

A Quick Start Guide to Establishing a Vineyard in Oregon

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When thinking of starting a vineyard, many questions come to mind: Would my land be suitable for growing grapes? What types of soils are needed for successful grape and wine production? How much would it cost to establish and produce? While a vineyard may seem like a fulfilling venture, the choices made in the beginning regarding vineyard design and location are the most important factors for the success of the vineyard and the sustainability of a business. This guide is to be used by individuals who are in the decision making stage of beginning a vineyard. The following information will guide you to important resources for making an educated decision about establishing a vineyard.

Step 1: Learn About Viticulture and Vineyard Establishment before Planting

The most important step in determining whether to start a vineyard is to learn as much about vineyard establishment and viticulture as possible. Many mistakes in establishing vines and the early years of production can be avoided by having some background in vineyard production. This information is available in a number of places. Furthermore, some of the resources listed below are developed specifically for Oregon and/or the Pacific Northwest, providing a good resource of information for the new, potential grower.

OSU Viticulture and Enology Website: <http://wine.oregonstate.edu>

This website has information gathered from various resources at OSU, including research and extension faculty across disciplines. Check out the “Extension” link on the homepage to take you to current and archived newsletters. “Research” takes you to studies conducted at OSU for the Oregon industry for the past 20 years. Click “Outreach” for links to presentations from seminars given by OSU Extension Viticulture and Enology Specialists. Workshops and seminars that are being offered are listed on this website also! New growers or those interested in establishing a vineyard are encouraged to attend events and programs.

Oregon State University Extension Service

The OSU Extension service provides information on agriculture for both commercial industries and the public. Many publications put together by experts at OSU (reports, bulletins, DVDs and other educational publications) are available for free or a nominal fee at the OSU Extension Service Website (<http://extension.oregonstate.edu/catalog/>). Many of the publications referenced below can be found on this website.

Berry and Grape Infonet <http://berrygrape.oregonstate.edu/>

This is an online resource for many topics in vineyard establishment and management from grafting methods to pest management and more.

Oregon Viticulture is a comprehensive book that provides information on all aspects of vineyard establishment from vine physiology to vineyard management. This is a great resource for both new and currently established vineyards.

<http://oregonstate.edu/dept/press/o-p/OregonViticulture.html>

Step 2: Understand Vineyard Economics to Develop a Business Plan

Like any other agri-business dealing with perennial crops, there is a substantial input in establishing a vineyard. In some cases, the cost of establishment of grapevines can be higher than in other perennial crops due to the necessity of a trellis system and the use of manual labor for many of the establishment and production practices in the vineyard.

Status of the Oregon Wine Industry

For information regarding grape cultivars being grown, harvested yields, prices per ton of harvested fruit and production statistics, see the Oregon Vineyard and Winery Report from the National Ag Stats Service (NASS, USDA).

http://www.nass.usda.gov/Statistics_by_State/Oregon/Publications/Vineyard_and_Winery/index.asp

Economics of Vineyard Establishment

It is important to consider the establishment and development costs associated with a vineyard. There are a number of resources available to find the costs for Oregon and the Pacific Northwest. One of the best tools is *A Grower's TEAM*, an online economics workbook for vineyard establishment. This program, developed by economics and Extension faculty at Oregon State University, is free for use and located at: http://oregonstate.edu/dept/NWREC/decision_tools/download.php. If you need further assistance on how to use the software, there are training sessions for this program held annually by the OSU Extension, so please contact your local county extension office for more information.

Enterprise budgets for wine grapes in Oregon are also available in print and available online for download from the OSU Extension Service. Publications for Eastern and Western Oregon will be available at <http://extension.oregonstate.edu/catalog/> in fall 2008. Currently available is EM8878-E Vineyard Economics: Establishing and Producing Wine Grapes in Hood River County, 2007 <http://oregonstate.edu/dept/mcarec/enterprise.php>.

Financing

Many times when starting a business enterprise, there is great expense in establishment. This leads potential vineyard owners to seek out financial opportunities that may be beneficial when starting a vineyard or purchasing an established vineyard. For more information regarding such programs, see the OSU Small Farms Program where you can find small farms funding resources <http://smallfarms.oregonstate.edu/>.

Marketing and Location

It is important to locate your vineyard in an area where you can produce a consistent crop of good quality. However, a very important factor in locating a vineyard site or winery, is location to the market. You want to be sure to be close to an area that can purchase your fruit and/or be able to market it to wineries. There are specified regions in the US that are known as American Viticultural Areas (AVA) where wineries may request to obtain fruit from to label it with a given region for distinction. Furthermore, locating within a given AVA can improve marketing of wine if you plan a winery. To determine boundaries of AVAs or find out if your land lies within an AVA, you can search special maps that delineate these areas. American Viticultural Areas are under federal regulation: Code of Federal Regulation Title 27, Part 9. Maps of AVAs can be found by contacting the U.S.G.S. (1-800-HELP-MAP or <http://www.usgs.gov>). See the following link for more information on AVAs and regulations. <http://www.atf.gov/alcohol/info/fag/wine.htm>. For additional information, contact the Oregon Wine Board info@oregonwine.org, phone: (503) 228-8336.

Step 3: Determine Site Suitability

Whether you have farm land that you plan to develop into vineyard land or if you are searching for that perfect site, the following steps are important to determine if your site is suitable for grapes or determine which areas are conducive to growing quality fruit.

Assessing the Macroclimate of the Area

Environmental factors such as climate and topography of a given location play the most important role in determining site suitability for a vineyard. Temperatures of the growing season, growing degree days accumulated during the growing season and frost free day summation for the season are needed to determine the cultivars of grapes that could be grown at the site. Not all grape cultivars perform best at the same location. Also, site topography will be vital for assessing the vineyard design. To investigate the climates for your area, check out the following online resources:

Growing Degree Days, Temperature and Climate Summaries

Growing degree days (GDDs) help you determine whether you can plant cool, warm or hot climate grape cultivars or any grapes at all! In general, cool climate grapes require 1800-2500 GDD (°F) for a growing season and include such cultivars as Pinot noir, Pinot gris, Riesling, Gewürztraminer, Muscat and Chardonnay. Warm climate grapes require 2500-3000 GDD and include cultivars such as Cabernet sauvignon, Merlot, Viognier, Tempranillo, etc. Finally, hot climate grapes require >3500 GDD, and these sites are reserved for dessert wines and table grapes. The GDD number is based on the average daily temperature for one day with a daily threshold temperature of 50°F. The GDD for an entire growing season are a result of the summation of all of the daily GDDs for the season. Growing degree days can be obtained from the following websites as well as daily temperatures, precipitation and other weather data.

Climate Resources

Oregon Climate Summaries

<http://www.wrcc.dri.edu/summary/climsmor.html>

Agrimet Weather Infonet

<http://www.usbr.gov/pn/agrimet/webarcread.html>

Oregon Climate Service

<http://www.ocs.oregonstate.edu/index.html>

Topography will determine whether you have a “frost pocket,” slopes for air drainage, aspect for increase sunlight exposure in the vineyard and more. To learn more about site selection, read *Oregon Viticulture*.

Assess Your Soils

Soil Maps

Soil maps are currently online at the NRCS Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>). Click on the “Start WSS” green button to begin. You can input your address or location and view your soil characteristics, slope, and more. Printed soil maps may also be obtained from your local NRCS (Natural Resource and Conservation Service) office. These maps will help you identify soil types of your land as well as soil properties. You want to avoid areas with a high water table, very shallow soils and/or impervious soil layers. In general, grapes can grow anywhere, but you want to be able to grow grapes successfully for good quality fruit. For more information, see *Oregon Viticulture*

Soil Analysis

Before planting a vineyard or even purchasing a land for a vineyard, be sure to take a soil sample and submit it for analysis of soil properties, fertility and nematodes. Basic information on how to take soil sample, a list of analytical labs and how to interpret results can be found at the Extension Service Small Farms Division <http://smallfarms.oregonstate.edu/soil-testing>.

The following publications are also available for viewing and downloading at the OSU Extension Service Online (<http://extension.oregonstate.edu/catalog/>):

Soil Sampling for Home Gardens and Small Acreages EC628

Soil Test Interpretation Guide EC1478

Laboratories Serving Oregon: Soil, Water, Plant Tissue, and Feed Analysis EM8677

Nematode Sampling

Sampling soil for nematodes is essential. Nematodes are soil-borne plant parasites that can damage grapevines and some species transmit disease. A wide range of soils host nematodes and will require testing, even if a vineyard was not in the location previously. Please see the link for information on how to do this sampling of your vineyard soil and where to submit the sample

[www.bcc.orst.edu/bpp/Nematodes/Nematode Testing Service Form.pdf](http://www.bcc.orst.edu/bpp/Nematodes/Nematode_Testing_Service_Form.pdf)

Water Availability

In some areas of the state, namely southern and eastern Oregon and the Columbia Gorge, it is difficult to farm quality wine grapes without supplemental irrigation even in production years. It is possible for dry farm production in the Willamette Valley on most sites. It is important that a potential vineyard site have water access for establishment. Even if you plan to have a dry farmed vineyard, it is important that water be available for the establishment years, 1-3. Before purchasing land or developing a vineyard on current land, you will need to check into water rights and water availability for that land. Contact the State of Oregon Water Resources Department for more information <http://www.wrd.state.or.us/>.

Step 4: Investigate Cultivar, Clones and Rootstocks

To determine the best cultivars and clones to grow in your vineyard depends on two important factors: climate and market. Some of the climate factors can be investigated as indicated above. To determine the sales and production statistics for different grape cultivars in Oregon, see the NASS Vineyard and Winery Report, available online at [http://www.nass.usda.gov/Statistics by State/Oregon/Publications/Vineyard and Winery/index.asp](http://www.nass.usda.gov/Statistics_by_State/Oregon/Publications/Vineyard_and_Winery/index.asp).

Selecting specific clones within a cultivar can be difficult. A clone is simply the same grape cultivar that has a slightly different characteristic that can be propagated and maintained. Past research on clones of several grape cultivars, including Chardonnay and Pinot noir and various rootstocks are available under the “Research” section of the OSU Viticulture and Enology website: <http://wine.oregonstate.edu/winegrape>.

The National Grape Registry is an online resource of plant materials that have been registered in the United States. The website also provides information about where specific cultivars can be purchased and provides information on the origin of the cultivar and clones. <http://ngr.ucdavis.edu/index.cfm>

Rootstocks

One of the main reasons for grafting vines to rootstock is to prevent damage due to phylloxera. Phylloxera is an insect that feeds on roots of *Vitis vinifera* grapes and has been found in all grape growing regions around the world and has been found in Oregon. Information on phylloxera can be found in the publication listed below. Furthermore, phylloxera resistant rootstocks are discussed in the publication *Grapevine Rootstocks for Oregon Vineyards*, shown below. It is highly advised that new vineyards be planted with grafted vines to avoid Phylloxera damage. There are a few exceptions to this rule including growing in regions where there are very cold winters that can cause damage to *Vitis vinifera* vines and would require regrowth from roots and or damage due to crown gall, which is the case in eastern Oregon and Washington and the Illinois Valley of Southern Oregon.

OSU Extension Publications (<http://extension.oregonstate.edu/catalog/>)

Phylloxera: Strategies for Management in Oregon's Vineyards EC 1463

Grapevine Rootstocks for Oregon Vineyards EM 8882

Step 5: Tips on Ordering Plants

Plant Materials

Plants must be obtained from reputable sources which are “clean” – tested to be free of disease and virus. Vines that are not certified are not tested to be free of virus. Certain viruses may lay latent for years and lead to complete loss within a few years and potentially spread to other vineyards in the area. It is advised that all plant materials be obtained from certified nurseries that sell certified plant stock. Certified nurseries obtain plants from a foundation plant service to develop their “mother” vineyards from which they propagate stock that they sell to growers. There are two foundation blocks in the West Coast that acquire plants from all over the world and clean up grape cultivars to maintain a reliable source of certified clean stock. These include the Foundation Plant Services in California (<http://fpms.ucdavis.edu/>) and the NW Grape Foundation Service in Washington (<http://nwgfs.wsu.edu/>). NW Grape Foundation Service provides a list of certified nurseries online at <http://nwgfs.wsu.edu/certified.html>.

Nurseries

For a list of **certified** nurseries throughout Oregon and Washington, please see the NW Grape Foundation’s Certified Nurseries list online list at <http://nwgfs.wsu.edu/certified.html>. It is important for you to inquire with the nursery if the cultivars, clones and rootstocks that you are interested in purchasing are certified free of virus and disease. For a list of nurseries that carry specific cultivars, you can search by cultivar in the National Grape Registry at <http://ngr.ucdavis.edu/index.cfm>.

Oregon Grape Quarantine

There are rules and regulations regarding shipment of plant materials from outside of Oregon. It is important to be aware of these rules when purchasing plants. Read and review Oregon Department of Agriculture for an explanation of the grape quarantine by clicking the following link: http://egov.oregon.gov/ODA/PLANT/docs/pdf/quar_grape.pdf.

Need Further information or Clarification?

There are many questions that arise when determining how to start a vineyard. If you have utilized the resources above and need further clarification, please contact your county Extension. County Extension faculty are your local contacts that are available to answer questions regarding soil sampling, regional climate inquiries or general viticulture questions.

AVA	County/Office	Extension Agent	Phone
Umpqua	Douglas	Steve Renquist	541-672-4461
Southern Oregon*	Jackson/Josephine	Marcus Buchanan	541-776-7371
Columbia Gorge	Hood River	Steve Castagnoli	541-386-3343
Walla Walla	Milton-Freewater	Clive Kaiser	541-938-5597

** This includes the AVAs of the Umpqua, Rogue, Illinois and Applegate Valleys*



Planning before planting is the key to success!