INFORMATION RESOURCES FOR COMMERCIAL WINE GRAPE GROWERS IN PENNSYLVANIA and the Mid-Atlantic Region

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http://pawinegrape.com/

The answer to just about any viticulture question you may have lies within these resources. If you read even a small portion of these educational materials you will know as much or more than I did studying in graduate viticulture program at UC Davis. The more you learn the better a grape grower you will be and the greater will be the quality and price of your grapes and the health, productivity, profitability, and sustainability of your vineyard. Knowledge begets fine wines!

Recommended for new wine grape growers

Books

Mark’s top book recommendations:

1. Wine Production Guide for Eastern North America (Wolf)
2. Wine Science: Principles and Applications (Jackson)
3. Sunlight into Wine (Smart and Robinson)
4. The Science of Grapevines (Keller)
5. Wine, Terroir and Climate Change (Gladstones)
6. The Making of a Great Wine: Gaja and Sori San Lorenzo (Steinberg)

Practical/Regional Guides

1. Wine Production Guide for Eastern North America. (2008) Edited by Tony Wolf. Published by NRAES. This text is the replacement for the Mid-Atlantic Grape Grower’s Guide and covers essential viticulture topics in an Eastern context by 16 outstanding research and extension contributors. It is essential reading for anyone who plans to start or already has a commercial wine vineyard. Ordering information at www.nraes.org/
2. A Practical Guide to Commercial Wine Grape Vineyard Development by Mark Chien with contributions from growers and researchers. An A to Z guide to starting a high quality wine vineyard from the idea to the first vines in the ground. It is intended to complement the Wine Grape Production Guide for Eastern N. America. Available as a pre-publication resource (PDF) on the PA Wine Grape Network website (Feb, 2013).
3. Midwest Grape Production Guide (Bulletin 919). (2005) Written by research and extension faculty at Ohio State University, this is a comprehensive and easy to understand guide to developing and maintaining a commercial wine vineyard. Most of the content is applicable to sites in Pennsylvania. An excellent regional resource. To order a copy, call OSU Ext Media Distribution at 614-292-1607. It is also available on-line.
4. New York Guide to Sustainable Viticulture Practices: Grower Self-Assessment Workbook. 2007. Alice Wise, Tim Martinson, et.al. In its essence this is a viticulture best practices guide that serves the needs of growers at all experience levels. It covers most aspects of a commercial vineyard. Whether or not you use the score sheet, it contains essential information that is pertinent to wine growing in the Eastern U.S. Order a copy at https://www.nysaes.cornell.edu/store/catalog/ or download a .pdf copy at www.vinebalance.com/.
the pioneers of the Eastern wine industry. This is an excellent introduction to Eastern grape growing by one of its most influential practitioners.


8. Grapes. By Glen L. Creasy and Leroy L. Creasy. 2009. #16 in the Crop Production Science in Horticulture series by CABI. This may be the most comprehensive and readable general viticulture guide on the market right now. It covers all aspects of the vine and viticulture.

9. Vineyard Establishment I & II (1997). By Thomas Zabadal and Jeffrey Andersen. $3 each. These Michigan guide books are very useful helpful with their perspective on establishing grapes in a cold climate region. They cover variety and rootstock selection, vineyard design and management. For copies please refer to Extension Bulletins E-2642 and E-2643. Write to MSU Bulletin Office, 117 Central Services, Michigan State University, East Lansing, MI 48824-1001. Phone: 517-353-6740 or Fax to 517 353-7168


General Viticulture


13. Sunlight Into Wine. By Richard Smart. This is THE source of information on canopy management. It is for more advanced growers but is an essential document for anyone interested in growing good wine. Richard Smart is a disciple of Nelson Shaulis, one of the great viticulturists of our time. This book will explain the principles of canopy management to you. Read it very carefully. Out of print but still available through various sources.


15. Viticulture, Volumes 1 and 2. by B.G. Coombe and P.R. Dry (Winetitles, 1992. Note: updated versions are now available) is an excellent source of intermediate to advanced information about grape growing for an Australian perspective. Vol. 1 just recently updated and revised. Order from Wine Titles.


Centre for Viticulture in Australia, this is a comprehensive guide to understanding the components of high quality wine grapes. Contents include physiology, quality parameters, managing the vineyard, harvest conditions and much more. A superb guide from down under. Very hands on, very explanatory.

19. *Northern Wineworks – Growing Grapes and Making Wine in Cold Climates, 2nd Edition.* By Tom Plocher and Bob Parke. 2008. This is a basic but very good text covering many of the challenges to cold (I mean really cold) climate viticulture, including site selection, varieties, vine protection, retraining and lots more. It has an excellent reference section with many world-wide contacts and information resources.

**Sustainable Viticulture Workbooks**


3. *View From the Vineyard: A Practical Guide to Sustainable Winegrape Growing.* By Clifford P. Ohmart. 2011. Cliff developed the Lodi sustainable program and probably has more experience in this area than anyone in the U.S. This is a very practical and useful guide. I highly recommend it for new and experienced wine growers alike.

4. *Organic Winegrowing Manual.* G.T. McGourty, et al. UCANR Publication no. 3511. 2011. Glenn McGourty is the UC farm advisor in Mendocino County and one of the foremost authorities on organic wine grape production. This is a production guide and it’s an excellent complement to the local resources. [http://anrcatalog.ucdavis.edu/Items/3511.aspx](http://anrcatalog.ucdavis.edu/Items/3511.aspx)


**Disease and Pest Management**

20. *2012 New York and Pennsylvania Pest Management Recommendations for Grapes.* T.H. Weigle, Andy Muza et al. Written and published by Cornell Univ and Penn State. This is the bible of disease and pest management best practices (IPM) for this region and is updated every spring. Also contains information on weed control, sprayer calibration and more. On-line and ordering information for hard copies at [http://ipmguidelines.org/grapes/](http://ipmguidelines.org/grapes/)

21. *A Pocket Guide for Grape IPM in the North Central and Eastern U.S.* Updated in 2011. Edited by Rufus Isaacs, et.al. Michigan State Univ Extension Bulletin E-2889. This is the perfect compliment to the NY/PA guide with excellent scouting photos and brief descriptions of diseases, pests, physiological and chemical disorders of grapes. It’s small enough to fit in your pocket and is meant to accompany you in the field. Also available in Spanish! [http://web2.msue.msu.edu/bulletins2/site/search.cfm](http://web2.msue.msu.edu/bulletins2/site/search.cfm)

22. *2012 VineSmith Pest Management Toolkit.* Updated each year by Jeanette Smith at VineSmith this is a comprehensive pesticide product overview of fungicides, insecticides and herbicides. It should be on the walls of every commercial grape grower. [http://www.vinesmith.com/toolkit.html](http://www.vinesmith.com/toolkit.html)


Note: Disease and pest management guides are published annually by Virginia Tech, Rutgers, University of Maryland, Ohio State University, University of Missouri, Iowa State University and others. Check with cooperative extension in your region for how to acquire them.

Vineyard Soils, Floor Management and Climate

26. Wine, Terroir and Climate Change. John Gladstones. Wakefield Press. 2011. This is probably the definitive guide on the effects of environment on viticulture, in particular temperature. It also covers soils, nutrition, vine balance and other essentials. It connects the conditions around the vine to how a vine works. It is essential reading for the advanced wine grower.


30. Terroir: The Role of Geology, Climate and Culture in the Making of French Wines. By James Wilson. Univ. of Berkeley Press. 1998. This is a geologist’s viticultural perspective on growing great wines in France. It’s scientific but fascinating. For serious wine growers only. Get this through the Wine Appreciation Guild.


Vine Biology


33. Biology of the Grapevine by Michael Mullins, Alain Bouquet and Larry Williams will provide you with an understanding of the physiology of the grapevine. If you want to learn how vines work, this will tell you in language you can understand. Cambridge University Press, 1996.

Table Grapes

34. Table Grape Varieties for Michigan (E-2642, 1997) and Growing Table Grapes in a Temperate Climate (E-2774, 2002). By Thomas Zabadal. Michigan State University. These two excellent handbooks offer the best information for growing table grapes in our region. Call the MSU bulletin office at 517-355-0240 to order.

Other Recommended Viticulture Books (coffee table-like books with some interesting technical viticulture information).


36. Oxford Companion to Wine. Edited by Jancis Robinson. Oxford University Press USA. 3nd edition (2006). This is THE definitive book on grapes and wine with thousands of references by respected members of the wine and academic communities. If you read this you will pretty much know everything there is to know about wine except what it tastes like. A great reference resource by one of the world’s great wine writers.

covers topics such as the biology of vines, terroir, precision vit, GM vines, biodynamics and more along with enology topics such as microx and spinning cones. It is an excellent source of information on contemporary wine issues from the vineyard to winery.

38. *The Vines of San Lorenzo: The making of a great wine in the new tradition*. By Edward Steinberg. Slow Food Editore, 2006 (new edition). A wonderfully descriptive and personal yet technically informative account of a year of growing wine at the great Sori San Lorenzo vineyard of Angelo Gaja in Piedmont. I would consider this a must read for anyone who wants to make fine wine. If you can, visit the vineyard and winery.


40. *The Complete Bordeaux: the wines, the chateaux, the people*. By Stephen Brook. 2007. One of the definitive guides about Bordeaux it has very useful viticulture and wine making information. A must read for anyone intending to grow Bordeaux varieties.

41. *Matt Kramer's New California Wine*. By Matt Kramer. Running Press. 2004. The section titled “Thinking California” is a general but wonderfully descriptive history of the evolution of wine quality in the Golden State. It contains some very helpful and interesting viticulture information. Mid-Atlantic conditions are very different from arid California but great viticulture relies on the same basic principles no matter where it is practiced.

42. *Parker's Wine Buyer's Guide No 7*. By Robert M. Parker, Jr. Simon and Schuster. 2008. Tasting benchmark wines is necessary to create quality reference points for your own grape and wine production. Parker is not a viticulturist yet he understands the connection between terroir and wine quality. The viticulture and wine making descriptions in the book are general but interesting. It is most useful for sourcing high quality wines of the same variety you are making for comparative purposes. You may not agree with Parker's palate, but it still the most influential one in the world.

43. *The Great Domaines of Burgundy*, 3rd Edition. By Remington Norman. It looks like another coffee table wine book but it is chock full of useful information extracted directly from many of the best wine growers in Burgundy. The level of viticultural detail is surprising for a general guidebook. It is well worth reading for information and inspiration.


45. *American Wine Society Booklets* on various vineyard and wine topics including: pruning, grapegrowing, still wines, wine blending, wine acidity and others. Your local AWS chapter is also a good information resource.

Wine: here are a few resources that might be helpful to the aspiring enologist/wine maker:


2. *Wine Analysis and Production*. By Bruce Zoecklein. (1995). An older technical textbook that is still considered one of the definitive practical guides to wine production by the research enologist at Virginia Tech.

3. *Winery Planning and Design*. Bruce Zoecklein has taken his well known workshop and put the contents on a CD. Available from his web site and also Practical Winery and Vineyard magazine's bookshelf.

4. *Winemaking Problems Solved*. Edited by Christian Butzke, Purdue University. 2010. This is a big and expensive book but it has a great list of contributors from industry and academia and is oriented towards practical winemaking questions and answers.


Many of these books and other grape and wine resources are available at www.amazon.com/ and www.barnesandnoble.com/. The University of California Press and the Mitchell Beazley Wine Library are among my favorite publishers of books about viticulture and wine making. Visit their web sites for full publication listings.

Other book outlets include:

1. The Wine Appreciation Guild in South San Francisco has an extensive collection of wine and grape publications as well as other wine related items. Look for them at http://www.wineappreciation.com/. Telephone: 800 231-9463
4. The UC Davis bookstore has one of the best collections of viticulture and enology books and textbooks I have ever seen. Only part of the collection is available on their webs site - http://bookstore.ucdavis.edu/. If you can visit the book store, plan to spend a lot of money.
5. Also http://www.winehardware.com/ has books and other wine accessories for sale.

Libraries

The American Society for Viticulture and Enology Eastern Section maintains a collection of viticulture and enology books at the Frank A. Lee Library at the New York State Agricultural Experiment Station in Geneva, NY. This is part of the largest collection of titles on viticulture and enology in the East including rare and historic texts. These books are available on an inter-library loan basis through your local library or any academic library and can be very helpful to growers in the region. You can search titles on their web site at http://www.nysaes.cornell.edu/library/. It would be helpful to have the author and title to facilitate your search. Or call the library at 315.787.2214 for assistance.

The Wine Grape Program at Penn State has developed a small but useful collection of books, journals and magazines which commercial wine growers can borrow for three week periods. Please contact Mark Chien at mlc12@psu.edu for lending information and a book list.

The Penn State library system has a surprisingly deep collection of viticulture texts, some date as far back as the1600s. You can search on-line at http://www.libraries.psu.edu/psul/home.html.

The Healdsburg branch of the Sonoma County Library System has a large collection of wine books that can be tapped through your library’s interlibrary loan system. http://www.sonomalibrary.org/wine/index.html

Information on the Internet

Viticulture

8. Grape Pages from Cornell University- http://www.nysaes.cornell.edu/hort/faculty/pool/GrapePagesIndex.html. Dr. Robert Pool is one
of the most renowned viticulturists in the East. This site has an excellent page on site selection and other viticulture topics


10. Texas A&M - http://winegrapes.tamu.edu/. Another site excellent site developed by Dr. Ed Hellman, it contains lots of good information and links to other important sites.

11. UC Davis Integrated Viticulture - http://ucanr.org/sites/intvit/. This is the website of the best known viticulture school in America. It has loads of good information.

12. “E” xtension Grape Community of Practice viticulture web site is an interactive learning tool offering Ask the Expert, FAQs, viticulture fact sheets and much more. All of the materials are created and reviewed by viticulture extension educators. http://www.extension.org/grapes

Site Selection Information


Wine Grape Variety Information


4. Cold Climate Cultivars for Iowa State University is a comprehensive survey of cold hardy varieties by Lisa Smiley, Paul Domoto and Gail Nonnecke. http://viticulture.hort.iastate.edu/cultivars/cultivars.html


Wine

1. Penn State Enology. Information from Denise Gardner and the Department of Food Science at Penn State. http://extension.psu.edu/enology


GOOGLE viticulture, enology, wine or other key words to link to infinite web sites.

Newsletters: there are eight essential viticulture newsletters for growers in the Eastern U.S highlighted below. They contain valuable time and topic sensitive materials according to each growing season’s conditions. Please subscribe:

1. Viticulture Notes by Tony Wolf is directed at the Virginia wine industry but has plenty of useful information for PA growers. Available by e-mail or on-line at http://www.ext.vt.edu/cgi-bin/WebObjects/Docs.woa/wa/getnews?cat=tt-news-viti

2. Finger Lakes Vineyard Notes by Hans Walter-Peterson is full of great information from New York covering production, management and viticulture. Call Linda Baube at 315 536-5134.

3. Long Island Fruit and Vegetable Update by Alice Wise comes out weekly during the growing season, monthly otherwise, is from Long Island and focuses on growing vinifera wine grapes. Call 631 727-7850.
4. **Timely Viticulture** from Joe Fiola at the University of Maryland. Contact him to sign up for it at jfiola@umd.edu.

5. **Lake Erie Vineyard Notes** by the Lake Erie Regional Grape Program focuses on native, process grapes and production but valuable information for all grape growers. Contact Linda Aures to sign up at (716) 672-5296.

6. **Wine Grape Information from Penn State** contains viticulture information, regional news and events from the wine grape program at Penn State Cooperative Extension and is delivered on an erratic schedule. Contact Mark L. Chien at mlc12@psu.edu.


8. **Ohio State Grape Electronic Newsletter (OGEN)** from Imed Dami. dami.1@osu.edu

Newsletters by snail mail only:


Wine

1. Cornell Vinification and Brewing Technology Laboratory – contact Ben Gavitt at 315-787-2263
2. Enology and Grape Group at Virginia Tech – contact Bruce Zoecklein at bzoekleck@vt.edu

Vineyard and Winery Economics Information


4. Vineyard development calculators for red and white wine from UC Davis Ag and Resource Development: http://coststudies.ucdavis.edu/current.php. This includes detailed cost studies including labor and time quantities as well as cost analysis for organic vineyards in different wine regions in California. The North Coast studies would be closest to Eastern US situation.


6. **Vineyard Economics.** Motto, Kryla, and Fisher, LLP. 2000. The Wine Business Center, St. Helena, CA. This MKF research report is a VERY in depth guide to developing a vineyard using a California site under various scenarios. Its an excellent resource for serious vineyard development. Call 707.963.9222 for information or visit http://www.mkf.com/


8. **New York State Winery Handbook – A Single Source Information Source for New York Winery Managers and Owners.** $100. Contact the NY Wine and Grape Foundation at 315.536.7442.

Additional Pest Management Guides (see listings under Books)

4. Ohio, New Jersey, Maryland, Ontario and other states have their own local pest management guides. Contact your extension agent.

Magazines (highlighted are essential reading for Eastern growers)

1. Practical Winery and Vineyard is the best industry magazine for useful information that you can take into your vineyard. It has a west coast bias but you will still learn a lot from its knowledgeable writers. Call 415 479-5819
2. Wine Business Monthly focuses on the business of the wine and vineyard industries, but also contains lots of practical information for grape growers. They also provide a daily e-mail update. 925 372-6002.
3. Vineyard and Winery Management covers grape growing and wine making stories from a mostly eastern slant. Lots of information about meetings and trade shows as well as regional vendors. Call 1 800 535-5670
4. Wine East section of Wines & Vines. In 2008 Wine East merged with Wines & Vines. It is still an important source of information for the wine industry east of the Rockies. Hudson Cattell and Linda Jones are still the editors. Subscribe through Wines & Vines.
5. Australian Viticulture: Practical Vineyard Management. Published by Winetitles. Along with PWV, the best practical guide in winemaking.

Consultants and Vineyard Development Services

Vineyards

1. PA: Brian Dickerson is manager of Mica Ridge Vineyard in Chester County, combines his experience with vineyard management and real estate to help people find high quality vineyard sites. He can also assist with vineyard planning and development. brian@pennsland.com. (610) 656-7087
2. VA: Lucie Morton - is a known around the world for her work on rootstocks, grapevine ampelography and vine decline pathogens. She has a broad range of very practical viticulture knowledge.
4. Ontario: Kevin Ker at Ker Crop Management Services provides a full range of viticultural services. They have 25 years of experience working in orchards and vineyard in Ontario. 905 945-8228. http://www.kcms.ca/default.asp
5. VA: Chris Hill has been a vineyard consultant in Virginia for over 20 years. His methods seek to match the best viticulture to a particular site. (434) 296-2604 or cohill@cstone.net.
6. MD: Maryland Vineyard Management Co. is owned by Don McClure and offers a range of consulting and vineyard development services, and they will work in other states. www.marylandvineyardmanagement.com/
7. MD: Schmidt Vineyard Management works mostly in the eastern Maryland region. Contact Jennie Schmidt at jennie@schmidtvineyardmgt.com.
8. NY (Long Island): Mudd Vineyard Ltd. Steve Mudd has vast experience planting vinifera vineyards on Long Island. His company does superb work in vineyard development and management. 631-765-1248.
9. NJ: VineTech Vineyard Management Services. Custom design, establishment and management of vineyards. Contact Dustin Tarpine at 856-466-0871 or dmtarpine@gmail.com.
California consultants: pricey but tops in their field:


Soil Consultants


Winemaking Consultants

3. Richard Carey – has experience in both research and commercial wine making. He has a small pilot winery at his home in Lancaster. 63 Peach Lane, Lancaster, PA 17601. 717 560-8737. rcarey@vitisresearch.com/
4. Jean-Pierre Colas. Ontario. [jean.colas@sympatico.ca](mailto:jean.colas@sympatico.ca). (905) 325-5326. Jean Pierre has outstanding experience growing grapes and making wine in cool/cold climate environment.

Soil and Tissue Testing Labs

1. Penn State - [http://www.aasl.psu.edu/plant_tissue_prog.html](http://www.aasl.psu.edu/plant_tissue_prog.html). Obtain soil and tissue testing kits from your county extension office.
3. Rutgers University Plant Diagnostic Lab will test for plant, soil, nematodes and water. [http://njaes.rutgers.edu/services/](http://njaes.rutgers.edu/services/)

Analysis for Nematodes, Virus, Disease, etc.

1. Rutgers University Plant Diagnostic Lab will test for plant, soil, nematodes and water. [http://njaes.rutgers.edu/services/](http://njaes.rutgers.edu/services/)

Contact your extension agent about local analysis services and identification of vine problems.

Vendors

3. BDI Equipment in Macungie, PA has large vineyard equipment including sprayers, grape hoes, hedges, mowers and more. Contact Bill Reiss. 800 808 0454. Catalog at http://www.bdimachinery.net/resources/BDICatalogVineyard2010.pdf
4. Finger Lakes Harvester and Vineyard Equipment in Dundee, NY sells many vineyard implements such as hedges, sprayers, grape hoes, etc. Call Harry Humphreys at 607-243-5262.
6. Finger Lakes Trellis Supply in Marion, NY sells a complete line of vineyard equipment and supplies. For information go to http://www.fingerlakestrellissupply.com/
7. Gempler's. This farm and industry supply catalog is a MUST for every farm. Don't just look at their website, you must have the full catalog to view the full range of their products. It is an awesome resource for vineyard supplies from WPS posters to raingear and spray equipment. Order a catalog through their website at www.gemplers.com/

Chemical Products Sales and Services serving Pennsylvania Vineyards

1. Helena Chemical Co. Ron Serfass. 215.416.4896
2. Chester County Crop Care. Ralph Cheeks. 610.345.9001

Vineyard and Winery Services

2. Chris Hill in Virginia also develops new vineyards. See consultants.

Wine Production and Analysis

1. Vitis Wine Center Wine Services. Richard Carey. A full range of production and analysis services based in Lancaster, PA. (717) 560-1650
5. Enological Testing Service (ETS) http://www.etslabs.com/

Sustainable and Organic Viticulture Information Resources

3. Disease Management Guidelines for Organic Grape Production in the Lake Erie Region. Dr. Jim Travis, et. al. Dept of Plant Pathology. Penn State University. 2007. Please contact the author at jwt2@psu.edu for a copy.

Grape Variety, Clone and Rootstock Information

3. Wine Grape Varieties of California. By L.P. Christensen, et. al. Univ of CA Agriculture and Natural Resources. Publication 3419. Very good description of grape varieties suitable for California vineyards but lots of information is pertinent to eastern vineyards. Call communication services at 510.642.2431 to order
6. The National Grape Registry at UC Davis - A very comprehensive list of wine grape varieties. http://www.ngr.ucdavis.edu/
9. Rootstocks for Grape-vines. By D.P. Pongracz

Commercial Grapevine Nurseries

6. Many other nurseries, mostly in California (Sunridge, Duarte, Vintage, NovaVine California Grapevine and others), sell to growers in Pennsylvania. Check out their websites. They have valuable information on wine grape varieties, clones and rootstocks.
7. Certified vine materials: Certified and rare vine materials can be obtained from the Foundation Plant Service (FPS) at UC Davis - http://fpms.ucdavis.edu/ and at the North West Grape Foundation Plant Service in Washington State at http://nwgfs.wsu.edu/.

Grape Materials Consultant: Plant materials are one of the most important parts of your vineyard and should be of the correct variety, rootstock and clone. Do not compromise! In order to insure the quality and quantity of your order from a California nursery you may wish to engage a vine consultant. Dr. James Stamp provides this valuable service. You can contact him at james@jamesstamp.net or 707-829-8405. His web site has excellent information at http://www.jamesstamp.net/home.html

Wine and Grape Organizations

1. The Pennsylvania Winery Association (PWA) includes most of the wineries in the state. They are very active in all issues concerning grapes and wine in the state. Call Jennifer Engle for

2. The Pennsylvania Wine Marketing and Research Program is the marketing order the Pennsylvania wine industry. It uses a $0.15/gal fee on all wines produced in PA to support research, education and marketing programs that benefit the wine industry. The program is administered by PDA. Karl Zimmerman from Shade Mountain Vineyard is the current PWMRP chairman.

Penn State and other regional Cooperative Extensions (for commercial grape inquiries only)

1. Mark Chien is the statewide viticulture extension educator in Pennsylvania. He can be reached at (717) 394-6851 or mlc12@psu.edu.
2. Andy Muza handles grapes and horticultural crops in Erie County. (814) 825-0900
3. Lee Young is the county extension director in Washington County and has been coordinating grower and winemaker activities in SW PA. (724) 228-6881.
4. Denise Gardner is the extension enologist based in the food science building at University Park. She provides extension education materials and services to commercial wineries. She can be contacted at dxg241@psu.edu or 814.867.0431.
5. Regional grape extension agents include:
   a. Dr. Tim Martinson – Cornell Cooperative Extension, NYSAES. Geneva, NY. Tim is the state-wide coordinator for viticulture in New York and has access to the incredible research and extension resources at Cornell beyond the list presented here.
   c. Mr. Hans Walter-Peterson – Cornell Cooperative Extension, Finger Lakes Grape Program, Penn Yan, NY. Covers the Finger Lakes.
   e. Dr. Tony Wolf – Virginia Tech, Alson Smith Research Center, Winchester, VA, and Tremain Hatch – extension assistant to Tony Wolf.
   f. Dr. Joe Fiola – U Md Cooperative Extension, W Md Research and Extension Center, Keedysville, MD
   g. Dr. Gary Pavlis, Rutgers Cooperative Extension, Atlantic County. NJ.
   h. Dr. Imed Dami – Ohio State Univ, OH Ag Research and Development Center, Wooster, OH
   i. Dr. Sonia Scholemann – University of Massachusetts, Amherst, MA. Covers southeast New England
   j. Dr. William Nail – CT Agricultural Experiment Station. New Haven, CT.
   k. Dr. Lorraine Burkett – University of Vermont, Burlington, VT. Covers northern New England and Vermont in particular.
   l. Dr. Sara Spayd, NC State Cooperative Extension. Sara_Spayd@ncsu.edu. (919) 513-0772

Non-commercial/backyard grape growers

Backyard growers can direct their questions to the Master Gardener program at your local county extension office. Look in the blue pages of your phone book in the agriculture listings under your county offices. A Backyard Grape Grower bulletin is available at your county extension office. An excellent instructional guide is The Backyard Vintner by Jim Law (listed under books), one of the best wine growers in the East. The American Wine Society has a number of publications written for the amateur wine grower which you can find at http://www.americanwinesociety.org/web/books_manuals.htm

Neighbor Relations: With many vineyards at the urban-agricultural interface, this is becoming and increasingly difficult topic for farmers, which needs to be handled with great care and concern. A great source of information can be found at the California Association of Wine Growers web site: http://www.cawg.org/relations/.
Education:

The busiest meeting-workshop-seminar months are between January and May. Virtually every wine area has local meetings, from Ontario to North Carolina, New Jersey to Iowa. Large regional meetings like Wineries Unlimited cover the needs of almost all wine growers and include a large trade show. These meetings are a great place to learn the latest in viticulture and enology technology and ideas, recent research, network and meet with fellow wine growers. Check the annual viticulture and enology regional events calendar put out by Penn State Cooperative Extension.

Important regional meetings:

4. Pennsylvania Winery Association Annual Meeting
5. Maryland Grape Growers Association and Maryland Winery Association Annual Meeting.

Cornell University has recently established a viticulture and enology four year undergraduate degree program in the Department of Horticulture to compliment their graduate degree programs. This is a great opportunity for students from our region to prepare for a career in research or industry. There are also vit/enol graduate study opportunities at Cornell. You can find information about the program at http://grapesandwine.cals.cornell.edu/.

Vocational/Practical Viticulture and Enology Training. These vary greatly in experience and quality so be sure to research each one very carefully and pick the right one for your specific needs.

East and Midwest:

1. Harrisburg Area Community College is offers a 1-year certificate and 2-year associate's degree programs in viticulture and/or enology. It is a blended/on-line curriculum with grape and wine “camps.” Please contact Bob Green at 814-860-1452 or ragreen@hacc.edu for more information. Visit these websites for courses and information: Viticulture: http://www.hacc.edu/AcademicDepartments/HospitalityandTourism/Viticulture.cfm Enology: http://www.hacc.edu/AcademicDepartments/HospitalityandTourism/Enology.cfm
4. Viticulture and Enology Science and Technology Alliance (VESTA) started in the Midwest but has grown to a national network (land and online) of viticulture and enology programs. It currently offers 25 courses for certificate and applied science degree programs. For more information go to http://www.vesta-usa.org

West:

2. California State University at Fresno, Department of Viticulture and Enology, Fresno, California, offers an excellent practical training curriculum in viticulture and enology. [http://cast.csufresno.edu/ve/]
3. Napa Valley College, Napa, California. Certificate and associate degrees are offered through its viticulture and winery technology program. Dr. Stephen Krebs is the director. [http://www.napavalley.edu/Academics/TechnicalDivision/VWT/Pages/default.aspx]
4. Santa Rosa Junior College, Santa Rosa, California. A veteran JC program in viticulture and enology. [http://www.santarosa.edu/]

The following are four-year or graduate education and research programs for more in-depth viticulture and enology studies:

7. Virginia Polytechnic University Department of Horticulture, Blacksburg, Virginia. Graduate programs in viticulture and enology with Dr. Bruce Zoecklein and Dr. Tony Wolf.
8. Cornell University (see above)
10. University of California at Davis, Department of Viticulture and Enology, Davis, California. Undergraduate, graduate curriculum, short courses and some on-line distance learning offerings in viticulture and enology. [http://wineserver.ucdavis.edu/]
11. California State Polytechnic University (CalPoly) has developed a fine reputation for its viticulture and enology program. It trains some of California’s best professionals. [http://www.calpolywine.com/]
13. Oregon State University, Department of Horticulture, Corvallis, Oregon. OSU has recently begun an enology and viticulture four year curriculum.

Distance and on-line learning opportunities:

1. Washington State University is now offering a comprehensive on-line viticulture curriculum. It spans 18 months and include grape camps in Washington as the hands-on component. It is very limited enrollment and difficult to access. You can find more information about the program at [http://www.wineducation.wsu.edu/].
2. The University of California at Davis offers limited courses on enology and viticulture on-line. They are not part of a unified curriculum. More information is available at [http://universityextension.ucdavis.edu/winemakingcert/].
3. Texas A&M Cooperative Extension has just developed a two-year certificate viticulture course that is on-line with grape camps. For information go to [http://winegrapes.tamu.edu/certificate.shtml]
4. Charles Sturt University in Wagga Wagga, Australia offers international distance on-line viticulture and enology certificate and degree programs. Students must have access to a vineyard and winery. Information is available at [http://www.csu.edu.au/faculty/science/saws/]

Note: These listings do not represent a Penn State endorsement of any products, services or businesses. They are simply meant as a useful guide for the reader. There are many additional resources around the region and country. You should always shop around for the best product, service, price and quality whether it is a book or a tractor.

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