching and Research Winery: As the first winery in the world that is certified as Leadership in Energy and Environmental Design (LEED) Platinum, the facility excels in water efficiency, energy savings through renewable sources, use of sustainable materials (reclaimed, recycled, or certified sustainable), and innovation in design. Moreover, the winery's design and operations reflect its dual purpose: serving as a research hub and as an educational facility for students in viticulture and enology. The building supports cutting-edge research in sustainable viticulture, climate adaptation, and innovative wine production techniques. It also offers hands-on learning opportunities for students, providing them with experience working in a fully functional, state-of-the-art winery that prioritizes both sustainability and technological advancement. This achievement has set a precedent for others in the wine industry, such as Silver Oak Winery, led by David Duncan, which followed by building the first commercial LEED Platinum wineries in 2016 and 2017, further showcasing the influence of UC Davis' innovation on industry standards.

Broadening Horizons Program: Started in 2012, this program aims to increase the diversity of our student body, to better reflect the population of California and the grape and wine industry specifically. The program's activities involved recruitment, peer support, and mentorship. Since launch, the proportion of underrepresented students in the Viticulture and Enology (V&E) Bachelor of Science degree has increased from 12.5 percent in 2012 to 25 to 35 percent over the last seven years. Success is in part driven by strong advising support for these new students, most of whom are the first in their families to attend a university. This is also due to the strong V&E student community that support each other through student groups such as the Davis Enology and Viticulture Organization (DEVO) and Women in Wine. With support from former professional basketball player Dwyane Wade, V&E has hosted students, faculty and advisors from Historically Black Colleges and Universities (HBCUs) and Hispanic-Serving Institutions (HSIs) across the nation on campus to increase awareness of V&E and this program. In 2024, the program hosted The Diversity of Wine Academy and Educational Influencer Bootcamp, with participating institutions that included Prairie View A&M University, Tuskegee, Howard University, Universidad Autónoma de Baja California, Fort Valley State, Claflin University, Virginia State University, North Carolina Agricultural and Technical State University, Modesto Junior College, Las Positas, Cabrillo College, Folsom Lake College, San Joaquin Delta college, Delta Valley College, Sacramento City College, Los Medanos College, Los Rios Community College, Napa Valley College, and American River College.

STAKEHOLDER INVESTMENTS IN V&E

Stakeholder investments have transformed UC Davis's Department of Viticulture and Enology, allowing the department to become a global leader in sustainable winemaking, research, and education. Robert and Margrit Mondavi elevated the department's impact with a historic $25 million gift, establishing the Robert Mondavi Institute for Wine and Food Science. The institute, also enabled by substantial contributions from the state and campus, is a state-of-the-art research and teaching complex comprised of the five buildings that house the Department of Viticulture

and Enology and the Department of Food Science and Technology. Other key infrastructure contributions include T.J. Rodgers' design, development, and gift of 152 high-tech research fermenters, Jerry Lohr's contribution to building the first-ever LEED Platinum winery, and the Jess S. Jackson Sustainable Winery Building, enabled by a gift from the Jackson Family to support the development of the world's first zero-carbon winery. Another transformative gift came from the Rossi estate, a $12.5 million gift for research and endowments, which supports strategic goals in the department related to teaching, research, and agricultural extension. Further gifts and endowments have provided the department with seven endowed chairs, the ability to provide students approximately $400,000 in scholarships each academic year, and to support multiple staff positions. These gifts collectively underscore the commitment of V&E stakeholders in advancing viticulture and enology education, sustainability, and innovation.

CHALLENGES

The Department of Viticulture and Enology has challenges both shared and unique, these include: (1) the rising cost of education for students, (2) maintenance and new investment in departmental facilities, (3) impact of contracts and UC policies on the Department's ability to operate, (4) fluctuations in industry investments in education and research, and (5) a lack of State and federal funding for enology research.

APPENDIX A

Executive Leadership Board Members

Maryam	Ahmed	Owner	Maryam & Company
Amanda	Benjamin	Senior Manager	Bain & Company
Anthony	Bourke	Founder & CEO	Mach 2 Consulting
Tiquette	Bramlett	Founder & CEO	Our Legacy Harvested
Peter	Byck	President & CEO	Winery Exchange
Katie	Calhoun	Owner	Calhoun & Company Communications
Laura	Catena	Managing Director	Bodega Catena Zapata
Suzanne	Chambers	President & Co-Founder	Chambers and Chambers Wine Merchants
Julia	Coney	Founder	Black Wine Professionals
David	Deming	Managing Director	Bain & Company
Stephanie	Edge	VP Group Winemaking	Constellation Brands
Aaron	Fishleder	President & CEO	Cakebread Cellars
Lynn	Fritz	Proprietor	Lynmar Estate Winery
Miguel	Luna	Managing Partner	Silverado Farming Company
Jeffrey	Meier	Retired, President & COO	J. Lohr Vineyards & Wines
Jon	Moramarco	Managing Partner	BW166
Jeffrey	O'Neill	CEO	O'Neill Vintners and Distillers
Cyril	Penn	Chief Editor	Wine Business Monthly
TJ	Rodgers	Founder	Complete Solar / Cypress Semiconductor
Ron	Rubin	Sonoma County Vintner	River Road Family Vineyards and Winery
Jason	Smith	President & CEO	Valley Farm Management
John	Sutton	CEO	The Wine Group
Janet	Trefethen	CEO	Trefethen Winery
Dwyane	Wade	Owner	Wade Cellars
Carolyn	Wente	CEO	Wente Vineyards