Grape Production in the Mid-Columbia
By Steve Castagnoli
Hood River Extension Horticulture Faculty

The Mid-Columbia region is known around the world for producing high quality tree fruits, particularly winter pears, apples, and cherries. Through the 1980’s and 90’s, Oregon garnered a reputation as a producer of world-class wines. Credit for this accomplishment largely goes to Willamette Valley vineyards and wineries. Several other winegrowing regions, however, are developing in the state. Perhaps overshadowed by its notoriety for world-class tree fruit production, the Mid-Columbia area is not well known as a winegrowing region. Nonetheless, several award winning wines have been produced by local wineries and vineyard-designated wines are made with fruit grown in Mid-Columbia vineyards.

Trends in wine consumption in the U.S. and abroad have created strong domestic and export markets for high quality U.S. wines. Total wine consumption in the U.S. increased 18% from 1991 to 1999. The market for premium varietal and higher grades of wine has increased at a faster rate. From 1986 to 1999, the value of U.S. wine exports increased from $35 million to $548 million. It seems like there may be opportunities for those interested in growing wine grapes in the Mid-Columbia. So what is the potential for wine grape production in the region?

When considering the potential for any kind of crop production, several factors come into play. The regional climate and weather are major considerations. The climatic conditions that favor this area for tree fruit production, relatively mild temperatures in both winter and summer, with rainfall concentrated in the autumn through spring months, are also favorable for the production of high quality wine grapes.

Because of these conditions, the Mid-Columbia is considered to be part of a cool climate viticulture or wine-growing region. Wines produced in cool climate areas are often considered to have the greatest potential for achieving high quality. During fruit maturation, warm days and cool nights contribute to the development of intense varietal fruit aromas and flavors, the raw materials for making fine wines. On the down side, there are years when early fall rains may lead to delayed fruit maturity problems with fruit rot and less than optimal quality.

In cool climate areas, the regional climate (macroclimate) may be well suited to the production of high quality fruit. Many potential vineyard sites, however, may be unsuitable for the successful production of high quality fruit on a consistent basis due to limitations of the site climate (mesoclimate). Because the vineyard mesoclimate is affected by several factors, careful attention to vineyard site selection becomes critical in cool climate areas.

Moderately productive, well-drained soils are often favored over deep, fertile, highly productive soils in order to balance vegetative growth and fruit production and quality. On more productive sites, growers must carefully manage this balance to avoid overly vegetative vines that may produce lower quality fruit.

Sloping ground with southern or southwestern exposure contributes to good air drainage for frost avoidance and high interception of solar radiation for photosynthetic activity critical for production of sugar and other fruit constituents. Low to moderate elevation sites are chosen over high elevation sites...
because the latter may result in insufficient heat units for fruit maturation. Careful attention to these details should be used when identifying suitable sites.

One critical factor in successful wine grape production is the choice of variety. Grape varieties have different requirements for accumulated heat units during the growing season. The variety choice must match the site potential for heat units over the course of the growing season.

When compared to tree fruits, wine grapes require relatively little irrigation water. Although some form of irrigation is usually necessary in the early life of a vineyard, many Oregon vineyards are not irrigated beyond the establishment phase. Additionally, relatively few diseases or insects require regular treatment in Mid-Columbia vineyards.

All things considered, the Mid-Columbia region certainly has untapped potential for producing high quality wine grapes. The economics of vineyard establishment and fruit production may, however, limit the extent of local vineyard expansion. Clark Seavert, OSU Extension Service Agricultural Economist, recently analyzed the cost of establishing vineyards in the area. Preliminary findings suggest that the returns on investment are low as compared to the financial risk involved.

According to Seavert, the cash costs during the five-year establishment phase are approximately $9,400 per acre. Surprisingly, 40% of that cost is hired labor, while planting stock and trellis and irrigation system costs are only 25% of that total. The grower can expect a payback for all cash costs in year eleven assuming a 6% return on investment. These findings demonstrate the need for careful evaluation of vineyard site and variety selection criteria.

As with many agricultural products, a value added component often increases profitability to the producer. If grape growers are able to share in the value-added process of making fruit into wine through association with a winery, they may be more likely to profit financially.