



**SABBATICAL LEAVE REPORT – FALL 2020**  
**SONET VAN ZYL, Associate Professor**

My application for sabbatical leave was approved in late 2019 to allow for travel to South Africa. South Africa is my country of origin where I also started my professional career in the grape and wine industry. The intent was to spend the majority of my time working with the South African Raisin industry and a formal invitation through SA Raisins was underway.

Due to the global Coronavirus pandemic that impacted all travel arrangements, I submitted a modified plan for sabbatical leave in Fall 2020. The original goals and objectives were adjusted, and a fifth goal was added. This goal added continuation and completion of curriculum revisions for all the programs housed within Viticulture and Enology. These included the following programs:

MS in Viticulture and Enology  
Viticulture Major  
Viticulture Minor  
Enology Major  
Enology Minor

A summary of the goals and objectives are outlined below. The achievements for each goal and objective are also summarized.

- 1. Establish collaborative applied research with colleagues in the South African raisin industry and at Stellenbosch University.** My experience with breeding programs for table grapes and raisins in South Africa and California will allow me to identify problems and challenges that offer opportunities for collaboration. Mechanization is one example for a common interest between the two countries. A dataset including two different growing regions with possibly the same cultivars and cultural practices will increase the impact of such data.

**Achievements:** Although in-person travel to South Africa was not possible, collaborative efforts were achieved via Zoom meetings. Three online meetings were scheduled in August, September and October 2020 respectively. With the pandemic challenges in South Africa impacting the Agriculture labor force severely, no meetings were scheduled during the harvest season (November through January). Discussions with Stefan Jordaan, Waldo Botha and Sedrick Visser focused on the following:

- The potential for more mechanization in the South African raisin industry. The industry will never move to the scale of mechanization like the USA, but growers are looking for some ideas regarding modified harvest equipment. I shared contact information for USA-based equipment manufacturers and also connected SA Raisins with growers and packers involved with the California Raisin Marketing Board and the Raisin Administrative Committee.
- SA Raisins are working on standardizing quality protocols for natural seedless raisins coming in from the field. South Africa is the only raisin producing country besides the USA that have USDA airstream sorters to grade raisins. The USDA shared the equipment years ago and provided their protocols. Since growing conditions and cultivars are different from the USA, these protocols need updating and standardization. Information was shared and there are ongoing conversations regarding these protocols for the South African raisin industry. These include updating the procedures for airstream sorters, raisin moisture testing, determining sand content for incoming raisins and establishing price points for raisin growers.
- My contact with Stellenbosch University and the Agricultural Research Council was minimal due to the pandemic.

2. **Strengthen the curriculum in table grapes and raisins.** The insight into growing practices in a different country connected with the fact that the region is in the Southern hemisphere will improve the quality of my teaching material, make the lecture a broader learning experience for the students, and open their mindset to the possibility of learning and working abroad.

**Achievements:** This goal was partially achieved with SA Raisins sharing a lot of information during the meetings mentioned above. They shared a short video about the industry in early August last year and are excited that it will be shared with students in the Table Grape and Raisin Production class. The video can be found here: <https://youtu.be/BkMSKsqHaeg>

3. **Collect pictures and visual information for the students.** Pictures and examples from the real world are an important part of my teaching philosophy. When I was still in South Africa as a student, I did not take as many pictures of the industry as I should have, not knowing that I might need them in class someday. With all my experience now, I would like to increase my picture collection that can then be used in class, for presentations, and outreach seminars.

**Achievements:** Unfortunately, this goal was not achieved due to the pandemic travel restrictions. I did increase my picture collection, but it was all based on the walks in local areas and the Fresno State vineyards.

4. **Prepare and complete two manuscripts for peer reviewed publication.** My teaching and research commitments during the academic year have made it difficult to analyze data and prepare manuscript of some of my existing research. The data also includes a graduate student thesis. There are four years of data about table grapes that need to be organized and evaluated.

**Achievements:** One manuscript was prepared and completed in collaboration with Dr. Rachel Naegele, a research geneticist at the USDA ARS in Parlier. The manuscript is based on a collaborative project between the USDA ARS and Fresno State. The manuscript was submitted to HortScience but got rejected. We are currently revising the paper for resubmission. The details of the manuscript as it was submitted to HortScience:

Saunders, C.V., Van Zyl, S. & Naegele, R.P., 2020. Virulence variability in *Xylella fastidiosa* and disease susceptibility of cultivated and wild grape species.

A second manuscript is still in progress. Data collection is still ongoing and was delayed due to the temporary shutdown.

5. **Viticulture and Enology Curriculum revisions.** Major changes to the Viticulture and Enology curricula at Fresno State has been ongoing. These changes include the Viticulture major and minor, the Enology major and minor, and the Master's program in Viticulture and Enology. Since this is a priority for the Viticulture and Enology Department, I agreed to finish the revisions during my sabbatical leave, especially since I will not be traveling as planned. The majority of the revision paperwork regarding the Viticulture major and minor is complete. The Enology curriculum and Viticulture and Enology Master's program curriculum are underway.

**Achievements:** The revision of the Viticulture and Enology curriculum was completed and submitted into OnBase on December 18<sup>th</sup>, 2020. All the changes included written justifications, catalog changes and revised syllabi. The revision included the following:

MS in Viticulture and Enology – Graduate program changes needed updating to reflect undergraduate program changes. Catalog errors were fixed, and the program was updated to reflect current industry trends. Other changes included course revisions for VEN 210, 280 and 299. Elective courses were completely outdated, and the section was updated to reflect more flexibility for students. These changes were discussed during a faculty meeting and I met with Dr. James Marshall, Marcee Varela and Joanne Ramirez to ensure that these changes are feasible. The changes to the program were approved by the Academic Programs

Committee and is currently awaiting final approval from the University Graduate Curriculum Committee.

Viticulture Major – The major needed extensive revision. Even though the field of viticulture is built on plant science, our students have increased difficulty getting into pre-requisite plant science courses. The revision addressed several problems including more independence from plant science courses. The revision included a complete program and catalog change request, the deletion of VIT 1 and 105, revisions to VIT 101, 102, 103, 160 and 165, the addition of VIT 100 and 168 as new courses and the conversion of VIT 15, 166 and 167 from T-courses to permanent courses. These changes were approved by the Academic Programs Committee and are currently awaiting approval from the University Undergraduate Curriculum Committee.

Viticulture Minor – The changes to the Viticulture minor were based on the changes made to the Viticulture major program. These changes included catalog changes and the addition of new courses. The 12-unit minimum for the minor was raised to 18 units. The changes to the minor were approved by the Academic Programs Committee and the University Undergraduate Curriculum Committee pending final approval of the Viticulture major changes.

Enology Major – This major needed several updates and changes, but they were not as extensive than the Viticulture major. Program and catalog changes were completed and included course changes to ENOL 45, 105, 110, 115, 125, 164 and 175. ENOL 168 was converted from a T-course to a permanent course. In addition, several prerequisites were changed to relieve bottleneck issues with enrollment. These changes were approved by the Academic Programs Committee and are currently awaiting approval from the University Undergraduate Curriculum Committee.

Enology Minor – The changes to the Enology minor were based on the changes made to the Enology major program. These changes included catalog changes and the addition of new courses. The 12-unit minimum for the minor was raised to 18 units. The changes to the minor were approved by the Academic Programs Committee and the University Undergraduate Curriculum Committee pending final approval of the Enology major changes.

6. ***Additional information.*** The pandemic impacted my original plans for sabbatical leave and restricted all travel literally to my own backyard. In order to stay sane during quarantine, I found myself involved in a couple of work-related activities that took me outside and into the

campus vineyards. These activities were not officially part of my sabbatical plan, but they are worth mentioning.

- International Fruit Genetics (IFG) is an industry partner that frequently employs students from our program as interns. They develop new table grape and raisin cultivars and asked to collaborate with Fresno State to grade and process new raisin varieties to determine how well they will perform at a commercial level. During my sabbatical leave, I strengthened the relationship with IFG since they have growers and evaluators around the world including South Africa. They will soon release a new cultivar that are also currently being tested in South Africa. I am working with IFG in establishing a service contract with Fresno State to conduct research regarding the performance of new varieties. This relationship will strengthen the Department's international position, especially in the raisin industry.
- The variety and rootstock teaching blocks needed to be evaluated for their long-term viability. I was asked to help with the identification of dead vines and incorrect varieties in these blocks. These vines were labeled and removed over the winter break. I revised and updated the block maps with searchable lists and shared them with the farm coordinator, vineyard technician, faculty and staff in the program.