Wine & Craft Beverage News

Serving Wineries, Breweries, Distilleries, Cideries and Other Craft Beverage Producers

March 2016 | www.wineandcraftbeveragenews.com | Volume 5 Number 4

Cover story

Moonshine legacy

Also in this issue:

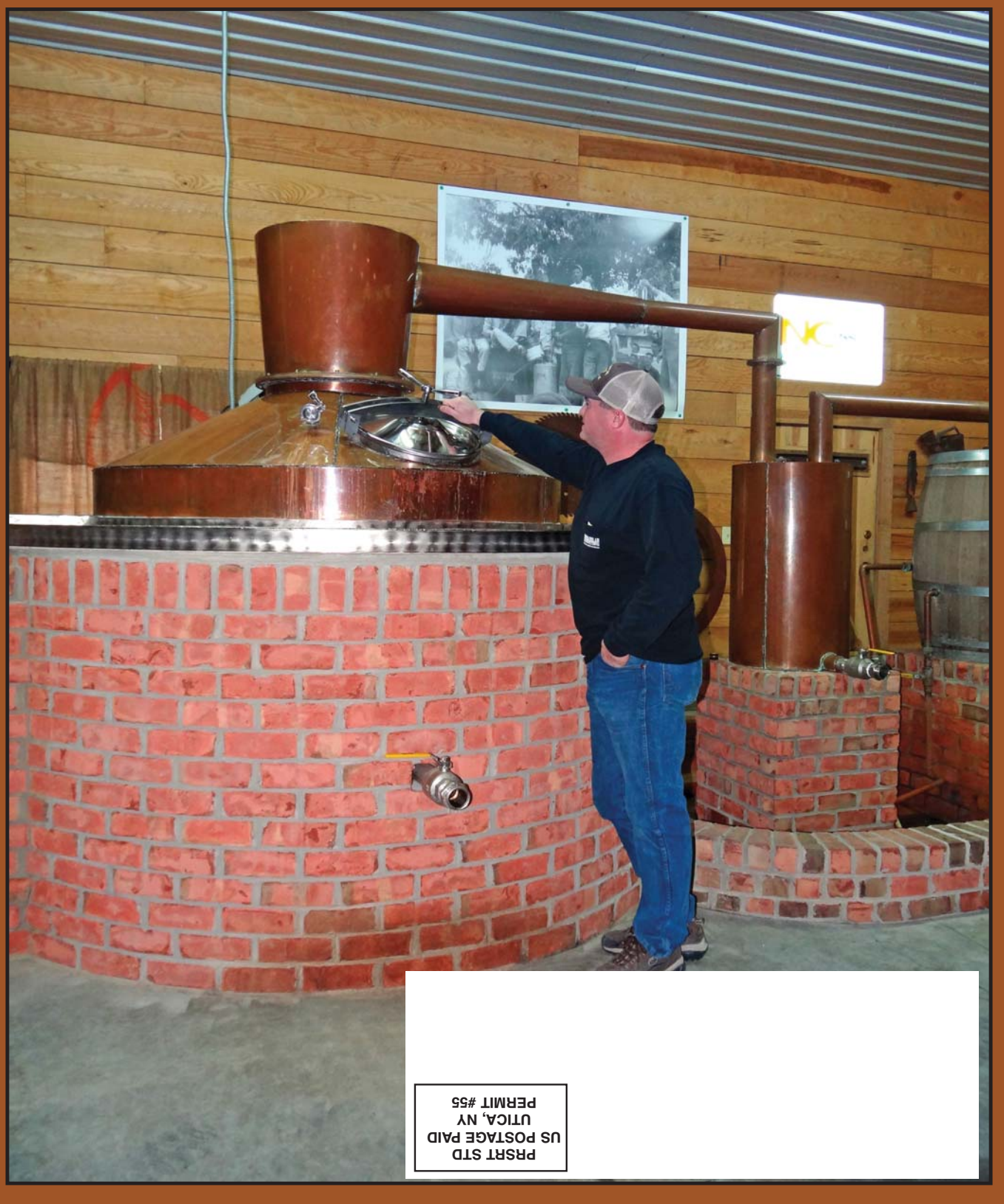
Challenges in growing cider apples

- Growing rye for malting
- Expanding the industry and keeping it local
- Governor McAuliffe announces winery expansion, new jobs in Westmoreland County

Columnists

Millennial Mysteries
Emily Enger

Today's Marketing Objectives
Melissa Piper Nelson



Moonshine legacy

by Sally Colby

There's a two-barrel still in the tasting room at Broadslab Distillery in Benson, NC. It looks like a museum piece, but it wasn't that long ago that a young Jeremy Norris was using it to learn how to make moonshine.

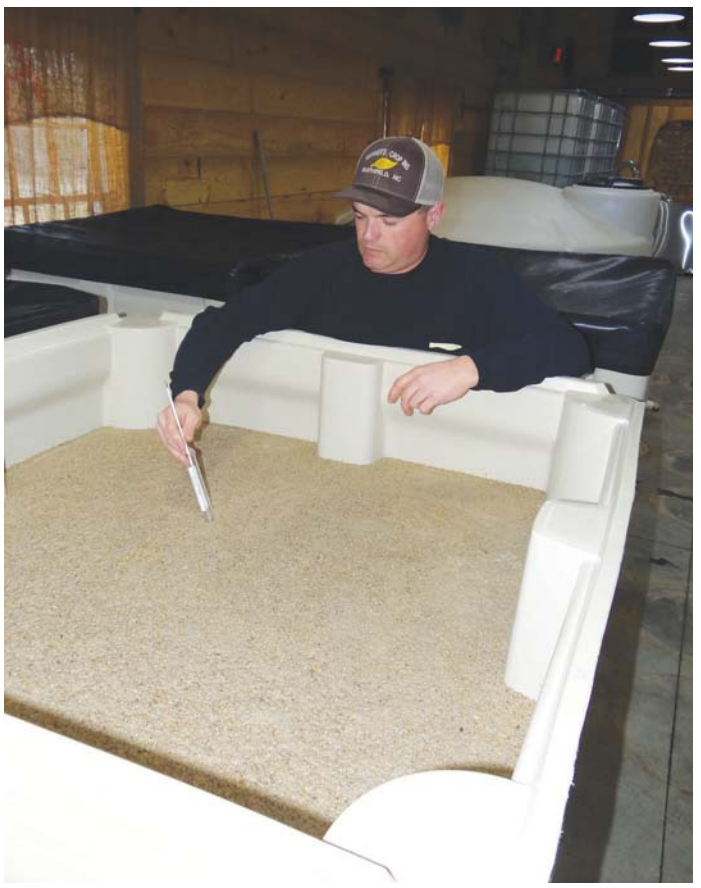
Benson is known as the moonshine capital of North Carolina, and Norris comes from a long line of traditional moonshiners. The most influential was his grandfather Leonard Wood.

"He said he used to make two kinds of liquor: one to sell and one to drink," said Norris, recalling conversations with his grandfather. "They'd make a wheat bran whiskey to sell – something simple and cheap. For themselves, they'd take a five-gallon bucket of corn and soak it, then put it on the porch and cover it with a burlap sack to keep it moist while it germinated. Once the germination process was far enough along, they spread it thin on a piece of tin out in the sun to dry. Then they'd grind it up and ferment. It was so labor intensive that they only did it a few times a year."

But the effort was worthwhile. Norris says that the 'good' whiskey has a distinctive smell and flavor. "It's the smoothest 90-proof whiskey I've ever put in my mouth," he said.

When Norris told his grandfather that he wanted to build a distillery, Wood asked what he wanted to make. "I told him I wanted something that would stand out, that wasn't like anything on the market," adding that his education in distilling came from his grandfather and some of the old-timers in the area.

"When I started in the business, it took me four years to get everything built, licensed and in the marketplace," said Norris. "I had done some research on other distilleries in the state, and at the time, there were only a few. A lot of the brands are neutral grain spirits – they buy bulk alcohol and flavor and proof it. I figured if I did it from dirt to bottle and made a value-added commodity that was truly a craft product, I wouldn't be able to make it fast enough."



Although some parts of the distilling process are dictated by experience, much of it requires careful attention and accurate timing for best results.

Photos courtesy of Broadslab Distillery

As an experienced farmer, Jeremy Norris grows his own corn and barley for his Broadslab Distillery products. Grains are harvested at the correct moisture level and stored in bins until it's time to distill.

As he worked on an access road, constructed a building and worked on plans for his still, Norris started the licensing process.

Norris wanted to design a still that would honor the traditional stills in the area. "I took the two-barrel still and sized everything up," he said. "It would be a 500-gallon still, proportioned like the small still. My granddaddy used to make the same kind of outfit in the woods. They built a firebox with cinderblocks and used tin to make a skirt around the still. They'd fire the still with wood. The concept is the same as for wood-cured tobacco – how it pulls the heat through the barn. With a still, the firebox is on one end and it draws the heat up and around the still before it exits out the exhaust."

Norris recalls that when he made whiskey in his small still, he used flour and cornmeal to make a paste that had to be just the right texture to seal off the still so steam wouldn't leak out. But the modern still at Broadslab doesn't require any sealing. "There's a stainless steel manway, an automatic agitator, pressure relief, steam temperature and liquid temperature gauges, and a pressure gauge on the back of the helmet," said Norris, adding that he heats the still with LP but can also heat with wood. "It has all the bells and whistles of a modern day still, but it doesn't have any plates, columns or packings. It's just an all-copper pot still."

As an experienced farmer and with ample land, Norris knew he wanted to grow his own corn for distilling. He grows white corn, the same kind that would be used for cornmeal or grits. He uses a four-row planter and plants two varieties in alternate rows to ensure good cross-pollination.

The corn is harvested at 16 percent moisture or below and stored over winter in bins prior to malting. "I soak it for a couple of days and let it swell up," said Norris. "We do that as needed. Once the grains swell, which takes about a week, I keep it damp and moist and let it germinate. Then we turn on air and heat to dry it out, then toast it lightly." Norris also grows barley and plans to add another malt house.

'Legacy Shine' is an original recipe, and it's the whiskey Norris's grandfather taught him how to make. "The reserve is the very same mash and distillate, its just aged in oak," said Norris. "'Apple Shine' is the same recipe and distillate and instead of proofing it down with water, I proof it with 100 percent apple juice and use organic cinnamon sticks. I don't use any concentrates, syrups or artificial flavors or colors. Everything is natural with whole ingredients. When peach season arrives, Norris has plans for another distillate. "We're doing so well with the Apple Shine, so I want to add an all-natural peach," he said. "I'll probably use the same recipe and infuse it with peach. I also want to get into making some bourbon that will age for at least two years."

Broadslab also features two rums, which Norris developed. "The first thing I did was distill out some clear rum," he said. "I got some spices and created about 40-50 different combinations, then taste tested each one and rated it." In the end, he settled on a spice recipe that includes six all-natural whole spices including vanilla beans and cinnamon sticks.

Right now, Norris runs the still once a week, and has tracked 17 percent growth this year. "I'd love to run it twice a day, six days a week and be able to sell what the still can produce," he said. "But I don't want to get too big – I want to remain hands on."

Although visitors to the Broadslab Distillery tasting room can taste handcrafted, legal moonshine, products must be purchased through the state's ABC system. Norris says that the tours he conducts are helping to get the word out, and Broadslab has received positive reviews on TripAdvisor and Yelp. "One tour group at a time," said Norris. "I didn't realize that power in that."

Visitors to the Broadslab Distillery can learn about how corn and barley are grown and used in the distilling process, and then taste the final product.

Growing rye for malting

by Tamara Scully

Cereal grains are no longer regulated to commodity grain markets or cover crop use. Instead, they are in demand by the growing population of craft maltsters and brewers, and are fueling the growth of this rapidly emerging market.

Hartwick College, in Oneonta, NY, invited farmers, brewers, maltsters and researchers from around the country - and included seven international guests - for its weekend Farmer/Brewer conference, "A Maltster in the Rye." Conference workshops were aimed at highlighting the correlation between the actual growing of the grains - including variety selection, agronomics and environment, and management practices - to the ability of the maltster and brewer to craft high-quality, unique products.

Although barley is commonly malted and used in brewing beer, other grains can - and more frequently are - being utilized by craft brewers. One product of interest is rye.

Craft maltsters are "looking for opportunities to be able to set ourselves apart and find unique things that are going to be available from our local farms," maltster Andrea Stanley, of Valley Malt in Hadley, MA said. "Rye is an opportunity for us to work with farmers in our area who are not necessarily grain farmers."

Growing malting quality cereal grains offers farmers a chance to "step into a maturing industry," and find opportunities to fit these specialty grains into their farm plans. Winter rye works well in organic rotations, and offers the farmer the opportunity to market this cover crop.

"This is how rye fits into our local supply chain," Stanley said. "We're opening up doors. I'm excited that maybe we'll start doing this more with wheat," and other grains.

Growing Malting Rye

But production of malting grains takes time and management. Rye - or other grains - must have the characteristics needed to make good malt. Even if the variety is good for malting, management practices from seed to harvest need to promote and protect the quality of the grain.

"In craft brewing, malting, distilling...there's been a resurgence, a lot of interest, in rye," Dr. Paul Schwartz from North Dakota State University said. But research into "which cultivars are best" for craft beverage purposes has all but stopped with universities dropping their research in recent decades, so data on genotypes is not extensive and needs to be improved.

The craft beverage industry has caused renewed interest in rye breeding and research programs. Schwartz is conducting research on the chemical components of rye and their impact on malting. One serious issue he encountered was the lack of availability of viable samples of rye varieties to use in malting analysis.

"We need to educate our growers. They need to deliver that rye to us in a livable condition," he said. "Fusarium seems to really like rye. DON is going to be an issue there," Schwartz said.

Dr. Mark Sorrells, Cornell University, explained that rye is "a very diverse crop," and has a wide variety of potential uses. Milling, distilling, malting, brewing, feed, and biogas markets exist. Ryes can tolerate poor soil fertility, and are the most winter hardy of the cereal crops.

Farmers, brewers, maltsters and researchers recently attended 'A Maltster in the Rye' conference at Hartwick College in Oneonta, NY.

Photo by Tamara Scully

Cornell trials involving rye varieties, plus one or two wheat varieties, with 14-18 different cultivars planted each year, have included hybrid and open pollinated ryes. Sorrells encourages growers to look at the data across multiple years when selecting rye varieties, as there are year-to-year changes to take into consideration.

Rye has a small grain size, does not have a hull, and the standard yield is about 56 bushels per acre. Hybrids offer some improved characteristics. Open pollinated varieties of rye have been used as forage crops, and not bred for seed quality, which is needed for malting. Danko is a good open pollinated variety, but has increased lodging when compared to the hybrids.

"Not only do they have high yield, but they also have very high lodge resistance," he said of hybrid rye varieties, which have shown a 30 percent increase in yield over open pollinated ryes.

The increase yield seen with hybrid ryes has to do with the increased length of the period from flower to maturity. This allows more time for the seed to grow. Because hybrids are produced from two inbred lines, which are crossed and then planted in the field to produce saleable seed; farmers musts repurchase hybrid seed each year.

Malting rye can be an option for farmers currently growing wheat. Wheat is the cereal crop most commonly grown in Western New York, Sorrells said. The yield for soft white wheat is about 59 bushels/acre, while the best hybrid rye yield was 107 bushels/acre, and the best open pollinated rye variety was at 89 bushels/acre in Cornell trials.

Farmer Perspective of Malting Grains

New York grower Thor Oechsner, who farms 1200 acres of organic cereal grains for the seed, flour and malting industries reminded farmers of the importance of handling the grain for the craft beverage market. From seeding to transporting, malting grains have unique requirements.

"When you are growing grains for malting, you are basically growing seed because these things have to germinate," Oechsner said. "What do I do in the field that affects the product when it goes to the processor?"

Maltsters require grains that are free from disease and pest issues: which are dried, stored and maintained at precise moisture levels; which are free from debris; and whose seeds are viable, as malting requires excellent germination. There can be no off-flavors associated with mold and moisture. Kernel size is important, as is consistency.

Fertilizer issues, weed control and scouting for

Growing rye 6

New sprayer technology reduces pesticide use

by Sharon Durham

An experimental variable-rate spraying system that helps growers efficiently apply chemicals to trees was developed by Agricultural Research Service (ARS) scientists at the agency's Application Technology Research Unit in Wooster, OH. The new sprayer reduced average pesticide use between 46 and 68 percent, with an average cost savings of $230 per acre for ornamental nurseries. The cost savings can be much higher for orchards and other fruit crop productions.

ARS agricultural engineer Heping Zhu, along with engineer Richard Derksen and research leader Charles Krause, developed the laser-guided sprayer that synchronizes spray outputs to tree structures. Their colleagues at the Ohio State University, Oregon State University and the University of Tennessee evaluated the sprayer, which would help nursery, orchard and grape growers apply chemicals to trees. Zhu and his colleagues received a National Institute of Food and Agriculture (NIFA) grant to develop this technology to control insects and diseases. The technology and performance evaluations were described in several papers in the journal Transactions of the ASABE.

The sprayer developed by Zhu and his colleagues controls output to match targeted tree structures. The two-ton sprayer can treat either a single row, or two to six rows of trees at a time. Conventional spray application technology requires excessive pesticide use to achieve effective pest control in floral, nursery, orchard, and other specialty crop productions, according to Zhu. This challenge is now overcome by the new precision sprayer, which is able to characterize the presence, size, shape and foliage density of target trees and automatically applies the optimum amount of pesticide.

Zhu and his colleagues conducted field trials on the technology's performance in six commercial nurseries in Ohio, Oregon and Tennessee. Their field experiments showed that the precision sprayer consistently applied the correct amount of chemicals despite changes in tree structure and species, and increased consistency of spray deposition uniformity on targets at different growth stages. Pest control with the new sprayer was comparable to that of conventional sprayers and reduced pesticide use.

For more information visit http://agresearchmag.ars.usda.gov/2016/feb/lasersprayer

ARS's new automated spraying system can detect the presence, size, shape and foliage density of trees and then apply the optimum amount of pesticide in real time.

Photo courtesy of USDA/ARS

Today's Marketing Objectives

By: Melissa Piper Nelson
Farm News Service
News and views on horticultural marketing techniques.

Are you prepared for the 'immediate?'

When unplanned circumstances happen, are you prepared to handle what business planners call, "the immediate?" It references the very first action, or the first action in a series of corrections, to right the situation and get your operation back on track.

Owners and managers with solid business plans and excellent employee training have planned for and begin the correction process with few complications. Establishing these steps requires time and research, but once in place may save valuable moments in a crisis situation.

To begin, you will want to review each step in your production to sales operation to identify vulnerabilities. Then ask the "what if" questions: If planting is late, how will it impact delivery to your various outlets? If transportation becomes a problem, have you arranged for alternatives? If employees are absent, what is your back-up plan for additional workers? If a key piece of equipment breaks down how will you operate efficiently?

This is not meant to merely focus on what can go wrong, but to plan for, and put in motion, actions that keep operations flowing even in difficult times. By exploring each segment of your operation, you and your employees can pinpoint trouble spots and research how to handle those situations if they arise.

By engaging employees in these discussions, often you get the front line perspective. An employee doing a specific job has probably already worked out alternative strategies in case of problems. Their input is valuable in planning how to work through situations and keep operations flowing. Training new employees to look for these signals and to think through potential problems gives them the opportunity to think past just the task itself. They truly can be an important part of your team by developing ideas to succeed.

Many managers plan for big operational glitches, but do not always think about the more mundane problems that can be just as troublesome. Waiting for a part to fix equipment, transportation delays, packaging problems and absenteeism can cause delays and departures from normal operations. While you may not have a timely solution for each particular problem, developing an overall sense of what to do and what resources to tap into gives you an edge when immediate issues pop up.

Business and risk management planners suggest meeting with your staff to discuss your operation and ways to proactively confront problems. Then with each situation presented, outline steps to immediately begin the correction process. Include these steps into your business and operating plan and make sure managers and workers all know how to put these into action. Each person's level of action will depend on given assignments and supervision, but each should know whom to call or contact and when actions are appropriate to report.

Advance crisis research and planning requires "think time" and actions, but in the long run it may save you valuable moments when they really count. For additional information on crisis management and risk strategies contact your local Small Business Administration office at: www.sba.gov/tools/local-assistance/score or www.ers.usda.gov key word – risk management.

The above information is provided for educational purposes only and should not be substituted for professional business or legal counseling.

SCMWA announced new board members for 2016

SILICON VALLEY, CA — The Santa Cruz Mountains Winegrowers Association (SCMWA), a non-profit trade association representing over 50 wineries, announced recently that David Amadia, V.P. of Sales and Marketing, Ridge Vineyards; Richard Hanke, Partner, Left Bend Winery and Steve Johnson, Partner, Lester Family Vineyards have been elected to the SCMWA Board of Directors for a three-year term. Dave Moulton, Partner, Burrell School Vineyards and Winery has been re-elected to Board President along with Ellie Patterson, Partner, Mount Eden Vineyards, as Vice President; Jerold O'Brien, Owner, Silver Mountain Vineyards, Treasurer and Jim Cargill, Partner, House Family Vineyards, Secretary. "The four of us are extremely excited to serve on the SCMWA Executive Committee again for another year. We have a great board in place and a committed membership and staff. We have made huge leaps and bounds over the last three years with the help of our Executive Director, Megan Metz and it just keeps getting better," said Moulton.

The complete 2016 SCMWA Board includes: Dave Moulton, President - Burrell School Vineyards & Winery: Ellie Patterson, Vice President - Mount Eden Vineyards; Jerold O'Brien, Treasurer - Silver Mountain Vineyards; Jim Cargill, Secretary - House Family Vineyards; David Amadia, Ridge Vineyards; Bradley Brown, Big Basin Vineyards; Richard Hanke, Left Bend Winery; Barry Jackson, Equinox; Steve Johnson, Lester Family Vineyards; John Ritchey, Bottle Jack Wines; Steve Townsend, Russian Ridge Vineyards; Craig Raskish, Farwell Rashkish LLP, At-Large; Prudy Foxx, Foxx Viticulture, At-Large.

The entire Santa Cruz Mountains wine growing region is celebrating another great showing at the world's largest wine competition. The San Francisco Chronicle Wine Competition, now in its 16th year, amassed over 7k entries.

For more information, visit: www.scmwa.com

Millennial Mysteries

Principles for Retaining Millennial Employees

by Emily Enger

Millennials: shifting expectations of a 'standard workplace'

'Millennials are not accustomed to a standard working environment.' This was an answer given by 38 percent of hiring managers in a 2015 Redbrick Research study on generational issues in the workplace. The question asked was: 'Do you have any specific concerns or worries regarding hiring millennials?' That's a pretty overwhelming answer to such a broad question!

But it's backed up by Millennials' own admissions. For instance, according to that same study, 73 percent of Millennials believe that they are expected to be contactable at all times. This was one of the responses given to the question: 'How does technology impact your work life?' Millennials are saying, in essence, that they view themselves as always on-call.

Previous generations struggled with how much time and energy to give the boss. Every generation has worked hard and put in overtime, but typically it was thought that after clocking out at 5, anything else an employee did was going above and beyond. We Millennials, as the first Technology Native generation, see communication – even work communication – as a normal aspect of daily life. We have very different expectations about privacy and personal time.

I have seen my own attitude reflect this. If I got paid for the number of emails I responded to on my phone while leaning over a shopping cart at Target, I'd be a far wealthier woman. But I've never been resentful of doing this. Even just last week, someone needed to schedule a meeting with me and I told them to contact me the next day. "But isn't that your day off?" they asked apologetically. I just shrugged. "I'm a Millennial," I joked. "I usually answer emails on my cell phone anyway."

In 2012, generation research expert and author Jason Dorsey, who is himself a Millennial, gave an interview to a morning news show where he said, "I was speaking at a business conference yesterday and a bunch of CEOs came up to me and said 'Your generation's great. They don't always show up on time, but they stay late. At 2 a.m., they're sending emails. They're doing things on weekends.' So Millennials are just doing things differently. People want us to work in the way in which they work, and that doesn't fit this generation."

Perhaps the type of job you're offering isn't communications-related. If you run a farm-based or labor-intensive business, employees who spend extra time on the Internet might not fit into the positions you want to fill. The silver lining for you isn't how Millennials put in extra time, but rather their altered expectations. Many businesses make the mistake of assuming that if a Millennial doesn't work in the standard working environment our culture has always had, then they are lazy, entitled, or unteachable. But you have a business that is also not a 'standard working environment.' Maybe you have a busier season in the summer, evening/weekend shifts, lack of benefits, heavy labor, etc. Finding good help has always been a struggle for small businesses. But with Millennials, at the very least, you are working with people who never expected work to look like Monday through Friday, from 9 to 5. That's something you can capitalize on!

Emily Enger is a Millennial farm kid turned farm journalist. She also works in marketing, serving as communications director for a nonprofit that covers nine rural counties in northern Minnesota. *These opinions are her own and should not take the place of legal or professional advice. To comment or pitch future topics, email her at emilygraceenger@gmail.com. For reprint permission, email editor Joan Kark-Wren at jkarkwren@leepub.com.*

Growing rye from 4

pest and disease will require intensive management practices. Harvest management includes preventing seed breakage, harvesting with the proper combine set and at the proper time for maintaining quality. Storage requires drying the grains, cleaning the grains, and regulating storage bin temperatures.

Vomitoxin levels are extremely important in malting, and Oechsner emphasized that managing the diseases is "one of the big challenges" in the malting grains market.

If grains are not of malting quality, other markets have to be available. Maltsters and brewers need to find a way to share the risk of crop failure with farmers, as these alternate markets are not added-value, and producing a high-quality grain for malting takes more time, effort and infrastructure on the farm than commodity grain markets require.

Those growing commodity grains are used to emptying the bins into tractor-trailers, not filling small orders continually. Malting grains aren't "harvest, store, transport, done." Separate grain bins are required for different varieties of the grain. The grower needs the ability to keep harvests separate in storage due to quality issues and needs to keep stored grains within 40 degrees of the outside temperatures year-round to prevent moisture issues. The importance of seed cleaning, and smaller-batch delivery cannot be stressed enough when growing for the malting industry, Oechsner said.

A repeated sentiment heard at the Farmer/Brewer conference was that all segments of the industry have to be willing to take some risk in order to get local farmers interested in growing high-quality malting grains in the volumes needed for the industry to grow and thrive.

"The farmer can't bear all the risk," June Russell, of Greenmarket Grow NYC said. "If we can't build a market, farmers will go back to corn and soy."

In This Issue

WINE & CRAFT BEVERAGE NEWS
Serving Wineries, Craft Breweries, Distilleries Cideries and other Craft Beverages

Wine & Craft Beverage News is published monthly by Lee Publications, PO Box 121, 6113 St. Hwy. 5, Palatine Bridge, NY 13428.
Periodical postage paid at Palatine Bridge, NY 13428.
Subscription Price: $12 per year. Digital Subscription: $12 for 2 years. Canada $55 per year.
POSTMASTER: Send address change to Wine & Craft Beverage News, P.O. Box 121, 6113 St. Hwy. 5, Palatine Bridge, NY 13428.

Publisher, President.....Frederick W. Lee
Vice-President & General Manager.....Bruce Button, ext. 104.....bbutton@leepub.com
Vice-President & Treasurer.....Janet Lee Stanley, 315-985-9133.....janet.leepub@gmail.com
Controller.....Lyndsay Bock, ext. 148.....lbock@leepub.com
Production Coordinator.....Jessica Mackay, ext. 137.....jmackay@leepub.com
Editor.....Joan Kark-Wren, ext. 141.....jkarkwren@leepub.com
Assistant Editor.....Colleen Suo, ext. 145.....csuo@leepub.com
Classified Ad Manager.....Peggy Patrei, ext. 111.....classified@leepub.com
Shop Foreman.....Harry Delong, ext. 154.....hdelong@leepub.com
Palatine Bridge, Main Office.....518-673-3237
Accounting/Billing Office.....518-673-0115.....lbock@leepub.com
Subscriptions.....888-596-5329.....subscriptions@leepub.com
Website.....www.leepub.com

Send all correspondence to:
PO Box 121, Palatine Bridge, NY 13428
Fax (518) 673-2699
Editorial Email: jkarkwren@leepub.com
Advertising Email: jmackay@leepub.com

AD SALES REPRESENTATIVES

Bruce Button, Ad Sales Manager.....bbutton@leepub.com.....800-218-5586, ext. 104
Dan Wren, WCBN Sales Manager .....dwren@leepub.com.....800-218-5586, ext. 117
Richard Barrett .....rbarrett@leepub.com.....800-218-5586, ext. 118
Patrick Burk .....burk.patrick1956@gmail.com.....585-343-9721
Dave Dornburgh .....ddornburgh@leepub.com.....800-218-5586, ext. 109
Lisa Farrish .....lfarrish@leepub.com.....800-218-5586, ext. 166
Steve Heiser .....sheiser@leepub.com.....800-218-5586, ext. 107
Ian Hitchener .....ihitchener@leepub.com.....518-210-2066
Tina Krieger.....tkrieger@leepub.com.....800-218-5586, ext. 108
Kal Shariff.....ksharriff@leepub.com.....800-218-5586, ext. 116
Keith Shoemaker.....kshoemaker@leepub.com.....800-218-5586, ext. 164
Kegley Baumgardner / Virginia.....kegleyb@va.net.....540-255-9112
Kate LaScala.....katelascala@gmail.com.....913-486-7184
Christopher Nyce.....cnyce@leepub.com.....267-261-4235

Lee Publications
6113 State Hwy. 5, PO Box 121, Palatine Bridge, NY 13428
www.wineandcraftbeveragenews.com

Cover photo courtesey of Broadslab Distillery

Jeremy Norris, owner of Broadslab Distillery in Benson, NC, with his 500 gallon copper still

2016 Great Lakes Hop and Barley Conference

Michigan State University Extension and the Michigan Brewers Guild have announced the 2016 Great Lakes Hop and Barley Conference. The conference will take place at the Grand Traverse Resort and Spa in Traverse City, MI March 16-17, 2016.

Thanks to program partners and many sponsors, the 2015 Great Lakes Hop and Barley Conference was attended by over 350 participants from 44 Michigan counties, 11 states and Canada. It featured three tracks for attendees, introductory hops, advanced hops, and barley/malting, as well as production facility tours and a brewer/grower mixer.

Since that time, there has been incredible growth and investment in hop and barley production as well as the craft beer sector. Michigan is the fourth in production of hops after Washington, Oregon,and Idaho with acreage and investment expanding. Similar growth has been realized in the barley and malting industries, with many new farmers planting barley in 2015 and threefold growth in the number of malt processors in the state.

Just as the industry has grown, the 2016 conference will build upon the 2015 conference. In addition to nationally and internationally recognized hop and barley speakers, the conference will feature large equipment and a trade show, and perhaps even a tour of a new hop yard and production facility.

One of the main foci of the 2015 Great Lakes Hop and Barley Conference was hop and barley "quality". Several speakers including brewers, growers, brokers, and the president of the Hop Growers of Michigan, emphasized the importance of producing quality raw materials. Producing quality raw materials begins in the field but doesn't end there. A concerted effort needs to be made throughout these raw material value chains. We will expand upon this theme in 2016.

Other conference sessions will include: industry outlook, market potential, best production practices, drying and processing, and marketing and sales – for both hop and barley crops.

The 2016 Great Lakes Hop and Barley conference will be the major craft beer supply conference of the year. If you are a farmer interested in growing hops or barley or a brewer wanting to learn more about purchasing Michigan grown products, you do not want to miss this event.

For more information on hops including presentations from the 2015 Great Lakes Hop and Barley Conference please visit our website: msue.anr.msu.edu and search 2016 Great Lakes Hop and Barley.

Tom Cosentino hired as executive director of the Garden State Wine Growers Association

CREAM RIDGE, NJ – The Garden State Wine Growers Association (GSWGA), the statewide advocacy and promotional channel of the New Jersey wine industry, has hired veteran media relations and public affairs professional Tom Cosentino to serve as the organization's Executive Director. Cosentino joins the GSWGA from MWW-PR where he coordinated public relations and advocacy programs for the firm's public affairs division.

In his new role, Cosentino will be charged with overseeing the day-to-day administrative and marketing functions of the organization; serve as spokesman for the wine industry in New Jersey; and be the liaison with the Administration, Department of Agriculture, Tourism and other industry groups. Cosentino will be responsible for securing grants and tasked with bringing corporate sponsors to the New Jersey wine industry for the first time.

"We are very excited to have someone with the wealth of experience that Tom has to be our Executive Director and hopefully take our industry to a new level of success," said Laurin Dorman, Chair of the GSWGA Board and General Manager of Old York Cellars in Ringoes.

"This job will allow me to bring all the skill sets I have developed in my professional career to the forefront in helping spread the message of this emerging industry to key audiences that will take it to the next level," said Cosentino. "I look forward to seeking out corporate partners and leading brands that want the opportunity to partner with an industry that draws over 100,000 consumers a year to its tasting rooms and festivals."

Prior to joining MWW, Tom was a principal at Capital Public Affairs in Princeton where he headed up the firm's media relations division iMedia Public Relations. There, Tom helped develop the grassroots campaign UncorkNJ, which led to the passing of the direct shipping bill in 2012 allowing in-state wineries to ship wine directly to consumers and for out-of-state wineries to do so as well. He also served as the public relations representative for the Garden State Wine Growers while at iMedia and MWW.

Tom was also the founding Co-General Manager of Catalyst Public Relations in New York, co-owner of O'Leary & Cosentino Communications and General Manager of Lapin East/West in New York. He also served as the Publicity Director of Yonkers Raceway in New York and began his career in 1983 as a media relations intern with the New York Yankees.

Tom has managed national programs for major sporting events including championship boxing matches starring Evander Holyfield, George Foreman, Sugar Ray Leonard and Thomas Hearns; worked on the 75th Anniversary of the National Hockey League; launched Ted Williams' trading card company and the Women's United Soccer Association. In New Jersey, Tom managed programs for Alstede Farms, NJ2-1-1, JCP&L, the Hambletonian Society, Meadowlands Racetrack, Association of NJ Chiropractors, NJ Festival of Ballooning among others.

In addition to his professional career, Tom has worked as an Adjunct Professor at Rider University and served on the Board of Directors of Michael's Feat, a 501c3 charity in Monmouth County that assists families of seriously ill newborns.

Tom resides in Farmingdale, NJ with his wife Ann and has two sons.

Clean plants for the future webinar series announced

How the National Clean Plant Network, new testing protocols, and a revitalized New York certification program will reduce the risk of nursery-transmitted viral pathogens

Since 2008, National Clean Plant Network Centers have joined together to efficiently produce, maintain and distribute healthy grapevine budwood to the industry. These materials are starting to make their way to nurseries, and ultimately, to end-users. This four-part webinar series will cover the process of producing and distributing virus tested plant material, graft-transmissible diseases and their impact, New York State's new testing and certification program, and New York nurseries' investment in new motherblocks and propagation procedures.

Thursday, March 10: The Pipeline: From tissue culture to your vineyard.

Joshua Puckett, Foundation Plant Services, UC Davis and Tim Martinson, Cornell University.

Thursday, March 17: Viral diseases transmitted through nursery stock in the East: Grapevine Leafroll Disease, Tomato ringspot, and Grapevine Red blotch.

Marc Fuchs, Cornell University; Annemiek Schilder, Michigan State University; and Mizuho Nita, Virginia Tech.

Thursday, March 24: Crown gall biology and management; The value of virus-tested plant material.

Tom Burr, Cornell University and Shadi Atallah, University of New Hampshire

Thursday March 31: New York's revitalized grapevine certification program, and New York nurseries' plans for the future.

Marc Fuchs, Cornell University; Margaret Kelly, NYS Department of Ag and Markets; Dennis Rak, Double A Vineyards;

Eric Amberg, Grafted Grape Nursery; Fred Merwarth, Hermann Weimer Nursery

The webinars are free of charge, but you must be registered by noon the Wednesday before the webinar to receive connection instructions. Registering for one webinar will ensure you receive connection instructions for all future webinars. To register, visit: www.tinyurl.com/NCPNgrapes .

For more information, visit: https://grapesandwine.cals.cornell.edu/extension/ncpn-webinar-series-clean-plants-future

Fifth Eastern Winery Exposition sells out trade show floor for 2016

LANCASTER, PA — The fifth annual Eastern Winery Exposition, the largest production wine industry conference and trade show east of the Rockies, has sold out its trade show floor for the third year in a row. Located at the Lancaster Marriott and Convention Center in Lancaster, PA, the Eastern Winery Exposition's sold-out trade show will include 184 exhibiting companies featuring a large variety of equipment, products and services for commercial vineyards and wineries.

The trade show takes place March 9-10, and runs in tandem with the two day Conference program focused on viticulture, enology and marketing/money management issues.

Tuesday, March 8, kick starts the event with two day-long workshops, one led by Lucie Morton on the relationship of fine wine to soils, the other featuring a panel of experts candidly sharing the good, the bad, and the ugly along their roads to successful wineries.

In addition to the sold out exhibit hall and exceptional conference program, Show Manager Bob Mignarri said he "is thrilled that attendee registration is the best ever at 29 days prior to the event and that so many eastern wineries and vineyards view the Eastern Winery Exposition as the one industry event they look forward to attending each year."

The Eastern Winery Exposition is the largest vineyard and winery trade show and conference east of the Pacific states. It is designed to provide the Eastern U.S. and Canadian wineries and vineyards with an easily accessible, low-cost professional meeting with a variety of winery and vineyard suppliers, at the right time of year.

For more information please contact: Bob Mignarri, Quality Event Management, 401-885-8788, ext. 11, or Bob@easternwineryexposition.com or visit: www.EasternWineryExposition.com

2016 American Fine Wine competition winners announced

MIAMI, FL — Shari Gherman, co-founder and president announced the winners of the prestigious American Fine Wine Competition recently.

More than 750 wines from over 250 wineries vied for top honors in the invitation-only event. The judging was conducted by a 24-member blue ribbon panel of wine industry journalists, educators, restaurateurs, retailers, and top sommeliers from across the country and was held Jan. 17 & 18 at the Chaplin School of Hospitality & Tourism Management at Florida International University in North Miami.

Gherman remarked, "This may be the one wine competition — since it is by invitation only — that places quality over quantity. We are very pleased that there were so many outstanding wines for us to pursue this year."

In addition to the five Best of Show winners (each a winner in its class before moving on to the final vote) and 11 other Best of Class winners, 147 wines received "Double Gold" honors, awarded when the four-person judging panel unanimously agrees the wine deserves a Gold Medal.

Monty Preiser, co-founder of the competition with his wife Sara and publishers of the highly praised Preiser Key to Napa Valley, commented on the rigorous judging process:

"Too often the public relies on writers and magazines that know what wines they've tasted before issuing a score. And other competitions do not have the quality we receive. Only here are similarly priced wines tasted blindly next to each other by a super panel of judges, and then the Double Gold Medal winners are tasted, again blindly, against all other Double Golds of the same type, regardless of price. It makes for interesting, fair, and often almost shocking results," he explained.

On Friday, April 8, the top winners will be showcased at the American Fine Wine Competition Charity Gala at the Hyatt Pier 66 Hotel in Fort Lauderdale. Many of the winemakers, plus six iconic AFWC "Vintners and Winemakers of the Year," will be in attendance pouring their wines for wine enthusiasts and philanthropists from around the country.

Proceeds from the Gala and its auction will benefit the Dolphins Cancer Challenge. Since the AFWCs founding almost ten years ago, the organization has raised over $1 million for charity.

As Ms. Gherman concluded, "We are also proud that most other competitions charge $25 - $75 for each bottle of wine entered, garnering big profits for the organizers. We charge nothing, and all profits realized go to charity. Few can make such a statement."

For more information and a complete list of medalists please visit: www.AmericanFineWine Competition.org

2016 American Fine Wine competition winners:

Best of show

Sparkling (Tie) — Signal Ridge, Anderson Valley ($25) and Breathless Blanc de Noirs, Carneros ($30)

White — Rivino 2014 Pinot Blanc, Mendocino ($25)

Red — Luna 2013 Canto Super Tuscan Style, Napa Valley ($70)

Sweet/Dessert Wine — Castello di Amorosa 2013 LH Gewurztraminer, Anderson Valley ($39 - 375ml)

Best of class

Sauvignon Blanc — Arkenstone 2013, Howell Mountain ($48)

Chardonnay — Castello di Amorosa 2013 Bien Nacido Vineyards, Santa Barbara ($38)

Dry Rosé — Muscardini 2014 Alpicella Vyds., Santa Barbara ($24)

Pinot Noir — Hahn Estate 2013 SLH, Santa Lucia Highlands ($30)

Zinfandel — Rombauer Vineyards 2013, California ($32)

Cabernet Franc — Crocker & Starr 2013, Saint Helena ($80)

Merlot — Anthem 2012 Estate, Mt. Veeder ($70)

Petite Sirah — Brown 2012, Napa Valley ($58)

Syrah — VIE 2012 Thompson Vineyard, Santa Barbara ($45)

Red Bordeaux Blend — JCB 2012 Surrealist, Napa Valley ($350)

Cabernet Sauvignon — St. Supery 2012 Rutherford, Napa Valley ($100)

For more information and a complete list of medalists please visit: www.AmericanFineWineCompetition.org

The time has come to register for B.E.V. NY 2016!

The annual grape & wine industry conference will be held March 3-5 at the RIT Inn & Conference Center in Henrietta, NY. As we always have done at B.E.V. NY, we focus on a different aspect of the industry each day of the meeting – Business & marketing on Thursday, March 3, Enology on Friday, March 4, and Viticulture on Saturday, March 5.

Each day's program features experts from businesses, non-profits, governmental agencies, in addition to those from Cornell and other academic institutions, to provide the New York grape and wine industry with important information on new research, programs, and topics to help your business continue to move forward.

On Thursday, the Wine & Grape Foundation will be hosting the Unity Luncheon, where we recognize those who have made important contributions to the success of the industry in New York. The Unity Luncheon is included in your registration on Thursday. Separate tickets are also available just for the lunch for those who would like to attend.

The Trade Show will take place on Friday and Saturday again this year, featuring almost 40 different exhibitors. The Trade Show will also be the location of the always-popular Wine & Cheese Social on Friday afternoon, after the conclusion of the Enology program. It's a great opportunity to network. The Wine & Cheese Social is included in your registration on Friday.

Registration cost for each day is $110 for the first person from a business or organization, and $90 for each additional person registered after the first. The registration cost at the door will be $140 per day.

We have reserved a block of rooms each night of the conference at the hotel. To make a reservation and get the discounted room rate of $94/night, visit the hotel's website, www.ritinn.com, and be sure to use the Group Code 1603BEVNY. This reduced rate is available until Feb. 10.

Visit http://events.cals.cornell.edu/bevny2016 to register for this year's conference. You can also see a list of speakers and topics for each day of the program, and connect to the RIT Inn website to make your hotel reservations. If you have any questions at all, please don't hesitate to contact Gemma Osborne at gro2@cornell.edu or 315-787-2248.

Governor McAuliffe announces winery expansion, new jobs in Westmoreland County

Monroe Bay Vineyard LLC to become one of Virginia's first winery and cidery operations

RICHMOND,VA – Governor Terry McAuliffe announced recently that Monroe Bay Vineyard LLC will expand its farm winery in Westmoreland County. The company will invest more than $385,000 to build a tasting room and production facility for its wine and hard cider operations, creating seven new jobs in the region. In addition, Monroe Bay Vineyard will purchase more than $1.4 million in Virginia-grown grapes, apples and other fruit over the next five years. This is the first economic development announcement in Westmoreland County during Governor McAuliffe's administration and the first Agriculture and Forestry Industries Development (AFID) facility grant announcement for the county.

Speaking about the announcement, Governor McAuliffe stated, "I am pleased to announce Monroe Bay Vineyard's investment in Westmoreland County, which creates new jobs and new opportunities for the Virginia wine and cider industries, two of the faster growing sectors of Virginia's agricultural economy. This investment bolsters Virginia's reputation as a top wine destination on the East Coast and highlights the importance of the growing link between agriculture and tourism on the Northern Neck. This project, with its capital investment, new jobs and strong commitment to sourcing locally, represents another economic win for the region. My administration is committed to fully employing our diverse agriculture industry, one of the Commonwealth's greatest assets, to help build the new Virginia economy. "

Established in 2013, Monroe Bay Vineyard produces wine and hard cider next to James Monroe's birthplace near the town of Colonial Beach in Westmoreland County. The company will expand its existing vineyard and orchard, working directly with Virginia producers to grow more than $1.4 million in grapes, apples and other fruit, or approximately 84 percent of its total agriculture needs, over the next five years. This expansion will enable the company to dramatically increase production of its wines and hard ciders.

"It's great to see Westmoreland County continuing to develop and diversify its agricultural economy," added First Lady Dorothy McAuliffe, who also attended the announcement. "Connecting locally grown food with locally produced wines and ciders, along with craft beer and distilled spirits, represents a huge opportunity to further leverage Virginia's culinary resources for tourism and economic impact. High quality products, like the ones Monroe Bay Vineyard is producing, contribute significantly to growing the new Virginia economy, and I am pleased that customers across the region will have access to these Virginia-grown products."

"This expansion for Monroe Bay Vineyard represents another step forward for Virginia as we cement our reputation as key players in the nation's wine and cider sectors,"said Virginia Secretary of Agriculture and Forestry Todd Haymore, who announced the grant on behalf of Governor McAuliffe. "Virginia wine sales are up by more 25 percent since 2010, and sales of Virginia cider increased more than 200 percent from 2014 to 2015. Indeed, these craft beverages and others are contributing positively to cities and rural communities across the Commonwealth, adding to the Governor's call to build a new Virginia economy. I am pleased that the AFID fund was able to support this project, the first economic development announcement in Westmoreland since April 2013."

The Commonwealth is partnering with the Northern Neck Planning District Commission, Westmoreland County and Monroe Bay Vineyard on this project through the Governor's AFID Fund, which is administered by the Virginia Department of Agriculture and Consumer Services. Governor McAuliffe approved a $30,000 grant from the AFID Fund to assist with the project, which Westmoreland County is matching with local grant funds.

Kiki Apple, owner of Monroe Bay Vineyard, added, "We are honored to have the funding to bring our dream of a tasting room on the Monroe Bay to reality. We are the first winery on the Northern Neck to offer hard apple cider in addition to our wines. Being located on the land of James Monroe Birthplace Farm, our goal is to restore it back to a working orchard, and we have already planted 'Virginia Hughes Crab' apples in the orchard – the same variety James Monroe grew and loved."

"The Northern Neck Planning District Commission is delighted for the strong support of the Governor's Agriculture and Forestry Industries Development (AFID) Fund for a winery and cidery facility in Westmoreland County," said Jerry W. Davis, Executive Director of the Northern Neck Planning District Commission. "The Northern Neck Economic Development Plan identifies small business growth and entrepreneurship as priorities for the region, along with continued support of the tourism sector and products made in the Northern Neck. Small businesses such as Monroe Bay Vineyard continue the Northern Neck's agricultural tradition, provide places of interest for visitors, and augment existing efforts to brand the Northern Neck as a heritage area."

Senator Richard H. Stuart (R- Montross) commented, "This is a very exciting opportunity for Westmoreland County. Both the wine and cider industries have grown immensely here in the Commonwealth and have been significant contributors to Virginia's agriculture and tourism industries. I am thrilled for the Northern Neck to partake in this great economic development."

Delegate Margaret B. Ransone (R – Kinsale) added, "I'm pleased that the AFID fund could help support the important and growing wine and cider industries in the Northern Neck. The partnership between Monroe Bay Vineyards and Westmoreland County encourages economic development, and I look forward to this initiative and its future success."

According to a 2012 economic impact study, the Virginia wine industry employs more than 4,700 people and contributes almost $750 million to the Virginia economy on an annual basis. Nationwide, Virginia is in the top five states in number of wineries and wine grape production. In 2015, Virginia wine sales reached an all-time high of more than 524,000 cases, or nearly 6.3 million bottles. More than 1.6 million tourists visited Virginia wineries in 2015.

Celebrities stomp grapes

by Sally Colby

Most people who visit a winery don't get to see some of the most important aspects of wine production – harvest and pressing. Although modern pressing has replaced the need to press grapes by hand or foot, grape stomping still holds fascination.

The celebrity grape stomp at the 100th

Stomp 22

The Nittany Lion takes a turn at stomping grapes during the Celebrity Grape Stomp.

Team two members lift and drain their barrel to make sure every bit of juice flows into the jug, but it wasn't enough for the win.

Photos by Sally Colby

Challenges in growing cider apples

by Sally Colby

Hard cider is one of the fastest growing beverages in the United States, and some cider makers are taking an extra step – growing their own apples.

"Hard cider is being compared to both beer and wine, but the reality is that it's a unique beverage," said Eric Shatt, an experienced winemaker and nursery/vineyard manager who currently oversees Cornell University's orchard. "If you have to compare it to one or the other, it's more like making white wine. It isn't about brewing, cooking or heating; it's about selecting fruit, pressing fruit and fermenting fruit." In addition to his work at Cornell, Shatt and his wife Deva Maas grow cider apples and make hard cider at their Redbyrd Orchard Cider in the Finger Lakes region of New York.

There's a lot to selecting suitable apples for cider, and even more to selecting nursery stock for growing apples.

"For cider, there are four main categories," said Shatt. "There are the common apples, like Empire, Mutsu, Cortland, McIntosh. They're everywhere, and there's no reason to plant them because you can buy them. There are heirlooms, or antique varieties, that add certain styles of complexity and aroma, and are harder to source. Crossover varieties are heirlooms that can be used for either fresh market fruit or pressed for

Challenges 23

Cider apples don't have to meet the same criteria as those headed for the retail market. A good blend of tart and sweet varieties makes the most flavorful cider.

Photo by Sally Colby

An orchard of mixed cider apple varieties at Redbyrd Orchard in Trumansville, NY, grown for a combination of distinct flavors. The tall spindle planting allows more trees per acre, and grass between and in the rows helps concentrate fruit flavors in the cider.

Photo by Eric Shatt

The Vineyard Team names Dr. Craig Macmillan as technical program manager

Cal Poly grad returns to the central coast to help vintners on sustainability efforts

SAN LUIS OBISPO, CA — The Vineyard Team is pleased to announce its new Technical Program Manager, Dr. Craig Macmillan, who will work directly with growers and winemakers to lead sustainability research and educational programs, in addition to providing technical support for the esteemed SIP (Sustainability in Practice) Certified program.

"I am thrilled to be the new Technical Program Manager for the Vineyard Team. It is great to be back in this world full-time again talking to growers and walking fields," said Macmillan. "I have a long history in viticulture in the Central Coast, so I am excited to reconnect with old friends and make new ones."

Macmillan holds a M.S. in Plant Protection Science from Cal Poly and a Ph.D. in Sociology from Washington State University. Before heading to Washington for his doctorate, Macmillan made wine and managed vineyards within the Central Coast for two decades.

During that time he served as a board member and a project manager for the Vineyard Team. Since 2003, his work has focused on teaching and research in the areas of grape pest management, enology, viticulture, and the intersection of agriculture and human values.

"Growing grapes has never been easy," says Macmillan. "Some of the challenges are old and ongoing. My hope is that through input from winemakers and farmers, the educational programs we here at the Vineyard Team provide will give the wine industry the tools it needs to meet these challenges."

Visit: www.VineyardTeam.org to learn more about the Vineyard Team and its SIP (Sustainability in Practice) Certified Program.

The Vineyard Team announces its new Technical Program Manager, Dr. Craig Macmillan.

Growing Merlot Wine Grapes

Merlot is a very popular red grape that can be used as a varietal wine or in a blend. It has thinner skin and milder tannins. Historically, Merlot was primarily used for blending with Cabernet Sauvignon and other Bordeaux varieties to add softness and fruit complexity, shorten aging requirements and to hedge the risk of cool, late-ripening conditions in Bordeaux. In recent years it has also become popular as a full-bodied, high-quality varietal wine that can be marketed sooner than Cabernet Sauvignon.

Little is known of the origin of the variety, but it has been cultivated in the Bordeaux region of France since the eighteenth century. The first true botanical description was in 1854 by V. Rendue who described it favorably for blending with Malbec and Cabernet Sauvignon and as a component of the great wines of Medoc. A resurgence of planting in France since the 1970s, particularly in the south, makes it the third most planted black variety there. It is also widely planted in Italy, Central Europe, and South America.

Growth Habits

This vine is susceptible to winter injury. Budbreak is fairly early and is thus susceptible to frost in the spring. Fruit is susceptible to disease. Merlot has medium-high vigor and a trailing growth habit. Excess vigor quickly creates a dense canopy due to lateral shoot development. It is adapted to cool to warm climate regions. Merlot does well on deep, sandy loam or well-drained soils that have good moisture-holding capacity.

Merlot is susceptible to poor fruit set if cool weather occurs during bloom, which often contributes to seasonal variations in productivity. Its own-rooted vines tend to accumulate high levels of nitrogen compounds, including nitrates, during bloom, especially during cool weather. Thus, judicious and moderate nitrogen fertilization is recommended; post-bloom applications are advisable. The use of resistant rootstocks tends to minimize or even eliminate this problem. Merlot is somewhat sensitive to soil problems that involve zinc deficiency, salinity, and cold, excessively wet conditions.

In the northeast U.S.

Merlot has produced superior wines in New York. However, it has a very long vegetative growth cycle and tends to produce dense, shaded canopies. This leads to bunch rot and reduced winter cold tolerance. It is not recommended for any but the most favored sites in New York.

In the southeast U.S.

Merlot can be grown in the milder growing areas in the northwestern piedmont of North Carolina, as this area is less prone to winter injury than in Virginia or areas further west and north of this region in North Carolina. Still, it should be planted on more protected sites. Merlot is a leading vinifera variety in the Yadkin Valley, which is North Carolina's first federally recognized American Viticultural Area. Merlot acreage is currently similar to that of Cabernet franc.

In the mid-Atlantic U.S.

For those fortunate enough to be able to grow and crop Merlot, the rewards have often been outstanding wine quality. Merlot is quite sensitive to cold injury and crown gall and can be recommended only for those few excellent sites where experience has demonstrated that winter injury is not a serious threat. Much of the commonly available stock is infected with leafroll virus. Merlot fruit is highly susceptible to bunch rots, which often necessitates early harvesting and less than optimal fruit quality.

It is in good demand and has good yields. Budbreak is early, just after Chardonnay, and harvest is in early to mid-September. Its susceptibility to disease is similar to Chardonnay, but it is more resistant to bitter rot. It can be very vigorous and divided canopy training systems are recommended.

In California

Antoine Delmas imported the first vines to California in the 1850s; only a few acres existed after Repeal. It was included in the California planting boom of the 1970s, and plantings soared after 1987. Merlot acreage grew faster than that of any other world-class variety in the 10 years that followed with the exception of Viognier.

Recommended links

The National Grape Registry (NGR) contains information about varieties of wine, juice, and table grapes, raisins, and grape rootstocks available in the United States. Growers, nurseries, winemakers and researchers can find background information and source contacts for those grape varieties in this single convenient location.

Source: www.extension.org

Photo by David Carrero Fernández-Baillo

Cooperage: The art of barrel making

by Colleen Suo

Cooperage is the ancient craft of barrel making. There are several trains of thought as to the origin of the word. Some say the word cooper originated in an old Dutch expression meaning cask, other say the term was derived over the years from its original Latin term —cupa for cask or vat. Regardless, the meaning has remained the same over the centuries.

Wooden barrels have been used to store and transport all manner of goods for more than 2,000 years. There is evidence that the Romans first used barrels as early as the 3rd century AD.

From the early 15th to the end of the 19th century a cooper was a skilled craftsman who made casks or barrels of various descriptions. A dry cooper made casks tightly sealed at both ends to hold grains and the like; a wet cooper made leak proof casks for liquids; and a white cooper made pails and tubs for domestic or dairy use.

Cooperage has not changed very much at all over its 2,000-year history. A barrel made today is made in very much the same manner it was back then; the selection and aging of the wood, the preparation of the staves, and the end construction are all still very similar. There are nods to technology such as the use of band saws and sanders but, at its heart, the process remains unchanged.

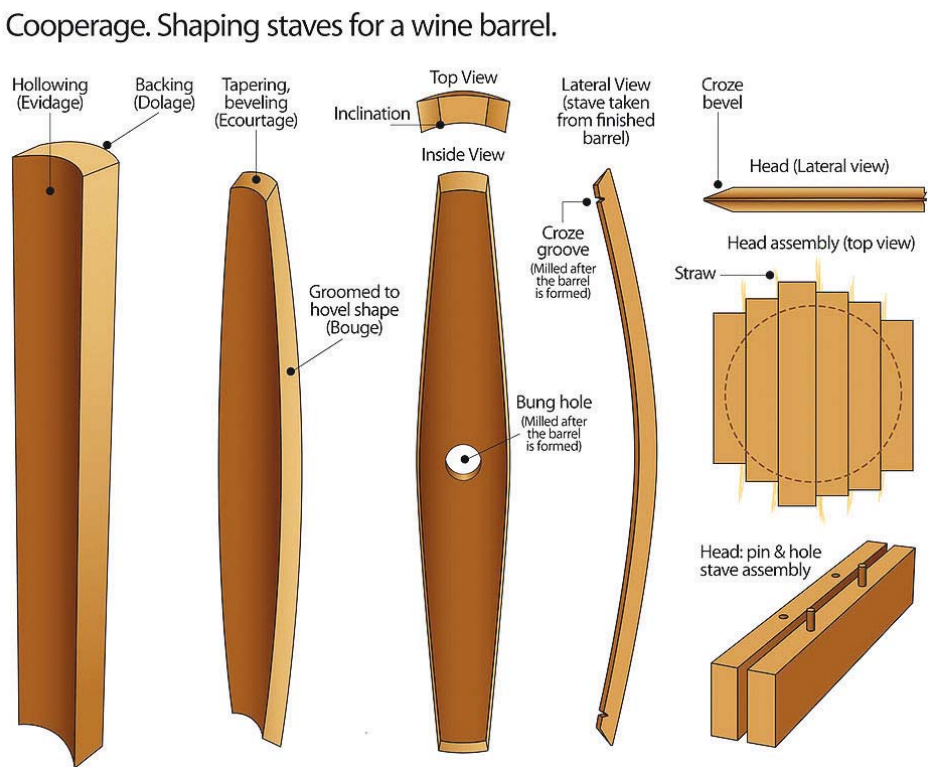
Featured here are a few of the tools of the cooper from the 19th century and how they were used.

The explosion of small wineries, breweries, distilleries and hard cider mills has encouraged the artisans that bring us these extraordinary vessels.

Completed barrel tagged with store that did business in Utica NY during the mid to late 1800's. Photos by Colleen Suo

Grouping of coopering tools from the 19th century. Tight barrel croze (top); leveler (left) and a howel for tight barrel.

This item is described as a Leveler in the D.R. Barton & Co's Standard. The company and date that is burned into the top is D. Barton - 1832 - Rochester, NY.



Different types of staves and croze groove and bevel.

The barrel croze is used to groove the ends of the staves.

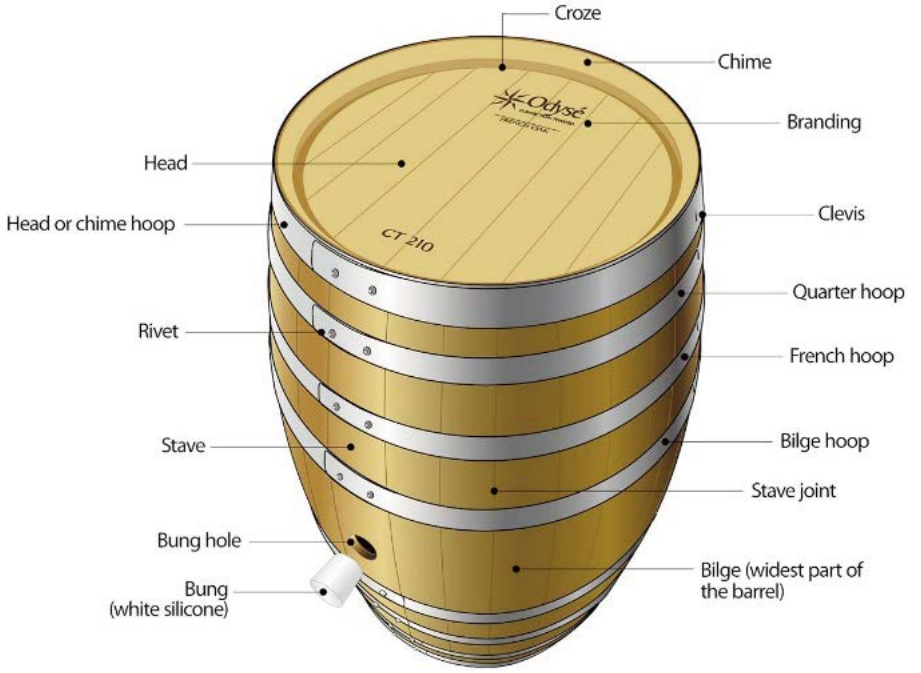


Illustration showing the parts of a barrel.

Cheers to CiderCON 2016

The 6th annual CiderCon wrapped up Saturday, Feb. 6, in Portland, OR. Conference organizers say this year's event was the largest one yet with attendance topping 1,000 people from 44 states and 8 countries. Attendees had the opportunity to choose workshops, seminars and tastings, network with colleagues and enjoy many “Outside Con” events throughout Portland.

The USACM Annual Business meeting was held on Wednesday with President Mike Beck offering a vision of the future of the industry and recapping work the board has accomplished over the past year. He announced that USACM would be seeking an Executive Director to help guide and grow the organization. The job description will be posted immediately. Beck also named the recipients of the new USACM Research Grant:

• Dr. Nikki Rothwell - Evaluating fire blight and apple scab susceptibility and management of 30 cider varieties - 2 year project; $11,013 (FY16) and $11,030 (FY17).

• Edwin Winzeler - The effect of 1-MCP Treatment on Cider (SmartFresh) Aroma and Taste; $6,600 and Use of ethephon and 1-MCP in harvest of Manchurian crabapples for cider; $4,123.

Board elections were conducted and the new board was announced following the meeting. Representative Earl Blumenauer spoke on Thursday about the recent passage of the CIDER Act, next steps on the legislative journey for the cider industry, and the future of the agricultural sector as a whole. “We are deeply appreciative of Representative Blumenauer’s ongoing support of the cider industry and the time and energy he spent working toward the passage of the CIDER Act. We were honored to have him speak at CiderCon again this year,” said USACM President, Mike Beck.

On Saturday, Feb. 6,the USACM presented The Cider Certification Program. Interim Director Eric West said, "I couldn't be more pleased with the turnout for our inaugural Level One course. There's clearly a demand for educational training that focuses exclusively on cider. We're off to a great start toward building a program to help industry professionals better understand and appreciate the world of cider."

Next year's event will be held in Chicago.

National Grape & Wine Initiative elects officers, board members

Coalition of U.S. Grape and Grape Product Industries to continue National Leadership Role in research

SACRAMENTO, CA – The National Grape & Wine Initiative (NGWI) recently announced its new leadership team for 2016.

By unanimous vote of NGWI members at its annual meeting on Jan. 25, John Aguirre, President of the California Association of Winegrape Growers (CAWG), was re-elected as chair of NGWI. NGWI also announced the following elected officers for 2016: Craig Bardwell of the National Grape Cooperative/Welch’s as vice chair, Peter Hofherr of Missouri’s St. James Winery as secretary-treasurer and Rick Stark of Sun-Maid Growers of California as past chair. In addition to the election of Board members, a new NGWI member, Jason Smith (Paraiso Vineyards) was elected to fill a vacant at large position on the board of directors.

NGWI Chair John Aguirre stated, “I’m excited about the future of NGWI. Last year USDA committed $6 million in funding for a high priority research project to develop sensor and mechanization technology to measure crop load and assess vine canopy with real time imaging. Led by Drs. Terry Bates of Cornell University and Stephen Nuske of Carnegie Mellon University, the research promises to deliver precision agriculture tools to grape growers across the country.”

Aguirre continued, “In addition, we are in the midst of a search for a new NGWI president which I expect will soon result in the hire of very capable and energetic leadership.”

ACSA's 3rd Annual Distillers Convention

ACSA's 3rd Annual Distillers Convention

ACSA will bring together the most knowledgeable and impressive faculty ever assembled for ALL levels of craft spirits producers during their Convention and Vendor Expo on March 2 -3. The largest gathering of licensed craft spirits producers in America will be held at the Palmer House Hilton Hotel, 17 E. Monroe St., Chicago. IL.

A cross of multiple topics, including safety, technical production, distribution, compliance, marketing, business management and the issues facing the craft spirits industry today. A comprehensive overview of Craft Spirits Trends will be released during this convention. Hear from and speak directly with the current Board of Directors and Committee Chairs. A new strategic plan will be addressed. Come learn more about your association initiatives. Let YOUR voice be heard. For more information visit www.americancraftspirits.org .

State guilds and associations roundtable: The Largest Gathering of State Guilds and Associations From Across the U.S.

• How Working with ACSA Can Impact You

• Mechanics of State Guild & Associations

• Changing Laws in Your State

Presentations: Providing deliverable, immediate and actionable tools and techniques to improve your businesses. Specific, drilled down information with detailed descriptions and explanations that will enhance understanding for all levels of DSP members for the novice to the most seasoned members of the craft spirits industry.

Technical topics:

• All the Chemistry You'll Ever Need to Know

• Climate Control & the Effect on Your Distillery's Future

• Fermentation/Yeast

• Barrels & Maturation

• Optimizing Your Flavor Profiles & Yield Impact

• Barrels & Maturation

• Contract Bottling

• And More to come

Safety topics:

• Lessons Learned

• OSHA

• Compliance & Regulatory

• Employees, Equipment & Emergencies

• Insurance

Business topics:

• FET

• ACSA: What To Expect Moving Forward & Your Future BOD Candidates

• What's Ahead in the 3 Tier System

• State of the Craft Spirits Industry

• Finance: Getting the Money

• Legal: Labels & Trademarks

• Working with the TTB: Colas, Audits & Getting it Right the First Time

• Exporting Abroad

• The Next Step

Marketing topics:

• Branding: Your Distillery's Story

• Sales Force & Brand Ambassadors

• Packaging: Message in the Bottle

• Distribution: Working with Distributors, Wholesalers & Retailers

• Sales Force & Brand Ambassadors

• Crafting a Cocktail Program

• Your Distillery Your Tasting Room

• Social Media, Digital Media & Working with the Media

Cost is $595 for members, $395 additional member attendees. Cost for nonmembers is $795, $595 each additional nonmember.

Cost includes: General sessions, town hall meetings, roundtables, all break out sessions, meals, happy hours and tastings. Also includes: The Annual Membership Awards Dinner (March 2) where the medalist from the Craft Spirits Judging will be awarded.

Fruit maturity evaluation of wine grapes for harvest planning

by Ed Hellman, Texas AgriLife Extension

Harvesting wine grapes at optimal fruit maturity, or ripeness, presents many challenges, not the least of which is accurate assessment of fruit ripening. Much of the difficulty with discussions of grape ripeness is that there is often an implied standard, but in reality, ripeness is subjective. There are two issues to address: 1) how do we define grape maturity, and 2) how is maturity measured.

What is grape maturity?

Numerous winegrape ripeness indices have been investigated and a few analytical laboratories are attempting to quantify grape ripeness through complex chemical analyses of flavor and aroma constituents, phenolics, color compounds, sugars, acids, and pH. But there will never be a single set of numbers that defines ripeness for a particular grape variety under all circumstances and for all purposes. Ripeness is defined by the individual and is primarily a function of the intended use for the grapes. Often, an individual's definition of

Fruit 21

Expanding craft beer, and keeping it local

by Tamara Scully

Craft beverage production is growing. Rooted in small batches, unique flavor profiles, and oftentimes local sourcing of ingredients, the challenge of expanding production while keeping true to the movement's roots is already being felt, even as local supply chains are yet being developed.

The emergence of an integrated local craft beverage industry, from the farm to the bar, makes it possible for craft beverage makers to expand while continuing to source inputs close to home. But the growth of the industry is outpacing the development of these local supply chains.

Attendees at the "Maltster in the Rye" Farmer/Brewer conference, held recently at Hartwick College, in Oneonta, NY, heard industry professionals discuss the challenges of keeping it local, while growing a brewery.

Localized Supply Chain

"Customers are looking for high-quality, regional food today," June Russell, of Greenmarket/Grow NYC said. "Good wheat can be grown here. There is a flavor difference," that is unlike the homogenous commodity grains consumers have been acclimated to expect.

Expanding craft brewers can help to keep this emerging local grain market thriving, Russell said. Bakers at Greenmarket's farmers markets have made a commitment to devote 15 percent of their grain bills to local sourcing. Brewers, she said, can approach the issue the same way, and determine what percentage of their grain bill will work, both financially and production-wise, if it is devoted to local grains.

Thor Oechsner, who grows 1,200 acres of organic grains for the flour and malting industry in New York State, reminds maltsters and brewers that "the farmer has to make money first and foremost." A balance is needed, Oechsner said, "between agronomics and profitability all the way through the (supply) chain."

The beer has to be profitable for the brewery. If the product is priced too high, and consumers won't purchase it, the brewer won't be able to stay in business. Keeping the cost of production in line with a price point the end-user will allow, while also providing a fair profit to the maltster, grower and others along the supply chain, is challenging.

As the craft brewing supply chain continues to develop, all of the players are incurring costs. Costs of research and breeding locally-suitable grains; of growing those grains - including proper planting, harvesting, drying and storing equipment; of malting knowledge and infrastructure; and of the brewery itself as production is expanded; will increase, at least initially.

Word from the Brewer

Phil Leinhart, of Brewery Ommegang in Cooperstown, NY, said that the price of local ingredients is currently about three times as much as those on the conventional market, making it "challenging to maintain profit margins. Hopefully as our industry develops and grows, that price will moderate and make it more do-able," to use local ingredients on a larger scale.

The brewery does use local sourcing, including from their own onsite hops yard, and have financed research into local production of hops. They have made a commitment to use 2,000 lbs. of locally grown hops in 2016. They are not yet sourcing barley or other malted grains locally. They require over 300 million pounds of malt each year, and while they are committed to the use of local ingredients, they don't yet know how they will be able to source the grains locally.

The brewery sells their beer in 46 states. Recently, they've noticed an increase in sales locally, and plan to focus on expanding this market. Doing so may offer more incentive and opportunity to capitalize on consumer demand for local ingredients, positively impacting the local supply chain.

Ben Roesch, of Wormtown Brewery in Massachusetts, whose slogan is "a piece of Mass in every glass," saw a 500 percent growth rate in 2015. They've been able to remain true to their mission of local sourcing as they've grown from a small 1,000 barrel annual production level in 2010 to producing over 15,000 barrels/year today.

One challenge for local sourcing as the brewery grows is that "quantity increase is tied directly to growth," Roesch said. If they grow 100 percent, they need 100 percent more ingredients. The local supply chain is not able to grow that quickly.

Roesch encouraged open, direct communication regarding price, quantity and quality. He strongly advises contracts, to protect both parties and delineate what is expected. There is risk, as the quality needed is not always there. He would like to see a quality standard for ingredients to be developed.

Local ingredients are "all about communication," Roesch said. "We've definitely rejected some locally-grown grains."

In the Northeast, there is only one chance to get the year's crop grown. Brewers need to have the supply chain set up ahead of time, as farmers need time to grow the crop. Brewers also need to realize that ingredients are only harvested at certain times. Using local sugar pumpkins, for example, means that their pumpkin brews aren't on the market as early as they might like them to be.

One aspect of the supply chain logistics that needs to grow along with beer production is the ability to produce and deliver larger quantities of ingredients. The infrastructure to store the grains and malts, for example, needs to be in place. The brewery added a silo to store base malts. For specialty malts, they are now purchasing super sacks, rather than the smaller 50-ton sacks. Buying in quantity has reduced their cost about 25 percent, Roesch said. Another change is the 20 ton dumpster they now use to pick up grain.

Even as the brewery's production has expanded rapidly, they have been able to keep the percentage of local ingredients steady. Local malt made up 5.8 percent of Wormtown Brewery's purchases, by weight, in 2012, and 5.2 percent in 2015. Local hops comprised 4 percent of the hops purchased by weight in 2013, and 6.4 percent in 2015, as the local hops acreage has matured. They also use local seaweed, sea salt, and maple syrup.

"The local ingredients here are costing us a lot more than the traditional ones," Roesch said.

Hops pricing is not going down with the increase in available quantity, however. The cost of the local hops is 11 percent of the total cost of hops purchased in 2015.

"We're all in this together, or the system is never going to work," Oechsner concluded, emphasizing the need for everyone along the supply chain to remain profitable, with an end-product price point that the consumer can still afford.

The need to keep costs down while increasing production levels, and crafting brews at a price that the growing base of mainstream customers are able and willing to pay, is challenging. Craft beverage makers have to balance their growing popularity, the realities of the marketplace, and dedication to their mission.

Attendees of the Farmer/Brewer Conference, held at Hartwick College, Oneonta, NY evaluate their beer during the tasting reception.

Photo courtesy of Hartwick College.

Great Notch Distillery Class

by Jane Primerano

In an unimposing industrial/office park in Wyckoff, NJ, one door reads Great Notch. New Jerseyans know Great Notch is a part of Wayne Township miles away from Wyckoff, where George Washington delivered an address to his troops, but behind this door is a small but active distillery. Randy Pratt, an educator by profession and distiller by avocation, set up the first distillery in Bergen County since Prohibition.

His process is a little more high tech than that used by the bootleggers. It features the iStill, a Dutch invention that streamlines the process of creating craft spirits. Odin VanEijk, inventor of the iStill visited Pratt recently to teach a class in the use of his machine.

Rather than the typical copper still, the iStill is black and insulated to maintain the heat.

The six students in his class came from Pennsylvania, Connecticut, New York and Alberta, CA. They did have some classroom instruction in their hotel from Anne-Sophie Whitehead, deputy director of the American Distilling Institute. Those classes cover distribution and marketing.

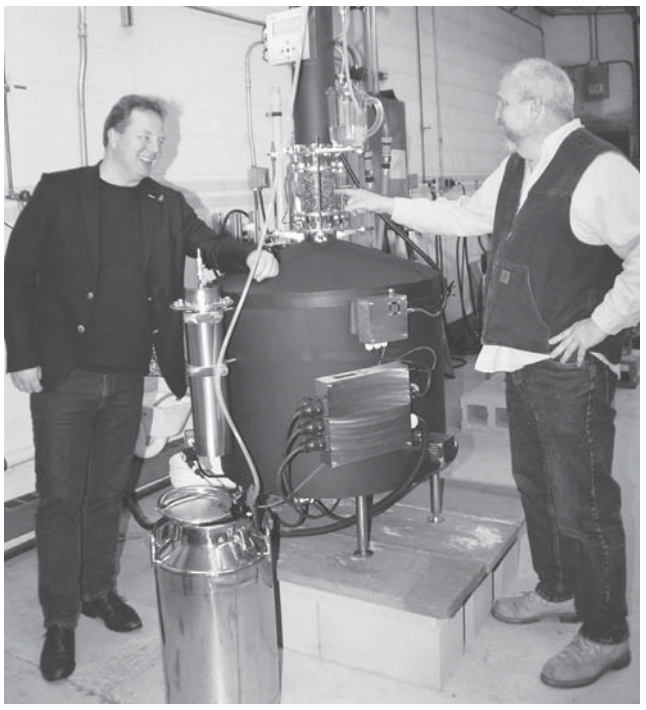
"We get to know each other and we go over the whole process, milling, cooking, mashing. They see the fun and the work," VanEijk said of the students. Each student has his own reason for taking the class.

Frederick Volz and Bill Smith are starting the Nittanny Mountain Distillery, which resulted in them having to explain the folklore around large and possibly fictional catamounts in Western Pennsylvania to their Dutch instructor. Volz will be the distiller. Smith will manage the operation, but both enjoyed their hands-on exposure to the process. Justin Hoken is in the asset management business and hopes to have a distillery on the side. He grew up with family in the hospitality business and noticed Connecticut seems to be easing up on regulations.

Smokey Forrester is a television documentary producer. He is interested in a small still to develop his own recipe for Geist. The German word for ghost, Geist refers to a fruit brandy made from fragrant but low sugar fruits. John LeDuc already works for a large company, Cooperstown Distillery. He said he has a graduate degree in folklore, specializing in hops production in upstate New York. Cooperstown sent him to VanEijk's class because they want him to learn all possible aspects of the business, he explained. Cooperstown Distillery is known for its bottle shaped like a baseball, but LeDuc said they use regular bottles as well.

Greg Radstack came from Canada because Alberta recently changed its regulations to allow small distilleries, producing up to 100,000 liters per year.

"I've been following Odin for a year," Radstack said, adding "the technology caught my attention." He said he plans on a "backyard distillery." Radstack already owns a commercial building with a restaurant and bar. "I've started several businesses," he said. VanEijk said 80 percent of students he has worked with jump right in to a distillery business.



Odin VanEijk (left) and Randy Pratt with Pratt's 70 gallon iStill.

The Great Notch Start-up

Pratt said he started the same way these students did. He went to workshops, took classes and visited distilleries. "I thought I would start up overnight, but it is a process," he said. The length of the process depends on the state. Pratt planned on starting up a business in New York State but then New Jersey laws changed and made it easier to open here.

"There is always something to do," he added. Bottles must be cleaned, dried on a rack and then on boards with holes for the neck to make sure they dry inside. Then bottles are filled and corked and labeled. "I'm a one-man show until bottling. Then family and friends help," he said.

Randy Pratt demonstrates his "bottling line."

Greg Radstack pours mash into the distiller as Frederick Volz steadies the funnel and Smokey Forrester looks on.

The class examines the iStill. From left: Greg Radstack, John LeDuc, Justin Hoken, Smokey Forrester and Frederick Voz.

Pratt primarily makes clear spirits: vodka, gin and moonshine which are not aged. His plan is to start distilling aged spirits and has run a test batch.

Pratt's bottles are an unusual style that mirrors the shape of the still. "It's an old-fashioned style," Pratt said. He wanted a look that would be noticeable to patrons. The wide shoulders below the long neck do stand out. The labels are simple with a stylized logo representing the notch and color differences depending on the type. He uses synthetic corks which he says are just as good as natural.

Because of the small size of his space, Pratt doesn't stock a lot of inventory. His bottling "line" is one bottle at a time and he applies the plastic to his corks with a heat gun. "Eight dollars from Harbor Freight," he joked. VanEijk pointed out he could use a hair dryer instead.

The still Pratt bought is a perfect fit in the space. It is a 70 gallon boiler which can distill up to 10 liters an hour.

Are You Involved In More Than One Industry? We Are Here to Help You.

Regional Heavy Construction (monthly)

❒ **YES - Send me Hard Hat News!**

HARD HAT NEWS

Hard Hat News focuses on heavy equipment construction including excavating, construction/demolition, paving, bridge building, and utility construction in the northeastern third of the United States.

*This publication costs $18.00 for one year (Free via email)

TITLE

1 ❒ President/CEO **2** ❒ Manager/Supervisor **3** ❒ Other

NUMBER YOUR PRIMARY BUSINESS #1, SECONDARY #2, ETC.

1 Asphalt Paving _____
2 Concrete Paving _____
3 Oil & Stone Paving _____
4 Bridge Construction _____
5 Excavating _____
6 Utility/Underground _____
7 Construction Demolition _____
8 Landscaping _____
9 Land Clearing _____
10 Logging _____
11 Other _____

Regional/National Solid Waste Recycling (monthly)

❒ **YES - Send me Waste Handling Equipment News!**

when Waste Handling Equipment News

Recycling professionals involved in the wood waste, C&D, scrap metal, asphalt & concrete, and compost recycling industries will find Waste Handling Equipment News a valuable source of new products, product innovation and site adaption.

TITLE

❏ **Owner/President/VP** ❏ **Operations Manager** ❏ **Other**

TYPE OF BUSINESS (Check all that apply)

❏ **Construction Demolition Recycling**
❏ **Construction Demolition Landfill**
❏ **Woodwaste Recycling/Land Clearing**
❏ **Composting**
❏ **Asphalt/Concrete Recycling**
❏ **Scrap Metals Recycling**
❏ **Ferrous** ❏ **Non-Ferrous**

National Aggregate (bi-monthly)

❒ **YES - Send me North American Quarry News!**

NAQN North American Quarry News

North American Quarry News covers quarries, sand and gravel pits, HMA and ready mix concrete operations in the United States. NAQN provides a combination of strong editorial and advertising for industry professionals.

Your company produces these products or services:

(Check All That Apply)

1 ❒ Crushed stone and sand & gravel
2 ❒ Crushed stone
3 ❒ Sand and gravel
4 ❒ Recycled materials, concrete/asphalt
5 ❒ Lime
6 ❒ Industrial minerals
7 ❒ Machinery/equipment manufacturer
8 ❒ Equipment dealer/distributor
9 ❒ Drilling
10 ❒ Blasting

Regional Horticulture (Paid Subscription monthly)

❒ **YES - Send me Country Folks GROWER!**

Country Folks GROWER

Country Folks GROWER is the regional newspaper for all segments of commercial horticulture. Each issue is filled with important information for the Greenhouse, Nursery, Garden center, Landscaper, Fruit, Vegetable Grower and Marketers.

*This publication costs $24 for one year.
*This publication costs $40 for two years.

Business Type: **(Check All That Apply)**

❏ Greenhouse
❏ Tree Fruit
❏ Nursery
❏ Farmers Market
❏ Direct Market
❏ Vegetable
❏ Small Fruit
❏ Christmas
❏ Garden Center
❏ Supplier

Regional Agriculture (Paid Subscription weekly)

❒ **YES - Send me Country Folks!**

Country Folks

Our premier weekly agricultural newspaper has four editions covering agriculture from Maine through North Carolina. Every issue is loaded with national, regional and local agricultural news, equipment, service advertising and auctions.

*This publication costs $50 for one year. *This publication costs $85 for two years.

Business Type: **(Check All That Apply)**

❏ Dairy ❏ Beef ❏ Poultry ❏ Horse ❏ Goat
❏ Sheep ❏ Alfalfa ❏ Corn ❏ Soybeans

Northeast Equine Market (monthly)

Mane Stream is a monthly horse publication reaching Maine to Northern Pennsylvania, and New Jersey. Not only does Mane Stream go to horse owners who request it, but it goes to all of our Affiliated Horse Association Members.....42 Associations Strong and Growing! In addition, issues of Mane Stream are shipped to tack shops, feed stores, stables, auction barns, and where horse people frequent.

Country Folks Mane Stream

How Many Horses Do You Have?_____

National Craft Beverage (Paid Subscription monthly)

Wine & Craft Beverage News offers features, news and information on growing grapes, and making and selling wines and craft beverages. Learn tips on how to start or improve your business.

WINE & CRAFT BEVERAGE NEWS

*This publication costs $12 for one year print; 2 years digital by email

Business Type: **(Check All That Apply)**

❏ Grape Grower
❏ Vineyard
❏ Craft Brewery
❏ Cidery
❏ Supplier
❏ Craft Distiller

LEE PUBLICATIONS, INC.

PO Box 121, 6113 State Hwy., Palatine Bridge, NY 13428

SUBSCRIPTIONS

888-596-5329

FAX 518-673-2699

email: subscriptions@leepub.com

Name _____

Farm/Business Name _____

Address _____

_____

City _____ State _____ Zip _____

Email _____

Phone ( ) _____ Fax ( ) _____

Date _____ Signature _____

Fruit from 17

ripeness is also influenced by what is "typical" for that variety in his or her growing region. Some benchmark of ripeness is achieved in one or more seasons and all subsequent crops are compared to that benchmark.

Winemakers commonly have a target for grape ripeness they would like the fruit to achieve for the wine they plan to produce. That target can vary, even within the same grape variety, depending on the type or style of wine that will be made. For example, one winery may prefer to produce a wine emphasizing red fruit characteristics while another winery would prefer riper black fruit characteristics. Grape ripening is a continuous process and the progression of aroma and flavor characteristics for red grapes is shown in Figure 1. Timing of harvest, therefore, is a matter of determining that point along the ripening continuum that best fits the winemaker's objective for the wine.

The ability to harvest grapes at the desired fruit ripeness is dependent upon one's current knowledge of the progression in fruit maturity occurring in the vineyard.

Measuring ripeness

The ability to harvest grapes at the desired fruit ripeness is dependent upon one's current knowledge of the progression in fruit maturity occurring in the vineyard. Weather conditions will cause seasonal differences in the rate and characteristics of grape ripening. Varieties and even blocks of the same variety are likely to have different patterns of ripening. The only way to know where the fruit is on the ripening continuum is to collect samples of the fruit periodically and assess ripeness. An excellent discussion of how to monitor fruit ripening can be found in the book chapter 'Monitoring Fruit Maturity'. Much of the forthcoming discussion is adapted from this chapter.

Fruit maturity of grapes is commonly monitored by periodically measuring soluble solids content of ripening berries with a handheld refractometer. But sugar content is not necessarily related to accumulation of flavor and aroma compounds. Tasting fruit for a subjective assessment of flavor development typically augments the quantitative measure of sugar content. Such simple techniques can be very useful indicators of grape maturity, but only if the sample tested is appropriate. Too often however, conclusions about grape ripening status are drawn from very small, nonrandom and unrepresentative fruit samples. The key to a good estimate of fruit maturity is to collect berry samples that are truly representative of the vineyard block to be harvested.

Vegetation	Herbaceousness	Unripe Fruit	Red Fruit	Black Fruit	Jam
Plant matter	Straw, herb vegetal, tobacco	Green apple, citrus rind	Cherry, strawberry, raspberry	Plum, blackberry, black cherry	Prune, date, raisin

Figure 1. Evolution of flavorants in Cabernet Sauvignon (from Bisson, 2001).

Fruit samples should be taken weekly beginning about three weeks before harvest is anticipated. More frequent sampling should be done as the anticipated harvest date becomes closer, particularly if there are changes in the weather that could affect ripening or condition of the fruit.

Sample preparation and analysis

Accurate assessment of fruit ripeness also depends on proper sample preparation and analytical procedures. Fruit samples should be processed quickly, preferably within a few hours of collection, and processing procedures should simulate winery conditions as closely as possible. The fruit can be crushed and pressed by hand, taking care to crush each berry thoroughly. Large samples are more easily crushed with a small roller-crusher and pressed with a small bench-top press. Crushing should be accomplished without breaking the seeds. The crushed fruit can be hand-squeezed tightly through cheesecloth to obtain both the free run and the pressed juice. Fruit constituents are not evenly distributed in the pulp of the berry so a thorough pressing or squeezing is necessary with all of the juice combined. A common mistake is to use only the free run juice for analysis, which tends to have higher sugar and titratable acidity, lower pH, and lower potassium

Fruit 26

Stomp from 11

Pennsylvania Farm Show was reminiscent of an 'I Love Lucy' episode, with each barefoot team member taking a turn to stomp grapes as teammates cheered.

Team One for this year's stomp included Robb Hanrahan of CBS 21, Rep. Judy Ward of Blair County, Larry Kasper of Pennsylvania Cable Network, Senator Rob Teplitz of Perry and Dauphin Counties, Farm Show Complex Executive Director Sharon Altland, and 'Aggie', the Delaware Valley University mascot. Frank Zaleski of Fero Vineyards in Union County coached the team.

Team Two members included Matt Barcaro of WGAL, Rep Dan Moul of Adams County, Chris Garrett of Fox 43, Pennsylvania Secretary of Agriculture Russell Redding, Farm Show Complex Assistant Executive Director Heidi Svonavec, and the Penn State Nittany Lion. Jonathan Patrono of Hauser Estate Winery in Adams County served as the team coach.

Each team member was allowed 30 seconds of stomp time, and although each team member stomped hard and steadily, it took several stompers before juice began to drip slowly into the five-gallon jugs below the stage.

When time was called, the juice in each of the jugs was measured and Team One was declared the winner. All participants received a gift basket of Pennsylvania wines from the Pennsylvania Winery Association.

Pennsylvania has a growing and thriving wine industry with more than 200 wineries and 14,000 acres planted in wine grapes. Twelve wine trails throughout the state invite visitors to a variety of wineries to sample and learn more about the state's unique wines.

Aggie, the Delaware Valley University mascot, in the barrel for the winning stomp.

Coach Jonathan Patrono lends an arm to Pennsylvania Secretary of Agriculture Russell Redding as he stomps for 30 seconds.

Challenges from 12

cider. Then there are specific hard cider varieties that add tannins, acidity and complexity. If you're looking for tannin structure, there are lots of options. Brown's Apple, Brown Snout, Porter's Perfection, Dabinette and Kingston Black are fantastic varieties." Crossover varieties that could be categorized either way include Ashmead's Kernel, Tompkin's King and Baldwin. Shatt adds that apples in these categories may not be highly productive, but they're valuable for what they contribute to the finished product.

Selecting apple varieties for cider includes becoming familiar with various rootstock options. Most good cider apple varieties are not grower-friendly, so it's critical to match scion vigor with rootstock and plan for the potential tree that the combination will create. Shatt says that rootstock selection depends on what you want, how much time you have and your ultimate goal. "In our case, we have minimal acreage – 14 acres – and we planted four of those acres," he said. "We're going to plant more, but we're running out of tillable land so we've chosen dwarfing stock to maximize production." Semi-dwarf rootstock or even standard size trees are good options for some growers, depending on orchard layout and available space.

"A lot of the European bittersweet cider apples tend to have some unusual growing patterns," said Shatt. "Mainstream varieties like Empire, Cortland and Mutsu were chosen because of the way they'll grow for a certain orchard system. A lot of popular cider varieties were chosen for the properties they have for cider. It's important to think about how different varieties grow, and match with the proper rootstock.

For instance, if I were going to plant Somerset Redstreak and wanted to plant on vigorous rootstock, I would have to prepare for a big tree with a lot of vigor. But Brown Snout on B9 or G11, which are dwarfing rootstock, you'd have to plan a low-vigor tree that can be planted close together because the tree won't fill a lot of space."

When it comes to disease and pest management, it's important to become familiar with the issues in your growing region. "If you're going to plant cider-specific varieties, the two biggest management challenges will be fire blight and the biennial nature of cider apples," said Shatt. "Certain sites will have issues with cedar apple rust, scab, coddling moth and oriental fruit moth."

Shatt says that growing cider apples can mean less intensive pest management because apples won't be under scrutiny by consumers. "For the fresh market, we have to concentrate on perfect fruit to meet market demand," he said. "In the cider orchard, we can back off on perfect fruit and focus more intensively on fire blight and the biennial nature of cider apples."

Fire blight management begins with selecting varieties for bloom time. The bacterium that causes fire blight enters the flower when environmental conditions are warm and moist, so late-blooming varieties are more susceptible.

Later blooming European bittersweet apple varieties, which Shatt says are an integral part of good cider, will be more susceptible to fire blight than early blooming varieties. "It isn't uncommon to have bittersweet varieties blooming into late May and early June in New York," he said, "several weeks after other varieties are finished blooming." Shatt added that a Cornell study that involved slow and steady application of copper throughout the bloom period successfully suppressed fire blight.

Shatt says that the Geneva (G) series rootstock were all created under intense fire blight pressure. "If you're going to plant fire blight-prone, late-blooming bittersweet apples, put them on fire blight resistant rootstock," he said. "You're more likely to avoid a disaster."

Another challenge with many cider varieties is their biennial bearing, or alternate year bearing habit. As cider makers start planting larger orchards of bittersweet varieties for cider, proper thinning will be a critical aspect of managing crop load from year to year. "Not only do we have the alternate bearing situation, we also have the potential for a heavy crop with apples that are diluted in flavor and sugar," said Shatt.

Harvest and post-harvest treatment of cider apples is an important aspect of production to consider. "If you are the apple grower and the cider maker, you can decide how to pick and process the fruit," said Shatt. He also says that many hard cider varieties were originally selected because they drop naturally, and it's easier to pick fruit off the ground than from the tree.

A challenge for cider makers who are purchasing some of their apples can be sourcing, whether the varieties are traditional or are being grown specifically for hard cider. "It's important to communicate with the grower about what you want," said Shatt. "A lot of apple growers who grow for the fresh market pick apples at the optimal time for storage. We don't want hard cider fruit picked to be stored for three or four months. We want maximum flavor and sugar content. Pressing starchy apples is bad; pressing ripe (almost rotten) apples is better."

WINE & CRAFT BEVERAGE NEWS

Serving Wineries, Breweries, Distilleries, Cideries and Other Craft Beverage Producers

(800) 836-2888
PO Box 121, 6113 State Hwy. 5
Palatine Bridge, NY 13428
Fax: (518) 673-2381
E-mail: classified@leepub.com

Number / Classification

Announcements

APRIL ISSUE
ADVERTISING DEADLINE
Thursday, March 10th
Wine & Craft Beverage News
***Call Peg at* 1-800-836-2888**
or 518-673-0111
or email classified@leepub.com

Announcements

★ ★ ★ ★ ★
ADVERTISERS
Get the best response from your advertisements by including the condition, age, price and best calling hours. Also we always recommend insertion for at least 2 times for maximum benefits. **Call Peg at 1-800-836-2888**

CHECK YOUR AD - ADVERTISERS should check their ads. Lee Publications, Inc. shall not be liable for typographical, or errors in publication except to the extent of the cost of the first months insertion of the ad, and shall also not be liable for damages due to failure to publish an ad. Adjustment for errors is limited to the cost of that portion of the ad wherein the error occurred. **Report any errors to Peg Patrei at 518-673-3237 ext. 111 or 800-836-2888.**

Building Materials/Supplies

PREVENT POSTS FROM ROTTING. Quick-Easy-Effective-Low-Cost. For Information call 1-888-519-5746 or email GetSmartpostInfo@gmail.com

Bulk Wine

BULK WINE
Hybrid's - Vinifera
Native American
Cold Stable
Protein Stable
Filtered to .45m Nominal
Samples Available
- Small Lots Welcome -
Shipping & Containers Available at Reasonable Rates
Call **937-526-3232**
Ask for Mike or Dave

For Sale

BUSINESS CARD MAGNETS only $75.00 for 250. Free Shipping. Call Beth at Lee Publications 518-673-0101 or bsnyder@leepub.com Please allow 7-10 business days for delivery

WANT TO PLACE A CLASSIFIED AD? CALL: 1-800-836-2888

Bulk Wine

Muscat
BULK WINE & SHINERS
Willamette Valley Oregon
Filtered and Stabilized
8% Residual Sugar
Samples Available
Call 541-954-9870
or email wines@nobleestatewinery.com

Labels

LOGO LABEL PRINTING

Printing the highest quality labels at competitive prices for hundreds of satisfied customers in the private label business. High-end digital presses, quick turn around, short runs, variety of dies and materials, in house graphic artists!

Contact: Chris Stewart
4416 Bennett Memorial Road, Suite 101
Durham, NC 27705
919-309-0007
Fax: 919-309-0078
chris@logolabelprinting.com
Web: logolabelprinting.com

Lumber & Wood Products

LOCUST 4x4's, fence posts, split rails, lumber. Natural, chemical free non poisonous alternative to pressure treated that has strength and lasts a lifetime. 518-883-8284

Miscellaneous

NEED BUSINESS CARDS? Full color glossy, heavy stock. 250 ($45.00); 500 ($60.00); 1,000 ($75.00). Call your sales representative or Beth at Lee Publications 518-673-0101 or bsnyder@leepub.com

Services Offered

RAUL RODRIGUEZ Specializing in Grafting Trees & Vines in Long Island New York, California, Oregon, Washington. 25 years experience. 805-839-6542 or 661-448-7960

Nursery Stock

MAKE ONE CALL FOR ALL YOUR FRUIT TREE NEEDS!
www.MoserFruitTreeSales.com
Matt Moser Toll Free 800-386-5600
Cell 269-921-6892 Fax 269-468-6510 5329 Defield Rd Coloma, MI 49038
Email: Matt-Lee-Moser@prodigy.net
We have cider varieties for 2016, 2017 & 2018!
Representing only the best fruit tree nurseries with common sense and independent advice.

GRAFTING YOUR OWN OR TOP-WORKING OLDER ORCHARDS?
www.GraftingSystems.com
We have the tools and supplies to help you transition to new varieties and orchard systems. Safe, easy to use, and successful. Exclusive US and Canada distributor for Scionon® grafting tools
Toll Free 800-386-5600
Div. of Moser Fruit Tree Sales, Inc.

Packaging

PPOVA
Packaging Products of Virginia
- Custom Printed Carriers 4-6-12 Packs
- Wine & Beer Insulated Logo Totes
- Wine & Beer Ship Kits
- Printed Bags & Food Papers
- Printed Growlers w/Printed Caps
- Wood Wine Boxes Printed or Engraved

Samples Available - Low Minimums
Visit www.ppova.com
Or 804-781-1957 Orders & Pricing
GrowLPaL INSULATED GROWLER TOTE

Labels

Rentals

FORESTRY CUTTER FOR RENT

• Blaze Wildlife Trails • Trim Tree Lines
• Clean Up Old Orchards
• Reclaim Grown Up Meadows
(For Rent or Custom Hire)
Call Lamar 315-246-1154

Services Offered

RUBBER STAMPS self inking. All sizes. Call Beth at Lee Publications. 518-673-0101 or bsnyder@leepub.com

Sprayers

SPRAYERS: SWIHART'S, Quinter,Kansas. Offers a complete line of low volumn mist sprayers 800-864-4595. www.swihart-sales.com

Call Us Today For Your Subscription To:
Wine & Craft Beverage News
Serving Wineries, Breweries, Distillers, Cideries & Other Craft Beverage Producers
888-596-5329

WINE & CRAFT BEVERAGE NEWS

Serving Wineries, Breweries, Distilleries, Cideries and Other Craft Beverage Producers

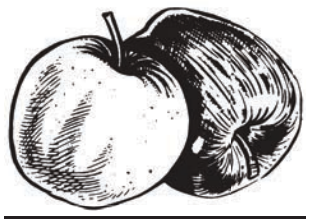
(800) 836-2888
PO Box 121, 6113 State Hwy. 5
Palatine Bridge, NY 13428
Fax: (518) 673-2381
E-mail: classified@leepub.com

Vineyard Equipment

Vineyard Equipment

Winery Equipment

Winery Equipment



Winery Equipment

Calendar of Events

E-mail announcements of your regional event(s) to: jkarkwren@leepub.com. We must receive your information, plus a contact phone number, prior to the deadline that's noted under the Announcements heading at the beginning of these Classifieds.

*****

MAR 3 - 5

2016 Wine Education Conference

Sheraton Albuquerque Uptown. For more information call 505-933-8650, email Contact@BlueRiverProductions.com or visit www.nmwine.org/education-conference.html for more information.

MAR 3 - 5

B.E.V. NY

RIT Inn & Conference Center, Rochester, NY. For more information visit www.bevny.org .

MAR 8

Northern Grapes Project Webinar

Cold-Hardy Grape Breeding at the University of Minnesota and North Dakota State University. For more information contact Chrislyn Particka at cap297@cornell.edu or visit www.northerngrapesproject.org .

MAR 9 - 10

The 22nd Annual ELA Conference & Eco-Marketplace

UMass Campus Center, Amherst, MA. Visit www.ecolandscaping.org for more information.

MAR 9 - 11

2016 Eastern Winery Exposition

Lancaster, PA. Visit www.easternwineryexposition.com for more information.

MAR 15 - 16

WiVi Central Coast Conference & Tradeshow

Paso Robles Event Center, 2198 Riverside Avenue, Paso Robles, CA. Visit www.wivicentralcoast.com for more information.

MAR 21 - 23

2016 USA Trade Tasting and Conference

Metropolitan Pavilion, New York City. Visit www.usatradetasting.com for more information.

APR 1 - 2

2016 Finger Lakes Craft Beverage Conference

Waterloo Holiday Inn in Waterloo, NY. Visit http://senecacountycce.org for more information.

APR 4 - 6

Women of the Vine Global Symposium

The Meritage Resort and Spa, Napa, CA. For more information visit WomenOfTheVine.com or call 888-750-1863.

APR 4 - 7

2016 Spirits Conference & Vendor Expo

Town & Country Resort, San Diego, CA. Visit www.distilling.com for more information.

APR 9

Effective Vineyard Spraying program

The Champlain Wine Company 30 City Hall Place, Plattsburgh, NY. 9 am-1 pm. For more information please contact Anna Walllis at 518-410-6823 or aew232@cornell.edu . Pre-Registration is required by April 2.

APR 12

Northern Grapes Project Webinar

Northern Grapes Project Research Results: Fungicide Sensitivity and Vine Nutrition of Cold-Hardy Cultivars. For more information contact Chrislyn Particka at cap297@cornell.edu or visit www.northerngrapesproject.org .

MAY 3 - 6

Craft Brewers Conference

Philadelphia, PA. For more information visit www.craftbrewersconference.com .

MAY 10

Northern Grapes Project Webinar

From Vine to Glass: Understanding the Flavors and Aromas of Cold-Hardy Grapes and Wine. For more information contact Chrislyn Particka at cap297@cornell.edu or visit www.northerngrapesproject.org .

MAY 18 - 20

Craft Beverage Expo 2016

Oakland, CA. Visit for http://craftbeverageexpo.com more information.

OCT 11 - 12

Beverage Business Expo

Washington, D.C. Convention Center. For more information visit www.tableonline.org or contact John Paul Boukis at 813-624-3231 or email jpboukis@tableonline.org .

Fruit from 21

than fully expressed juice. Juice yields from commercial processing can be approximated by pressing hard enough to obtain approximately 300 ml of juice per pound of fruit. This corresponds to about 160 gallons/ton.

Red winegrape samples are best prepared by crushing, de-stemming, and macerating the skins for 1-2 hours at room temperature before pressing. Ripe red grapes rapidly release the anthocyanin pigments from the skin upon crushing and pressing.

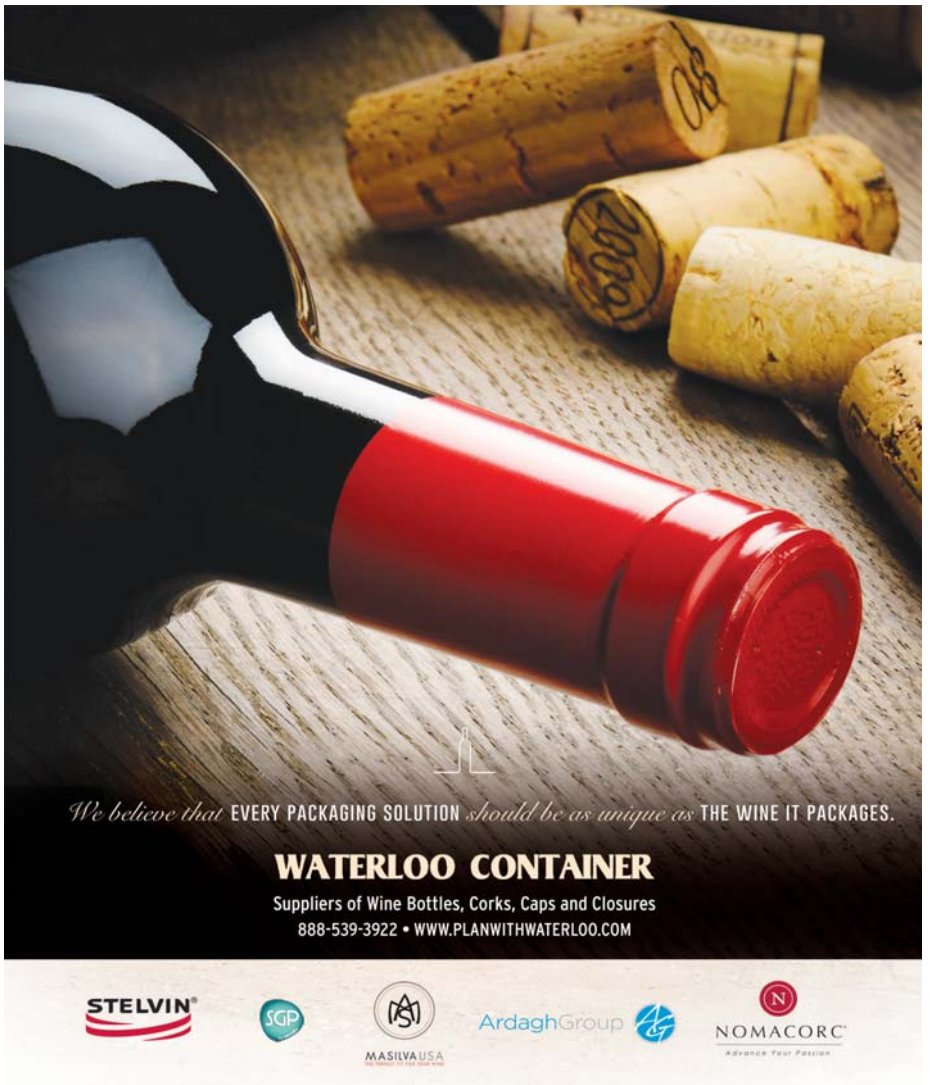
Juice samples should be temporarily stored in sealed, full containers and allowed to settle to remove suspended solids. Refrigeration aids settling and delays enzymatic browning. Browning can be reduced by the addition of 25 mg/liter each of sulfur dioxide and ascorbic acid (vitamin C), which also helps maintain sample freshness for sensory evaluation. Pectolytic enzymes can be added to enhance juice clarity, if necessary. A sensory evaluation of aromas and flavors should also be conducted. Samples can be held refrigerated in full containers for up to 1-2 weeks for comparison with later samples.

Soluble solids are measured as degrees Brix using either a refractometer or a hydrometer. Refractometers should be calibrated following the manufacturer's instructions. Accurate hydrometers are calibrated to narrow ranges of 5 to 10 degrees and are subdivided to 0.1 degree units. Inexpensive hydrometers typically have a large range such as 0-30 degrees and have other scales such as 'potential alcohol'. These hydrometers are not very accurate. Both hydrometer and refractometer readings are usually calibrated at 68 degrees F so if the juice sample is at a different temperature, a correction must be made.

Laboratory procedures for determining soluble solids, titratable acidity, and juice pH are found in several books. The accuracy of a chemical analysis is highly dependent upon following appropriate procedures and maintaining properly calibrated equipment. Common errors with refractometer measurements include failing to calibrate with distilled water and not making the necessary temperature corrections. Titratable acidity measurements can be inaccurate because of careless pipetting of the sample, failure to neutralize the acidity in the water before adding the juice sample, over-titration, and failure to calibrate the pH meter properly. Common errors in pH measurement include failure to standardize the pH meter, disregarding temperature correction, and the use of worn or insensitive electrodes.

Sensory evaluation should be conducted on the juice sample collected using the processing procedures described above. Crushing and pressing extracts aroma, flavor, and color from the grape skins. The juice sample should be evaluated for both intensity and quality of aroma and flavor, acidity and taste balance, and color.

Source: www.extension.org



US-FIP®

The American Flexible Impeller Pump

- *Innovative American made pumps*
- *Wireless remote control is standard*
- *Designed for standard U.S. voltages*
- *Call: 262-909-7267 or email: jj-mcginn@hotmail.com*
  www.americanwinepump.com

Visit us at Booth 53 at the Eastern Winery Expo

Standard wireless remote control

Fruit Wine Bases, Hard Cider Bases,
Natural Extract Flavors for Spirits, Brews and Ciders.

Innovation that sets you apart!

GLCC Co.

Paw Paw, Michigan

www.glccflavors.com
(269) 657-3167
glcc@glccflavors.com

2016 Trade Show Schedule:

Mar 9-10, 2016 - Lancaster, PA - Eastern Winery Expo, Booth 173
May 4-6, 2016 - Philadelphia, PA - Craft Brewers Conference, Booth 2363

WINE & CRAFT BEVERAGE NEWS

Serving Wineries, Breweries, Distilleries, Cideries & Other Craft Beverage Producers

SWEEPSTAKES

Enter Now To Win A Club Car XRT 1550 Diesel!

4 Ways To Win!!!

1 Buy a subscription to WINE & CRAFT BEVERAGE NEWS

Name _____

Business Name _____

Address _____

City _____ State _____ Zip Code _____

PHONE ( ) _____

FAX ( ) _____

EMAIL _____

Signature _____ Date _____

We will never sell your information but would like to contact you about your subscription or other opportunities. ❑ OK ❑ No Thanks

SUBSCRIPTION

❑ Paid Paper $12, 1 Year ❑ Paid Digital $12, 2 Years

❑ Paid Paper Canadian $55, 1 Year

Payment Method ❑ Check (#) ❑ Cash ❑ Bill To Me

❑ VISA ❑ MC ❑ DISCOVER ❑ AMEX Amt. Paid

Acct# _____

Exp. Date _____ Sec Code _____

Signature _____ Date _____

Business Type (Check all tht apply)

❑ Grape Grower ❑ Vineyard ❑ Craft Brewery ❑ Cidery ❑ Supplier ❑ Craft Distiller

PAYMENT RECEIVED BY: _____ DATE _____

MAIL TO P.O. BOX 121, PALATINE BRIDGE, NY 13428 or FAX 518-673-2381

2 Place a Classified Ad in WINE & CRAFT BEVERAGE NEWS

4 EASY WAYS TO PLACE A WINE & CRAFT BEVERAGE NEWS CLASSIFIED AD

1. PHONE IT IN
Just give Peggy a call at 1-800-836-2888

2. FAX IT IN
For you MasterCard, Visa, American Express or Discover customers... Fill out the form attached completely and fax to Peggy at (518) 673-2381

3. MAIL IT IN
Fill out the attached form, calculate the cost, enclose your check or credit card information and mail to: Wine & Craft Beverage Classifieds PO Box 121, Palatine Bridge, NY 13428

4. EMAIL IT IN
E-mail your ad to classified@leepub.com

FOR BEST RESULTS, RUN YOUR AD FOR TWO ISSUES!
Cost for each issue:
$20.00 for the first 14 words,
50¢ each additional word.
(Phone #'s count as one word)

# of issues to run____ Total Cost $_____

	$20.00	$20.50
$21.00	$21.50	$22.00
$22.50	$23.00	$23.50
$24.00	$24.50	$25.00
$25.50	$26.00	$26.50
$27.00	$27.50	$28.00
$28.50	$29.00	$29.50

Name: _____

Address: _____

City: _____ St.: ____ Zip: ____

Phone: _____ Fax: _____

Email: _____

Signature _____ Date _____

❑ I have enclosed a Check/Money Order

Payment Method ❑ MC ❑ VISA ❑ AMEX ❑ DISCOVER

Acct# _____

Exp. Date _____ Sec Code _____

3 Mail in This Sweepstakes Entry Form

Name _____

Co. Name _____

Address _____

_____

City _____

State _____ Zip _____

Phone( ) _____

E-Mail _____

Birth Date ____/____/____

4 ONLINE AT: www.wineandcraftbeveragenews.com

Entries must be dated before March 30th, 2016. Employees & relatives of employees of Lee Publications Inc. and Club Car are not eligible. Must be 18 years of age. Mail to Country Folks Grower, PO Box 121, Palatine Bridge NY 13428