Two Mountain Winery sits atop the Rattlesnake Hills AVA located outside the town of Zillah in Washington State. Two Mountain Winery has some of the most scenic vistas in Washington State, overlooking the Yakima Valley to their south and Mount Adams and Mount Rainier to their west. For over 20 years Patrick and his brother Matthew Rawn have managed the largest Sustainable Washington certified vineyard in the state. Operating 350+ acres using sustainable business practices, makes Two Mountain Winery stand out from the many world-class vineyards that Washington State has to offer.

At the end of May when my internship began at Two Mountain Winery, the vineyards were still in pre-bloom phase. The 2022 growing season had a higher amount of precipitation and more cooler growing degree days than the previous year, which resulted in a bloom phase in late June. Higher amounts of precipitation can propagate powdery mildew in the vines. The WSU Prosser Research Center offers free mildew sampling kits and testing results, which came back as negative after I sampled the canopies of vines with a sterile cotton swab. Before the vine’s clusters bloom, a cluster count of 20 vines per vineyard block is sampled, to determine which blocks should be shoot thinned. After bloom phase, the clusters flowers have been pollenated and young fruits begin to swell. On July 5th, a second cluster count was recorded in every vineyard block during the fruit development phase. The average cluster amount per vineyard block is used in the formula called the harvest multiplier (Figure: 4), that finds the estimated crop yield. In-between the fruit development and veraison phase is lag phase. Once the seeds in the fruit have matured and are firm, roughly 50-55 days after first bloom, then lag phase has begun and the cluster weights will double in size until ripening. On July 22nd I began measuring the total weight of all the clusters of 3 separate vines for each vineyard block (Figure 3). After recording the total cluster weight per vine, I divided the total number of clusters counted from the vines, which equaled the average cluster weight. Clusters will double in size from lag phase until harvest, so I multiplied the average by 2, to find the final average cluster weight at harvest. I multiplied the average cluster weight by the total number of vines per block. The final total crop weight amount is in pounds per acre, so the last step is to divide the final weight number by 2000 to provide the estimated crop yield weight in tons. Knowing the estimated crop yield helps managers decide which vineyard blocks should be crop thinned, so that only the premium primary fruit will be harvested and processed. Using the lag-phase method estimated harvest multiplier formula, provides vineyard managers crop data that helps better prepare for harvest and annually track their fruit volume.

As a first-generation university student, I am grateful for all the support I have received from the faculty at the WSU Viticulture and Enology center and the WSU Prosser Research Center, as well as the Coug Wine Society, who have helped me achieve many short term and long term goals. I feel fortunate to have had the experience of working for Two Mountain Winery, which has taught me the necessary knowledge and skills for vineyard maintenance during a summer growing season. My internship at Two Mountain Winery for the VIT ENOL 399 credit has enhanced my academic career in Viticulture and Enology, and future success at WSU Tri-Cities. Next summer, I will be working full-time on my family's vineyard to assist with vineyard maintenance and gain more in-field experience. In 2024 I will graduate from WSU Tri-Cities and continue practicing lifelong learning and working as a professional in the Washington State Viticulture and Enology Industry.