

## Alson H. Smith Jr. Agricultural Research and Extension Center

### Viticulure Extension: Grape Grower Checklist



Traminette clusters at the AHS AREC, Winchester, VA

Welcome to the *Virginia Tech's New Grape Grower Checklist*. This compilation of information and links for new grape growers was created to address inquiries for commercial grape growing and vineyard establishment information in Virginia. The Commonwealth's wine industry produces more than 400,000 cases of wine and the industry continues to expand with more than 200 licensed wineries, and approximately 3,000 acres of vineyard in 2010. Current interest in expansion of vineyard acreage has resulted in an increased demand for research and extension to assist with the growth of new farmland by both experienced and novice grape growers. Below you will find a heading in bold for each of the criterion in the checklist. Each heading is followed by a brief description of our online resources.

#### **The Role of Virginia Cooperative Extension (VCE)**

Virginia Tech has served the needs of the wine industry through Virginia Cooperative Extension (VCE) for over 25 years. Specialized training for county extension agents and the recent hiring of a grape pathologist (Dr. Mizuho Nita) at the Alson H. Smith Jr. Agricultural Research and Extension Center in Winchester, Virginia are major advances. Specialists include Dr. Tony Wolf, Professor and Viticulure Extension Specialist, and Dr. Bruce Zoecklein, Professor and Enology Extension Specialist (see websites below). Contact with a VCE agent near your location may also be established by visiting the Virginia Tech VCE website below. The information compiled in this checklist represents the most up-to-date information for assisting new grape growers. Reading thoughtfully through the information in this checklist will enhance your knowledge of what is required to locate and establish your vineyard site and make the most of your time allocated with a VCE agent.

[Virginia Cooperative Extension](#)

[Dr. Bruce Zoecklein's Website](#)

[Tremain Hatch's Website](#)

#### **Selecting Your Vineyard Site**

Site may very well be the most important criterion for a successful commercial vineyard operation. Fortunately there have been many efforts by Virginia Tech to guide your decisions while searching for your vineyard site. The on-line publication, *Vineyard Site Selection* offers an excellent overview of the principal physical and biological features evaluated in the site selection process. County-specific "Vineyard Suitability Maps" were produced in the late-nineties by Virginia Tech specialists. These maps used a Geographical Information Systems (GIS) approach to defining vineyard suitability for land, and had a resolution down to 100x100-foot pixels. The goal of these maps was to provide a graphic representation of where good to excellent vineyard property existed on a county basis. Various physical features of the landscape were combined by the authors to produce a "Viticulural Suitability Ranking" for discrete land parcels. Unfortunately, the GIS maps are out-dated; superior data including soils data and synthetic climate data are available today and, combined with options for interactive access to the maps with today's servers, will make such maps even more useful. A new generation of interactive GIS maps for vineyard site evaluation are now (2011) under development, thanks in part to a grant from the USDA, through the Virginia Department of Agriculture and Consumer Services; please stay tuned.

[Vineyard Site Selection](#)

#### **Soil Analysis: When, How, What and Why to Test and Where to Send Soil Samples?**

Detailed soil analyses must be made before the vineyard is established, primarily to determine pH but also soil fertility. Reports from soil analyses will not only be essential for understanding the grapevine growth potential in your site, but will also provide key information to your cooperative extension service to assist with soil management recommendations.

**When:** Soil samples should be collected when the soil is moist and not frozen; fall is an excellent time. Soil test kits are available from some county Cooperative Extension offices or from commercial soil testing laboratories, such as A&L Eastern Labs in Richmond, Virginia.

**How:** Instructions on how to collect a soil sample may be reviewed in Chapter 8 of "Wine Grape Production Guide for Eastern North America".

**What:** The most useful soil analyses in a new vineyard site include; soil pH, P, K, Ca, Mg, Zn, Mn, Cu, Fe, B, Cation Exchange Capacity (CEC), and Organic Matter (OM). Many laboratories do not include CEC and OM in a standard soil test, and additional fees may be required for those analyses.

**Why:** Soil pH, CEC and OM are indicative of the availability of nutrients to the grapevines and the potential vigor of vines to be grown on the site. These features are also important in formulating recommendations for liming, rootstock selection and canopy management. A lab report showing the quantities of the macronutrients P, K, Ca, and Mg and micronutrients Zn, Mn, Cu, Fe, and B will alert you of any nutrient adjustments needed prior to planting. Nitrogen is generally omitted from soil analysis in the establishment phase since most Virginia soils are not deficient in the first year. A combination of petiole analysis and visual observation of your vines is recommended for determining nitrogen needs as your vineyard develops. Additional details regarding soil qualities and mineral nutrition of grapevines may be reviewed in Chapter 8 of "Wine Grape Production Guide for Eastern North America". A separate soil sample may also be collected to determine the populations of potentially harmful nematodes in soil. The Virginia Tech nematode testing facility can test for nematodes (see below).

**Where to Send Soil:** State's land-grant universities (such as Virginia Tech) often provide soil testing services, as do commercial laboratories found online (such as A&L Eastern Labs, Inc. in Richmond, VA).

[Wine Grape Production Guide for Eastern North America](#)

[Virginia Tech Soil Testing Lab](#)

[Nematode Sampling - The Virginia Tech Nematode Assay Laboratory](#)

### **Grape Variety Selection**

The location of your vineyard site and local winery demand will be most influential to the variety of grapes you will choose. It is not uncommon to see many commercial vineyards experimenting with a few acres of a less proven variety in Virginia, however, many years are required to test the performance of new varieties and develop acceptance by the winemaker and consumer. The Virginia Tech publication, "Commercial Grape Varieties for Virginia" lists and describes grape varieties and rootstocks that have "historically" demonstrated commercial suitability under diverse growing conditions in Virginia in addition to some varieties worthy of consideration. Other grape growers near your site may also provide invaluable knowledge and experience as to the varieties that have "historically" performed well in their climate and soils.

[Commercial Grape Varieties for Virginia](#)

### **Sources of Grapevines**

Grapevines and rootstocks are available from a multitude of nurseries in North America. It is important to note that grapevines purchased closer to your site will be no more suitable or adapted to your climate than those purchased in Canada, California or Michigan and, therefore, location of the nursery should not be a limiting factor when purchasing grapevine stock.

### **Economics of Vineyard Establishment and Operation**

Establishing a successful commercial vineyard requires a substantial capital investment as well as sound management decisions from the initial planning stage through the sale or use of the harvested crop. Cost of labor, land, machinery and materials, as well as expected returns, are considered at the following link.

[Wine Grape Production Guide for Eastern North America - See Chapter 1: "Costs and returns of vineyard establishment and operation"](#)

### **Getting in Tune with Your Grape and Wine Community**

The enthusiasm within the grape and wine community in Virginia has never been greater and the increasing number of local and statewide organizations and discussion groups reflects this change. Every two months, Dr. Tony Wolf publishes a newsletter, "Viticulture Notes," which is the principal extension newsletter used to keep growers and potential growers informed of upcoming meetings, field days, technical information, seasonal reminders, and availability of new publications. An electronic, text-only newsletter is available without cost. To subscribe, send an e-mail message to: [listserv@listserv.vt.edu](mailto:listserv@listserv.vt.edu) with no subject and one line of text: subscribe vce-grapenews your name, where your name is your real name. Example: subscribe vce-grapenews John Doe. Alternatively, you may peruse the last three years' issues of Viticulture Notes on the web. Additional information regarding current research projects and grape pest recommendations is available on Dr. Wolf's website link below. A list of grape and wine associations in Virginia and surrounding states is also provided below for your reference. These links provide detailed information about winery locations, events and local grower groups; however, there is no substitute for getting out and visiting with your local wineries to discover the market demands and wine styles in your area. A list of private vineyard consultants is also available upon request.

[Dr. Tony Wolf's Website](#)

### **Virginia Grape and Wine Associations**

[Virginia Vineyards Association \(VVA\)](#)

[Virginia Wine](#)

[Virginia Wine and Food Society](#)

### **Out-of-State Resources**

[American Society for Enology and Viticulture \(ASEV\) - Eastern Section](#)

[Finger Lakes Grape Program](#)

[Maryland Grape Growers Association](#)

[North Carolina Winegrowers Association](#)

[Ohio Wine Producers Association](#)

[Penn State Wine Grape Network](#)