



# Vine to Wine

Oregon Wine Research Institute

May 2017

Welcome to the *Vine to Wine*. This monthly e-newsletter is designed to inform you of news, information, and events from the **Oregon Wine Research Institute**, highlighting our research programs and providing relevant information about the OWRI and our researchers. We continue to provide research-based viticulture and enology information for the Oregon wine industry. As always, we welcome industry input, so please ask **OWRI team members** questions from the vineyard or the cellar.

## May Communications and Outreach Update

Denise L. Dewey

The April OWRI seminar presented by Dr. Laurent Deluc on the Role of Auxin-Response Factor 4 is archived and can be viewed on our website [here](#).

Our upcoming summer seminar will take place on June 29 at 3:00 PM, in Kidder 202. Dr. Landry Rossdeutsch, Research Associate in the Department of Horticulture at OSU, will discuss his latest research. We'll share more details with you in our next newsletter.

Please note Dr. Elizabeth Tomasino's two-day, *Sensory Evaluation of Wine* course that was scheduled to be held on June 3-4, 2017 has been postponed. The event will be rescheduled as soon as possible. We are sorry for the inconvenience and hope to see you when the event has been rescheduled. Please check our [website](#) for further updates and the new date.

We wish you the best in the vineyard preparing for véraison and harvest!

## Research Update

### Identifying Compound(s) Responsible for Off-flavors Associated with "Stressed Vine Syndrome" in Pinot noir

Dr. Michael C. Qian, Professor of flavor chemistry, Dept. of Food Science and Technology, OSU

One of the growing concerns in the Oregon wine industry is related to the potential effects of vine stress on wine quality. While off-flavor descriptors vary from winery to winery, they often include "tequila", "shellfish", "peanut", "ashtray", "dry weed", "herbaceous", "flint" and others. In young wine, the taint smells like "bay leave", and the wines do not age well. Additional observations from wineries indicate that taint could be related to compromised or nutritionally imbalanced fruit from stressed vines, induced by drought, nitrogen deficit, or a combination of many factors. But the exact cause(s) have never been studied or documented in Oregon wines. This research, funded by the Oregon Wine Board, is aimed at identifying the chemical nature of these off-flavors.

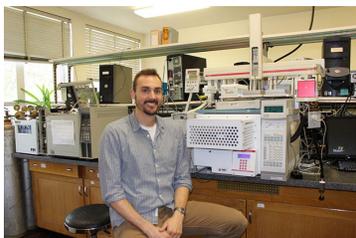
Off-flavored wines were obtained from winery collaborators in the Willamette Valley. Atypical flavor attributes were characterized by a sensory panel consisting of winemakers familiar with stressed vine off-flavors and OSU researchers. The panel was able to characterize the stressed vine off-flavor from the wines collected from industry. After the initial wine collection and sensory evaluations, more wineries have been contacted and additional vine stress affected wines have been

gathered from the industry.

Non-targeted volatile analysis was performed on the eight off-flavor wines obtained from industry. Twenty normal Pinot wines were also analyzed for comparison. Volatile compounds including higher alcohols, esters, volatile phenols and TDN (kerosene aroma) were analyzed using gas chromatography - mass spectrometry. The result showed that the off-flavor and normal wine had different concentrations of many compounds, such as TDN (spell this out) and several other compounds, however, the exact chemical nature of off-flavor is still a mystery. Work in progress is to use gas chromatography/olfactometry technique to identify the off-flavor compounds.

## Faculty Highlight

### *Exploring the Chemical Nature of Red Wine Mouth Feel*



In April, a new post-doctoral research associate joined the OWRI team at the Oregon State University in Corvallis. Dr. Ludwig Ring works at the department of Food Science and Technology in a collaborative project with Drs. Michael Qian, Elizabeth Tomasino, and James Osborne, to investigate red wine mouth feel. Ludwig graduated from Technical University of Munich in Germany as a Food Chemist with his state examination in 2009 under Drs. Peter Schieberle and Thomas Hofmann. At the same university he completed his Ph.D. in Biomolecular Food Technology under Dr. Wilfried Schwab in 2013, where he focused on the biosynthesis of constituents determining the nutritional quality of strawberry fruit. Additionally, addressing the regulations of the European food law he earned his state certification as a Food Chemist at the Food Safety Authority in Erlangen in 2013. Thereafter, he worked at an institute for pharmaceutical analytics in Munich concentrating on method development for assay, purity, and drug release testing of diverse pharmaceutical products. Prior to getting involved in Food Chemistry, Ludwig worked as an Audio Engineer, and still alongside his studies played drums in a jazz combo.

At Oregon State University, Ludwig's upcoming research will focus on molecules present in red wine correlating with mouth feel. This will include sensory studies as well as instrumental analyses to determine and isolate the key compounds and eventually reveal their chemical structure. In general, this work will contribute to developing a new field of research at OWRI focusing on non-volatile sensory active compounds in red wine.

## Extension Publications

### **Are Your Weed-control Products Damaging Nearby Vineyards?**

Editors: P. Skinkis, M. Kennedy

This brief informational guide has been written in layperson's terms for anyone living near a vineyard to better understand the damaging effects that common herbicides can have on grapevines. View the document [here](#).

## Education

### **Wine Industry Immersion Program 2017**

Linfield College's Wine Industry Immersion Program will encompass the wine production process from vineyard to table. Held June 13 - August 3 from 8:30AM to 5:00PM on Tuesdays and Thursdays. [Read more](#)

### **Wine Studies Workshop**

Chemeketa Community College's Wine Studies Program has a Winery Graphic Design workshop scheduled for June 22 from 8:30 AM to 4:30 PM at Chemeketa Yamhill Valley campus [here](#). [Read more](#)

## Events

### Washington Wine Fermentation Symposium

June 14, 2017 8:00AM - 6:00PM PST

Prosser, WA

[Find out more](#)

### ASEV National Conference

June 26-29

Bellevue, WA

[Find out more](#)

### Grapevine Downy & Powdery Mildew Workshop

July 17-19

Corvallis, OR

[Find out more](#)

Have a particular topic or question you would like to see addressed in the *Vine to Wine*? Let us know.

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