



New York Wine & Grape Foundation

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Selected Resources for Sustainable Viticulture

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General production guides:

[Wine Grape Production Guide for Eastern North America](#): This production guide, edited by Virginia Tech professor Dr. Tony Wolf, has detailed information about all aspects of wine grape production, including in-depth appendices about fertilizer guidelines, irrigation, and pest management practices. PDF version (336 pages, 143.0 MB) is available free of charge at: <https://ecommons.cornell.edu/handle/1813/67189>

[2022 Organic Production and IPM Guide for Grapes](#): This guide includes information about site and variety selection, insect, disease, nutrient management and sprayer technology for those who wish to grow grapes organically. Download at: <https://ecommons.cornell.edu/bitstream/handle/1813/42888.3/2022-org-grapes-NYSIPM.pdf?sequence=7&isAllowed=y>

Section 1 Input Reduction:

Vineyard Mapping:

Google Earth Pro. Free. Useful for making an overall map of your property. Includes tools to define boundaries of vineyard blocks, and measure distances and acreages over aerial photos. Can also import soils information into Google Earth Pro (see below)

Download at: <https://www.google.com/earth/versions/>

SoilWeb Apps. Online soil data is available from the UC Davis California Soil Resource Lab. A desktop version of Soil Web is available, and “Soil Web Earth” is a plugin that can be opened and used within Google Earth Pro.

Download at: <https://casoilresource.lawr.ucdavis.edu/soilweb-apps/>

Soil Web for Android Cell Phones: A free soil Web App for android cell phones can be downloaded from the “Google Play” store. It uses a phone’s location to provide information about soils literally ‘under your feet’.

My Efficient Vineyard. Free program from CLEREL also allows growers to input vineyard blocks and add a great variety of spatial information to the map. Free accounts available, sign up online:

<https://www.efficientvineyard.com/> and <https://my.efficientvineyard.com/login>

Recording of November 19 training session with Dr. Terry Bates and Nick Gunnar covering setting up account, building farm blocks and adding farm level information, importing and visualizing spatial data, collecting and visualizing your own observations with a smartphone “Data Collector” and data processing with an ‘interpolator plug in”. <https://www.efficientvineyard.com/blog/myev-training-session-part-1>

Pesticide Record Keeping:

Trac Grape: Excel-based software produced by the NYS IPM Program that tracks pesticide applications and generates forms for the DEC and several grape processors that purchase grapes from New York. \$40 fee. Involves some setup, but once set up uses drop down lists to fill in material name, active ingredient, EPA registration number, rate, REI, acreage, amount applied, etc, and generates reports.

<https://nysipm.cornell.edu/agricultural-ipm/fruits/trac-software/about-trac-software/about-tracgrape/>

DEC Pesticide Reporting Forms: Certified commercial applicators are required to file an annual report with the NY DEC. General information is at: <https://www.dec.ny.gov/chemical/96888.html> . A pdf reporting form that any grower can use to record pesticide applications is at: https://www.dec.ny.gov/docs/materials_minerals_pdf/form27.pdf

Long Island Sustainable Winegrowing list of EPA reduced risk, biopesticides, and organic fungicides and insecticides:

Fungicides:

<https://static1.squarespace.com/static/5485c612e4b0c710260edb1c/t/5c76eb5b41920288f3450cf0/1551297371500/LISW+Disease+Control+Program+2019.pdf>

Insecticides:

<https://static1.squarespace.com/static/5485c612e4b0c710260edb1c/t/5c76eb6e0852298da2155b0c/1551297390674/LISW+Insect+Control+Program+2019.pdf>

Spray Technology:

[Effective Vineyard Spraying \(2nd Edition\)](https://effectivespraying.com/): Dr. Andrew Landers' book applies engineering science to the practical aspects of sprayer technology, improving spray deposition, and reducing off-target drift. Available at \$60 + shipping and handling at: <https://effectivespraying.com/>

Nutrition:

Chapter 8: Nutrient Management in [Wine Grape Production Guide for Eastern North America](#): This chapter by Terry Bates (Cornell) and Tony Wolf (Virginia Tech) provides a comprehensive look at nutrients, fertilizers, lime requirements for adjusting soil pH, deficiency symptoms, and the role of tissue and soil testing in determining nutrient needs in grape production.

[Optimizing nitrogen use in vineyards](#): This 'Sustainable Viticulture in the Northeast' newsletter article by J. Hawk and T. Martinson describes best management practices for nitrogen fertilization in Northeastern vineyards.

Variety Selection and Vine Certification:

[Wine and Juice Grape Varieties for Cool Climates](#). This 1993 Cornell Cooperative Extension bulletin, written by Dr. Robert Pool and coauthors, covers common V. vinifera, V. labrusca, and hybrid wine and juice grape varieties available at the time.

[University of Minnesota Cold Hardy Grapes](#). This web resource describes cold-hardy varieties developed at the University of Minnesota.

[Recent releases and numbered selections from the Cornell Geneva Grape Breeding Program](#). 2013. Description of releases coming out of Dr. Bruce Reisch's Cornell breeding program.

[Grapevines from New York Nurseries Meet New York Certification Standards](#). Margaret Kelly, 2022. After a hiatus of 40 years, the New York Department of Agriculture and Markets has revived its Grapevine Certification Program. New York certified, virus-tested vines are now available from three New York nurseries.

Vineyard Floor Management:

[Alternate Weed Management in New York Vineyards](#). 2007. Sustainable Viticulture in the Northeast Newsletter #3.

[Adopting Under-vine Cover Crops in Vinifera Vineyards](#). 2017. J. Vanden Heuvel. Appellation Cornell, Research Focus 2017-1.

[Overview of Vineyard Floor Management](#). 2019. P. Skinkis, Oregon State Univ. Article at grapes.extension.org web site.

Irrigation

Chapter 9: Grapevine Water Relations and Irrigation in [Wine Grape Production Guide for Eastern North America](#). 2007. Overview of grapevine water relations, and design, operation, and scheduling of irrigation systems.

Plant Protection and IPM

[New York and Pennsylvania Grape IPM Guidelines](#). 2022. A. Muza, editor. Available in electronic and printed format. Fee based.

[Annual Grape Disease Control Update, 2022](#). Dr. Katie Gold, Cornell University. Overview of disease biology, control, and treatment alternatives. PDF 27 pp.

[Digging into the Data: Biopesticides for Grape Disease Control](#). Grape pathologist Dr. Katie Gold summarizes nine years of biopesticide disease management trials at Cornell AgriTech.

[Grape Insect and Mite Pests, 2021 Field Season](#). Grape Entomologist Dr. Greg Loeb provides an overview of insect and mite management.

Section 2: Soil Health

Section 3: Water Protection

[Soil and Water Conservation Practice for Vineyards](#). 2006. Sustainable Viticulture in the Northeast, T. Martinson. Covers best management practices for soil and water protection, including diversion ditches, headlands and buffer strips, tiling, cover crops and straw mulch.

[Cornell Soil Health Program](#). Provides research, outreach, and lab services to protect and improve soil health. Soil health testing encompasses biological, physical, and chemical properties of the soil. Soil health assessment is optimized for annual row crops, but also under investigation for perennial cropping systems such as tree fruit and grapes.

Conservation Planning. Soil and Water Conservation districts provide erosion and water management services for agriculture. They can develop comprehensive plans for your vineyard. Coverage is county-based, and services can vary. But they can provide technical support in designing water management structures (diversions, erosion control structures) and pesticide handling, mixing-loading facilities. [Cost-sharing for conservation and erosion management practices and pesticide handling facilities may be available.](#) A listing of county offices in NY is found at: <https://agriculture.ny.gov/soil-and-water/soil-water-conservation-district-offices>

Section 4 Energy Conservation

[Energy Best Practices for Agriculture](#). New York State Energy Research and Development Agency.

Section 5 Natural Resource Conservation and Waste Streams

Agrichemical Handling and Storage System. P14-17 in [Agricultural Best Management Practice Systems Catalogue](#), NYS Soil and Water Conservation Committee. 2021.

[Clean Sweep NY](#). CleanSweep NY is an opportunity to dispose of unwanted and/or obsolete pesticides and other chemicals. Collection dates scheduled in various parts of NY. Search 'clean Sweep' along with your county's name.

Section 6: Ecosystem Health:

[Biodiversity and Species Conservation](#). New York Department of Conservation site with links to various initiatives and agriculture.

[Farming for Pollinators](#). Brochure put out by the Xerces society, an insect conservation group.

Section 7: Climate Resiliency

[**New York Climate Leadership and Community Protection Act**](#). On July 18, 2019, the Climate Leadership and Community Protection Act (Climate Act) was signed into law. New York State's Climate Act is among the most ambitious climate laws in the world and requires New York to reduce economy-wide greenhouse gas emissions 40 percent by 2030 and no less than 85 percent by 2050 from 1990 levels. The law creates a Climate Action Council charged with developing a scoping plan of recommendations to meet these targets and place New York on a path toward carbon neutrality.

[**Sources and Sinks of Major Greenhouse Gasses Associated with New York State's Natural and Working Lands: Forests, Farms, and Wetlands**](#). 2020 report prepared for NYSERDA, Peter Woodbury and J. Wightman, Cornell University authored the agriculture sections.

[**Greenhouse Gas Mitigation Opportunities on Working Lands**](#). July 28, 2021 Cornell Webinar by J. Wightman and P. Woodbury, presented to NYS Extension. 1 h. This video describes the overall inventory of greenhouse gas emissions in New York State, contributions of animal and plant agriculture, and the five major opportunities for reducing greenhouse gas emissions and sequestering more carbon in agricultural management.

Section 8: Education and Continuous Improvement

[**Cornell Viticulture and Enology Extension**](#). Overview and video of Cornell's viticulture and enology programs.

[**Grape and Wine Resources**](#). Partial listing of featured resources, regional grape extension programs, project websites, and selected publications. Not updated recently, but still useful.

[**Appellation Cornell**](#). Quarterly newsletter from Cornell's Viticulture and Enology Program. Features research, extension, and teaching articles.

[**Veraison to Harvest**](#). Weekly fruit sampling and crop development newsletter, distributed weekly from September-end of harvest.

[**New York Wine and Grape Foundation**](#). Access to a variety of resources supporting promotion, marketing, and sustainability for the New York wine and grape industry.

[**Action Plan Template**](#). Part of the original VineBalance workbook, this worksheet provides a format for developing an action plan to address specific sustainability practices and plan for their implementation.

Section 9: Social Equity

[**Worker Protection Standard Checklist**](#). New York State DEC checklist for growers to evaluate their compliance with the Worker Protection Standards.

[**Agricultural Worker Protection Standard**](#). US Environmental Protection Agency information web page detailing WPS regulations.

[**Pesticide Applicator Certification**](#) (private license). New York State Department of Environmental Conservation.

[**OSHA Right To Know Agriculture Industry Publications**](#). Listing of publications about Agricultural hazards, heat illness prevention, farm safety (confined spaces and PPE), etc.

[**MIT Living Wage Calculator – listing by county**](#). This living wage calculator is referenced in the VineBalance 2.0 guide under question 9.3.3 Base compensation.