



GRAPES GALORE!

Planning your Wyoming vineyard

Growing grapes takes dedication, passion, and commitment.

A well-cared-for grapevine can live for 100 years or more. Grape cultivation takes long-term commitment because of the infrastructure needed for cultivation, and the fact the first harvest typically occurs in the third or fourth growing season.

Vineyard planning

Proper vineyard planning will increase the chances of success and the opportunity to grow vines to maturity.

Start with setting a goal or purpose for the vineyard. Fruit production or aesthetic value are the two most common purposes. This article focuses on vineyards for fruit production. The next question to ask, is the fruit production for personal consumption or commercial purposes? Naturally, vineyards for personal consumption will be smaller in scale and contain fewer vines. Regardless of size, planning for this size of vineyard is still important.

Large acreage commercial vineyards are implemented in phases, which spreads out the labor needed for installing the vineyard and the infrastructure and planting costs over a longer period. This also results in a crop yield and potential income from

the first phase of the vineyard while later phases are being implemented.

The biggest benefit to establishing a detailed plan for a vineyard is reducing the chances of needing to move or modify the vineyard after establishment. Planting perennial plants in their forever home, especially grapes, is the best situation.

Site selection

Next, identify the best site. Site selection is not always straightforward because it can be very site-specific. Here is a list of general factors:

- Full sun
- Southern or southeast exposure and aspect
- Soil type and quality
- Local climate
- Topography
- Microclimate
- Land history

Grapevines thrive in full sunlight, which is necessary for uniform berry development and producing the highest quality fruit. Select a site that has the least shade from nearby structures. In addition, design the vineyard to minimize shading from neighboring rows of vines.

A southern or southeast exposure if possible is the ideal aspect of vine-

yards for planting on a slope or near structures. In Wyoming, this generally provides two major benefits for the vineyard. First, full sunlight and drier soils are achieved and second, this pattern blocks the common prevailing winds out of the north and northwest.

As for the orientation of the rows, north-south or east-west is preferred. Many speculate the north-south orientation provides the most sunlight to all aspects of the vines. This may be true; however, east-west orientations can produce good quality fruit as well. Select the best orientation for your property.

Grapes grow well in a wide variety of soil types and do not require the most fertile soils. Grapes do not grow well in heavy clay soils or areas that do not drain well, such as areas with constant standing water or high water tables (within 2 feet or shallower). These soil conditions deprive roots of oxygen, essentially drowning the plant. Knowing the type and quality of soil helps understand the soil moisture holding capacity, irrigation management, and fertility requirements.

Local climate, topography, microclimates

An intimate understanding of the local climate, influences from adja-

cent topography (such as mountains, plateaus), and microclimates for the vineyard are important. The local climate establishes the growing season. The frost-free period between spring and fall is critical for grape production. Elevation is another major influence on local climate. Some high elevation areas may not be suitable due to a very short growing season.

The local topography can also influence the localized weather patterns and a vineyard's microclimate. An example would be a vineyard at the base of a hill or in a valley bottom. Cold air will tend to settle into these areas and shorten the growing season.

The land's history is the last consideration for site location. Know the previous crop history, past pesticide usage, disease and pest history (including wildlife), zoning laws, local restrictions, and proximity to the market. Insight into these will help establish the vineyard in the most conducive area. For more detailed information on site selection and other grape cultivation topics, please visit the Wyoming Grape Guide at bit.ly/WY-grape-guide.

Do not forget to include a fence. A physical barrier can prevent problems from animals such as bears, racoons, deer, and rodents. A fence of woven wire (6 feet tall) is recommended.

Installing a vineyard takes a lot of information and decisions for suc-

cess. Planning the entire vineyard prior to the installation process allows plenty of time for obtaining information, costs comparison, proper variety selection, and most importantly, time to source the needed items well ahead of time, such as the vines themselves.

This fall and winter, carve out some time to layout your plans for next year's vineyard.

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Choosing grape varieties, trellis systems vital after choosing a site

Numerous varieties are productive or have the potential to be productive in Wyoming. Varieties that performed the best in the University of Wyoming's research trials were Frontenac, Frontenac Gris, Brianna, Osceola Muscat, Marquette, and Marachal Foch. There are many more varieties that were not screened in these trials that have potential to thrive in Wyoming.

The typical characteristics to select a grape variety are:

- Selecting a cold-hardy grape variety that can be grown in USDA cold hardiness zones of 4b or below. Some nurseries will even list the coldest temperature the variety can survive to, and selecting the coldest temperature is advisable.
- Selecting for the variety's use: wine, juice, jelly, or table grape. Seeded or seedless is an important characteristic for table grapes.
- Berry color and size.
- Cluster structure (compact or loose) and size.
- Varieties can also be selected based on quality of fruit, yield potential, and flavors or aromas (especially for wine).

Traditionally, commercial vineyards are grown on trellises. Trellises are recommended for managing many vines, usually more than 10. If a trellis system is not implemented, then a stable and strong support system should be used to support the weight of a heavy, mature grapevine. There are several trellis types recommended on the market with each trellis system structured differently for the different types of training methods and varieties.

Trellis systems are a large portion of the expense in a vineyard establishment.

The University of Wyoming's research trials at the Sheridan and Powell Research and Extension Centers are grown on the high wire cordon system. This is one of the simplest and cheapest trellis systems for cold-hardy varieties. Cold-hardy grape varieties should be grown on a trellis system that supports their drooping or downward growth habit.

No matter which trellis system is installed, install the top wire at 5 to 6 feet high, which keeps grapevines off the ground and buds away from the coldest air. Please visit the Wyoming Grape Guide publication (bit.ly/WY-grape-guide) for more trellis information.