

Selecting wine grape cultivars for the very cool mesoclimates of maritime Western WA

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The maritime region of western Washington includes a wide range of mesoclimates that can range from averages of below 1200 Growing Degree Days (GDD) up to 2200 GDD. A major factor in determining fruit maturity in the region is titratable acid (TA). In 2000 two studies were established at the Washington State University Mount Vernon Northwestern Washington Research and Extension Center to identify cultivars that would grow in a cool mesoclimate with emphasis on those that would produce acceptable wine at the cooler end of the spectrum. The research site is located in the Skagit Valley floodplain, 3 miles from the Puget Sound, has an average of 1693 GDD and represents one of the coolest mesoclimates in the region. The first study included 28 self-rooted cultivars planted in 3 replications with 5 plants per plot in a randomized complete block design. This provided enough fruit to make 5 gallons of wine for most cultivars when fruit from like plots were combined. The second study was observational and included 40 cultivars, clones or selections planted in 3-plant plots. The data taken in both studies included juice analysis of brix, pH, titratable acids, and whenever possible, yield. The purpose of the studies was to identify cultivars that would grow in a cool mesoclimate with emphasis on those that would produce acceptable wine at the cooler end of the spectrum. Values for titratable acid below 1.0 were considered acceptable for white wine cultivars and values of 1.0 and below were considered acceptable for red wine cultivars. In these studies there were 8 white and 8 red cultivars that produced wines of good to acceptable quality at this site where GDD got below 1600 GDD. Red wine cultivars were Dornfelder, Garanoir, Leon Millot, Muscat of Norway, Pinot Noir Precoce, Agria, Regent, and Zweigeltrebe. White wine cultivars were Auxerrois Blanc, Burmunk, Madeleine Angevine, Ortega, Schoenburger, Pinot Gris (early strain), Sylvaner, and Siegerrebe. In a separate study we found that for some cultivars when grafted to either Couderc 3309 or Millardet et de Grasset 101-14 rootstock, they produced lower titratable acids earlier in the season when compared to self rooted plants. This suggests that grafting may enable a varietal to attain acceptable wine quality earlier in the season, thereby reducing the amount of GDD needed to attain maturity, and that more varietals may be suitable for production in the coolest mesoclimates if grafted onto appropriate rootstocks.