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Grape News



Many of you already know that Cornell has hired a full time Viticulture Specialist for Eastern New York. Well, that person is me and I am taking advantage of my first Grape News to introduce myself to you and to briefly discuss some current projects and future plans. Almost two months into the job now, I have been out visiting farms while also navigating the professional transition from Research Associate to Extension Specialist. ***In the coming months, I will be visiting more sites with the goal of visiting every known commercial vineyard in the region before next summer. I am looking forward to meeting everyone.***

I would like to start my introduction by saying that serving as Viticulture Specialist for eastern New York is an enormous honor. American viticulture was born in eastern New York. The oldest commercial vineyards in the United States were developed in the Hudson Valley just shy of 200 years ago, followed by the first commercial wineries less than a decade

later. One of the earliest commercial vineyards was planted on Croton Point just up the road from my home farm in Westchester County which, ironically, is the only county along the 300 miles of Route 9 corridor that is not part of the Eastern New York Commercial Horticulture Program. Given the tender age of our country, a two hundred year tradition is impressive for just about anything, so it is particularly noteworthy that non-commercial viticulture in eastern New York predated the founding of the United States by more than a century. Mid-17th century settlers recognized the potential for grape cultivation and quickly began to incorporate grapes into their food production.

Viticulture in eastern New York, along with statewide fruit production as a whole, has experienced a lot of disruption over the past two hundred years. The connection of California and New York via rail was perhaps the most transformative event in New York viticulture, marking the beginning of a rapid shift toward grape imports and replanting of vineyards with orchards. Moreover, the climate and soils in California were, and still are, much better suited for growing the European vinifera grape varieties that European immigrants wanted in their wines. During the decades that followed, eastern New York vineyards became less commercially viable...

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and gradually faded from view and into history.

But, this is not a story with a sad ending. The past 50 years have seen a rebirth of grape and wine production in New York State, and most recently, in eastern New York. The recent formation of the Champlain Valley AVA marks the beginning of a entirely new identity for Eastern New York wines, in which wine makers have embraced the potential opportunities of growing only the native American and French-American hybrids that have been proven to thrive in the notoriously cold region. Meanwhile, the Hudson Valley has seen an increase in both vinifera and hybrid plantings and a steady increase in wine production and agritourism. In another bit of irony, the recent upturn in grape and wine production in the Hudson Valley has led the historic epicenter of American viticulture to question its current identity as it explores the potential of vinifera varieties as a source of signature grape varieties rather than its heirlooms.

As illustrated by the markedly different identities emerging from Champlain Valley and Hudson Valley, there is substantial climate variability in eastern New York. This is true not just at the large scale of northern vs. southern temperature patterns, but also at the small scale of individual vineyard microclimates. The various mountain ranges create a complex inventory of farming sites, each with its own particular combinations of northern latitude, altitude, slope orientation, proximity to the Hudson River and lakes, and natural windbreaks. As eastern New York wine production continues to evolve, it seems likely that new appellations and sub-appellations will emerge as microclimates along the entire length of the Hudson River Valley are better understood and their wines become increasingly differentiated. ***We are living in a newly transformative era of eastern New York viticulture, and I feel fortunate to be in my new job at this moment in time.***

This is a good place to segue into an overview of my current research activities and an attempt to explain how they can be applied and adapted to eastern New York viticulture. ***Prior to my new role as Viticulture Specialist, I was a Research Associate investigating methods of measuring vineyard variability and exploring the creation of new tools to improve vineyard production efficiency. That research will continue as part of my Extension program, although I will be looking for ways in which it can be applied more directly to the needs of eastern New York grape production.*** For example, I am currently working on a project in California in which we use satellite imagery from orbiting plant health sensors to improve efficiency of field operations. This works well in California

deserts because the vineyards are very large, the soils are very consistent, and irrigation is universal. But New York does not have the same scale or soil consistency so, while the general concepts are still applicable to grape production, a different approach is needed.

Thus, in the Finger Lakes we are doing similar research but use aerial drones to collect the plant health information at a smaller scale of precision. In eastern New York, vineyard scale becomes even smaller while variability becomes even greater. But, mapping vineyard variability with aerial and ground based tools is still valuable both for understanding differences in vine productivity around the farm, and also to map the overall geography of the farm and its relationship to surrounding terrain. For example, mapping a farm's plant health and elevation profile from an aerial drone, and combining that data with both regional weather station data and temperature and humidity sensors within the vineyard can lead to a much better understanding of local microclimate. ***Furthermore, an improved understanding of the differences among microclimates in the region can lead to a much better understanding of how best to manage each farm, both in terms of cultivar selections and management practices.***

Future Grape News communication will include more details about the research portion of my program as it evolves, as well as regionally-targeted information about what is happening in the field and how best to plan field operations in the context of current and forecasted conditions. In the near term, I will be contributing to the annual Veraison to Harvest Newsletter as a source of up-to-date field information while visiting farms to track progress.

I will end with a small bit of field observation and advice. Disease pressure has been high throughout all of Eastern New York this year. In the relatively few visits I have made since starting this position I have seen a lot a pest damage including (in order of frequency) black rot, anthracnose, phomopsis, potato leaf hopper, and grape berry moth. The grape pest forecast tools at <http://newa.cornell.edu> are very helpful in keeping up with disease pressures in your region. Also, bear in mind that when the automated eNEWA service is offline, you can still go directly to the NEWA web site to get the up-to-date information.

In addition to pests, I have seen a fair amount of vine problems that appear to be nutritional deficiencies. In many cases, there are no soil and/or petiole test results to aid in the diagnosis and treatment of the problems. I strongly encourage keeping current with soil and plant tissue testing. ***Please contact me if you need assistance in performing these tests. In fact, please contact me if you have any questions at all. Once again, I look forward to meeting everyone.***