

Seely Ditch. The southern boundaries are formed by the flood plain of the Willamette River in the east and by the Chehalem Valley in the west. The lowlands are all below the 200-foot level.

The petitioners used elevation, slope, and soil criteria in delineating the line between what constitutes "mountains" and what is "valley floor." They state the foot of the Chehalem Mountains generally lies between 200 and 250 feet above sea level. Therefore, the petition includes all land in the area above the 200-foot level, with the exception of two highly urbanized areas located east and north of Newberg, Oregon, and west and south of Sherwood, Oregon. The proposed area excludes flat or barely sloping lands and includes hillsides. All hillside soils, whether marine, sediment, basaltic, loess, or, in some cases, alluvial (where it is found in hillside locations) are included in the proposed boundaries of the petitioned Chehalem Mountains viticultural area.

The petitioners also assert the Chehalem Mountains are made up of a series of ridges and highpoints that include two highly delineated spurs, Ribbon Ridge and Parrett Mountain, which are both heavily planted to vineyards. When drawn around the landmass of what is historically called the Chehalem Mountains, the 200-foot contour line encloses both the Ribbon Ridge and Parrett Mountain spurs.

Regarding historical evidence, the first modern vineyard on the Chehalem Mountains dates to 1968, when Dick Erath purchased 49 acres on Dopp Road in Yamhill County. He called the property Chehalem Mountain Vineyards and planted it the following spring.

Growing Conditions

The petitioners state that the proposed Chehalem Mountains viticultural area's boundaries are based primarily on a combination of terrain, elevation, and climate factors that contrast with the surrounding Willamette Valley, Coast Range, and Columbia Gorge.

Physical Features

The physical appearance of the Chehalem Mountains is the most significant geographical feature to distinguish them from surrounding areas. Due to their height and length (over 20 miles), the Chehalem Mountains are a significant landform in northern Willamette Valley. They can be seen from Portland's West Hills and from much of the northern Willamette Valley floor. They are the major separation between the basin of the

Tualatin River and the Chehalem Valley.

The sometimes steep, sometimes gentle slopes of the Chehalem Mountains are highly differentiated from the almost flat Willamette Valley floor. In some areas (the west side of Ribbon Ridge and the southeast side of Parrett Mountain), the slope of the Mountains descends steeply, then suddenly becomes almost level, making the transition from Mountains to valley floor instantaneous and incontrovertible. However, for the majority of its perimeter, the slopes of the Chehalem Mountains shift more gradually to gentle slopes, then finally to the valley floor. The petitioners used the elevation/slope/soil criteria to determine the boundary lines in areas where the distinction is not as obvious.

Elevation

The Chehalem Mountains are the highest mountains within the Willamette Valley. Their tallest point is Bald Peak, which lies 7 miles northwest of Newberg and rises to 1,633 feet above sea level. The valley floors, surrounding the Mountains on all sides, drop below 200 feet. The 200-foot contour line completely encircles the Chehalem Mountains and clearly differentiates the Mountains from the valley. The petitioners state that these elevation differences are significant in distinguishing the Chehalem Mountains from the surrounding areas. Most of the existing vineyards in the proposed viticultural area are located between the 200- to 1,000-foot elevation lines. The petitioners assert that the areas below the 200-foot level have alluvial soils with greater depth, fertility, and water-holding capacity, which extend the growing period of the vine and delay the ripening of vineyards reds, as well as result in greater exposure to frost. Therefore, the alluvial soils on the valley floor are not included in the proposed boundaries.

Climate

The petitioners state that the element of climate that best distinguishes the Chehalem Mountains is annual precipitation. Since they are the highest mountains in the Willamette Valley, they provide the largest obstacle to eastward moving storms. As the moist air is forced over the Chehalem Mountains, the water vapor in the cooling air condenses and falls to earth as terrain-induced rain. According to data obtained from the "Atlas of Oregon," second edition (University of Oregon Press, 2001), annual rainfall within the boundaries of the proposed viticultural area ranges from 37 inches

at the lowest point to almost 60 inches at the highest elevations on Bald Peak. This is in contrast to Hillsboro and Beaverton just north of the Chehalem Mountains and French Prairie just south of the Mountains with the lowest annual precipitation in the Willamette Valley—under 36 inches. The annual average rainfall for the Portland International Airport, located east of the proposed area, is 36 inches while the Coast Range, located west of the Chehalem Mountains, has an average of over 100 inches of rain per year.

The other uplifted hills in the Willamette Valley have somewhat higher rainfall levels than the surrounding valley floor (for example, Eola Hills has 40 to 48 inches and Red Hills has 40 to 44 inches), but none so dramatic as the Chehalem Mountains.

The petitioners also state that the Chehalem Mountains have the greatest variation in temperature within the Willamette Valley due to the range in elevation (200 to 1,633 feet). According to data obtained from the Oregon Climate Service, heat summation during the growing season varies from over 2,200 degree-days at the base of the south side of the Mountains to less than 1,800 degree-days on the north side of the top of the Mountains. These variations can result in three-week differences in the ripening of Pinot Noir grapes. Evapotranspiration (the loss of water from soil and plants by a combination of evaporation and transpiration) is about 3 inches less on the higher parts of the Chehalem Mountains compared to the surrounding valleys, mostly due to temperature differences.

Soil

The petitioners state that, in general, the proposed area contains a combination of loess, sedimentary, basaltic, and alluvial soils. These were deposited over a 17-million-year period through a series of events that included uplifting of the mountains from the shallow waters of the Pacific Ocean, huge eruptions of basaltic lava from the Columbia River Basalt Group, wind blowing silt from Eastern Oregon and Washington, and alluvial deposition from the Missoula Flood.

The diverse soils contained in the proposed Chehalem Mountains viticulture area have yielded successful vineyards since 1968. Much of the Ribbon Ridge spur is covered by sedimentary soil (Willakenzie Series) and is heavily planted to red wine grapes. The central and southern Chehalem Mountains also contain large deposits of basaltic soils (mainly Jory Series) that contain many vineyards of