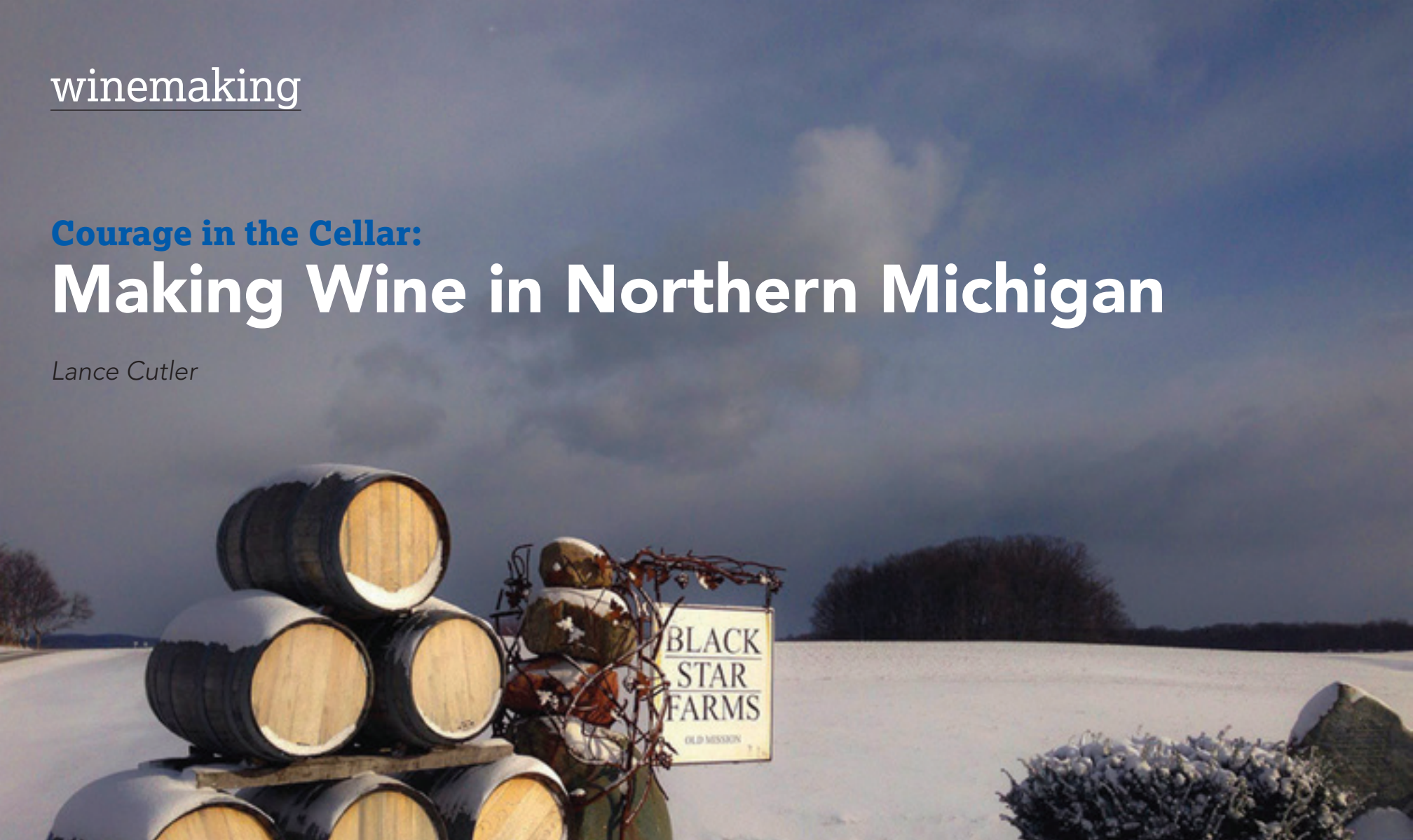
Courage in the Cellar:

Making Wine in Northern Michigan

Lance Cutler



Lance Cutler has been a working winemaker in Sonoma County for 35 years. He has been a contributing editor for *Wine Business Monthly* for more than 10 years. His unique perspective on winemaking has led to our Industry Roundtable series and our Varietal Focus series. Lance is also the author of four books, including *The Tequila Lover's Guide to Mexico*.

When Lee Lutes, winemaker/distiller/general manager of Black Star Farms, saw this, he said, "Perfect for Pinot Noir."

LEELANAU PENINSULA SOUNDS LIKE some exotic place in Hawaii. It conjures up visions of bronzed girls sensuously dancing the hula while strapping young men dig a pit to roast a pig. The trade winds blow gently, coconuts drop from trees, and when the waves are just right, you might go out on your surfboard.

Not so fast.

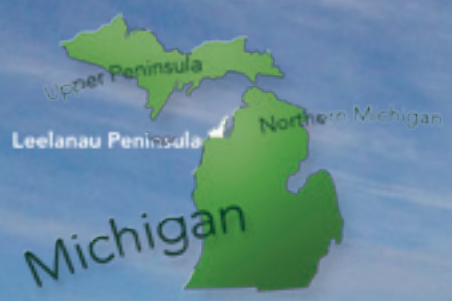
Leelanau Peninsula is the heart of wine country in Northern Michigan. It features some of the most fearless, tenacious winemakers in the world. In winter their grapevines are buried under 10 to 20 feet of snow. Frost is a common occurrence in May. Average rainfall for each of the September and October harvest months is more than 3 inches per month. In 2014, many wineries lost 95 percent of their crop. This year they are hoping to lose only 90 percent. They fight powdery mildew, Botrytis, birds and even raccoons. These winemakers come from all over the world. They are heroes, and this is their story.

Up in Northern Michigan, two peninsulas jut out into Grand Traverse Bay. The one sitting in the middle of the bay is called Old Mission Peninsula. The one between the bay and Lake Michigan to the west is called Leelanau Peninsula. Just south of the two peninsulas sits the town of Traverse City, the largest city of the 21 counties in northern Michigan even though city residents number only 14,700 and the entire metropolitan area clocks in under 144,000 inhabitants.

The area has a long history of significant agriculture, with Michigan being recognized as this country's second most diverse agricultural state. Renowned for cherries, Traverse City is known as the Cherry Capital of the World, and more than 500,000 visitors attend the annual Cherry Festival in July.

While Michigan has a history of growing grapes (mostly table) dating back to the 1800s, it wasn't until 1965 that **Bernie Rink** planted the first modern vineyard using French-American hybrids. In 1968, **Leonard Olsen** and **Carl Banholzer** planted the first vinifera in the state: Chardonnay and Riesling. In 1970, Rink planted Northern Michigan's first commercial vineyard, and in 1972 Leonard Olsen opened **Tabor Hill Winery** in Southern Michigan and sold the first bottle of vinifera wine from the area. Other pioneering wineries followed with **Ed O'Keefe** opening **Chateau Grand Traverse** and Rink opening **Boskydel Vineyards**, both in 1976, followed by **Larry Mawby** opening **L. Mawby Winery** in 1978.

Today, more than half of the state's 2,650 acres of winegrapes are grown in the Traverse City area, and half of those vineyards have been planted in the last 10 years. Currently, there are eight wineries on Old Mission Peninsula and another 25 on Leelanau Peninsula. Those wineries are producing surprisingly delicious, world-class Rieslings. They also dabble in Pinot Noir, Cabernet Franc, Pinot Grigio and Chardonnay, along with other varieties.



The "lake effect" brings snow to the vineyard as arctic air picks up moisture from the warmer lake water and delivers heavy snowfall, insulating vines from extreme cold.

The "Lake Effect"

The region works for grapes because of the "lake effect." Lake Michigan and the adjoining Traverse Bay are large, deep bodies of water. As arctic air sweeps down from the north in the winter, it picks up moisture from the warmer lake water and delivers heavy snowfall. This snow covers the vines and serves as insulation to protect them from extreme cold. The lake waters cool during winter. In early spring, cool weather systems passing over the lake slow budbreak, which provides some additional protection from spring frosts. In the early summer, the cold lake water evaporates and helps cool the vineyards. The lake warms up during the summer months. By fall it warms the air passing over, extending the growing season for vineyards close to the lake.

This lake effect works great in theory, and it has allowed vineyards to prosper in places like Michigan and the Finger Lakes in New York. Unfortunately, if the lakes freeze in the winter, there is no lake effect. When the lake effect doesn't operate, there is not enough snow to cover and insulate the grapevines, or it gets so cold, the snow doesn't help. Simply put, the vines can freeze to death.

Larry Mawby is one of the true winemaking pioneers of Leelanau Peninsula. He grew up in Michigan as part of a farming family. While in college working on an English degree from **Michigan State University**, Mawby hitchhiked through Europe one summer and developed a liking for French wines. Returning home, he went into the family business but decided to try his hand at grape growing and winemaking on the side. One of the first to plant in the area in 1973, he doggedly worked at learning which varieties would fare well, experimenting with hybrids and then some vinifera. He opened his winery in 1978, producing a variety of wines. In 1984, he began producing the first *methode champenoise* sparkling wine in Northern Michigan.

Mawby feels that site location is critical to making fine wines in Northern Michigan. Vineyards need to be planted on slopes to take full advantage of the lake effect. In the late spring on frosty mornings, the cold air, being heavier than the warm air, flows down the slopes into the valley, sparing the buds from freezing. Slopes should face south, southeast or southwest to receive sunlight better. The short growing season demands that growers squeeze out every bit of heat and sunlight they can get. Those south-facing slopes warm up early in the day and stay warmer in the evening.

Even with the benefit of a prime vineyard site, Michigan weather can cause problems. Mawby explained, "Because of all the winter snow, my vines have double trunks and a spare insurance spur near the ground that we use in case of a freeze. We grow the vines low to the ground to benefit from reflected heat. The top wire is 5 feet, and the fruit zone is between 24 and 30 inches. Vines are low vigor and require neither fruit drop nor leaf pulling."

Vintages were pretty good, by Northern Michigan standards, for about five years, culminating with the largest vintage ever in 2013, which produced a

record 7,600 tons of winegrapes. It was a record crop, and good growing conditions produced fine wines, but now winemakers are dealing with their second straight brutal winter. The lake has frozen over both years, negating much of the lake effect.

In Northern Michigan, grape growing is survival of the fittest. **Coenraad Stassen**, winemaker for **Brys** (rhymes with "eyes") **Estate**, was born in Western Cape, South Africa. After eight years' working in the Klein Karoo region, he came to Old Mission Peninsula through an international exchange program sponsored by **Ohio State University**. In his eight years at Brys Estate, he has garnered more than 350 medals in national and international competitions. "Each vintage presents a different challenge," he explained. "Consistency is almost impossible to achieve here. You have to make your stylistic choices as each vintage proceeds."

In the winter of 2013-2014, 90 percent of Lake Michigan froze. There was no lake effect, and most of the primary and secondary buds were wiped out. Then it rained almost every day in September. "There was no way for me to make red wine that year," Stassen explained disconsolately. Stassen's harvest in 2014 was only 20 percent of what he brought in the previous year. He made no red wine, turning all of his red grapes into Rosé.

Brys Estate uses a special plow that pushes snow to cover vineyards.

This past year, faced with another bleak winter, Stassen tried tying canes onto the low irrigation wire. He then used a blade attached to his tractor to push snow in between the rows up onto the vines until they were covered. It seemed to help. Despite a severe late freeze on May 20, he estimates that he will only lose 50 percent of his crop this year. "Hopefully we won't be deluged with rain during harvest, and I can make red wine again."

Sean O'Keefe, winemaker for **Villa Mari Vineyards**, is the second son of Ed O'Keefe from the area's largest winery, Chateau Grand Traverse. He earned a degree in German literature in the U.S. and then went to Germany in 1994 to apprentice at **Weingut Jakob Pfleger** in the Pfalz. Enamored with winemaking he went to wine school in Neustadt and then transferred to the wine university at Geisenheim, spending time with several of Germany's cutting-edge Riesling producers.

Returning home to the family business at Chateau Grand Traverse (CGT), he headed up the vineyard operations, gently moving things in the organic direction while he assisted winemaker **Bernd Croissant**. He eventually created a new brand of wine for the winery called CGT Eclectic. The brand featured distinctive labels and eclectic wines, like Vin Gris of Pinot Noir, Grüner Veltliner and Ship of Fools (Pinot Blanc, Pinot Gris, White Pinot Noir), but focused on variations of Riesling, including his Lot 49 Riesling made from a single vineyard using minimalist techniques, fermented and aged in German oak ovals.

Perhaps because O'Keefe is native to the area, he tends to accept the vagaries of weather in Northern Michigan as a more normal occurrence. "Damage to vineyards in the area is very erratic," he said. "Having enough snow cover helps protect the vines. Higher elevation vineyards seem to survive better than lower vineyards, and you never know in advance which vineyards will have enough snow and which ones won't."

He has tried covering vines up to the graft union with dirt and/or sand and continues to do this for all vines less than three years old, but it is not terribly cost-effective. "It's just not economical to routinely do for all mature vineyards," he said, "and it is labor-intensive." While small wineries can wait until late February or early March to begin pruning, O'Keefe explained that larger wineries have to begin in December. "We would start by leaving six to eight canes in December. Later we would go through and prune down to four canes, leaving eight to 10 buds per cane. The last time through we'd trim down to fewer canes for the growing season." He laughed about this system devised to deal with the harsh winters. "It may be labor-intensive, but at least it keeps the laborers occupied for the entire season."

Having a Plan

Cornel Olivier is another South African winemaker who found his way to Northern Michigan, preceding Coenraad Stassen by four years. Olivier grew up on his family's farm near the Stellenbosch wine region. The family ran orchards and grew grapes to sell to local wineries. He remembers learning how to make his first wines at the knee of his grandfather.

After a career in the military didn't work out, Olivier entered the South Africa Viticulture and Science Program at the prestigious **Elsenburg Agricultural College**. He got the opportunity to work and study abroad in 1999 and settled in Traverse City. He worked at Chateau Grand Traverse and Brys Estate before partnering with Northern Michigan native **Chris Balyga** to open **2 Lads Winery** in 2007. They have a 58-acre property with 22 acres of vineyard and a new state-of-the-art, gravity-flow winery.

"It's especially challenging growing grapes here, so I need to make the right decisions and think about many things—labor, finance, soil content, slope, degree of sun exposure and drainage—in order to make the best wines possible," Olivier said. "I have a Plan A, Plan B and Plan C based upon each location in the vineyard."

Olivier's vineyard is cordon-pruned. He chooses not to bury canes, but he does have an extra shoot coming from the graft joint or slightly above it to act as an insurance policy for the next year. Pruning starts in the snow in January and February, usually finishing by the end of March. He spur-prunes but leaves six to seven buds per spur to delay budbreak. After budbreak, he goes back and cuts those spurs down to the bottom two shoots. He feels it prevents a dense canopy and provides better fruit quality. "We've had frost here as late as the end of May," he bemoaned. "The frost hits the primary shoots and severely cuts crop. Secondary buds will push in June but deliver a much smaller crop, and the malic acid will be much higher, which can be a challenge."

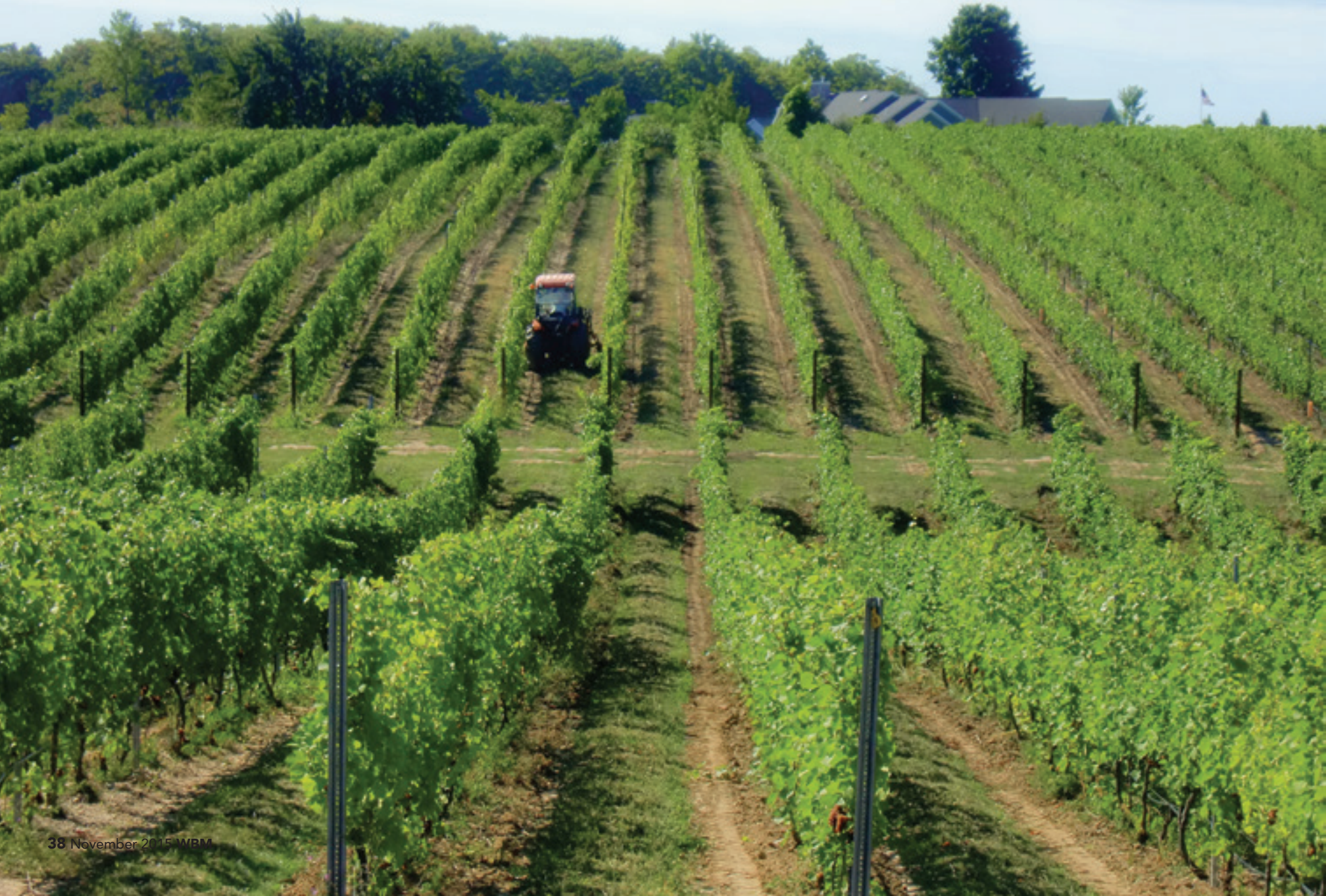
Olivier said he lost 95 percent of his crop in 2014, and he is expecting to lose 90 percent of this year's crop. "The 2013 vintage provided a huge crop and excellent wines," he said. "We had very little crop last year and will get not much more this year. In 2014 we made only sparkling wines from everything we got from the farm, including a Riesling sparkler and another that blended Cabernet Franc, Chardonnay and Pinot Noir. This year we will likely have to import juice to remain in business."

What Else Can Go Wrong?

Sometimes you read things, but they don't sink in. In Northern Michigan in 2014, most of the wineries lost 95 percent of their crop. Ninety-five percent! This year they expect to lose another 50 to 90 percent. Wineries are actually considering importing juice to make wine just so they can stay in business. Can you imagine that happening in Napa Valley, Willamette Valley or Walla Walla? If you are heartless and jaded, you might think, "Alright, so it is cold in Michigan, and they've had a couple of tough years. That can happen to any winemaker. Right?"

Well maybe, but it's not just the snow. Sean O'Keefe said, "Vines grow differently here. Budbreak and bloom happen much later than on the West Coast, often late in June or even in July, but we can go from budbreak to full canopy in just two to three weeks. It's hard to get the vineyard work done when things are growing that fast."

Stassen likes to do some leaf removal right after fruit set. He feels that allows maximum sunlight to reach the grapes and provides for wind to move through the vines to keep them dry. He believes this early leaf removal toughens the skins against sunburn even though sunburn isn't a big issue in Michigan because the growing season is short, temperatures are generally mild, and daylight is at a premium at harvest time. Early leaf removal also seems to help dissipate pyrazines in Cabernet Franc. Stassen even does a light hand-hedging on his Cabernet Franc late in July and then another machine-hedging of the entire vineyard in August to try to maximize airflow through the fruit zone.



O'Keefe agrees that some leaf removal is of benefit for reds, especially Cabernet Franc, but not really necessary for most other varieties in his vineyard because the area's sandy, low organic soils contribute to low-vigor vines. He also pointed out that too much berry sun exposure is detrimental to Riesling.

Olivier also talked about the very rapid growth in the vines during July and August. "Those months have high temperatures and high humidity in this region," he explained. "Because of that, our biggest problem is powdery mildew." All of the winemakers use fungicides to help battle powdery mildew, black rot, Botrytis and other issues, which can be set early in the season and then explode into bloom with harvest rains.

"You either farm for yield or quality," said Olivier. "We pull leaves and drop crop, especially for reds and tight-cluster varieties. The trick is to leave enough leaf cover for the grape bunches and for photosynthesis. Then we will pull more leaves near harvest to allow things to dry out during the harvest rains."

Hopefully, the enormity of issues that Northern Michigan winemakers have to deal with is having an impact upon you, but there is more. Once these winemakers survive the winter, spring frost, bursts of vine growth in heat and humidity, and control the mildew and other challenges, they can't just sit back and look forward to their fruit ripening. It seems they have a problem with birds.

"Birds are a big issue," confirmed O'Keefe. "We are on a major migratory path for birds, but local birds cause a lot of the damage as well." Olivier agrees that birds are a major concern. "We use netting for the red wines and colored white grapes although they seem to leave the Riesling alone." Turns out that the birds will peck the berries, punching through the skins. If they attack the grapes at 18° Brix or lower, you can get sour rot, and your vineyards start to smell like vinegar. If the birds hold off until 19° Brix, then sour rot is not the issue, but Botrytis is. So everyone uses bird netting to cover a large portion of their vineyards.

"We net for birds," admitted Stassen, "but we also put up electric fencing around the entire vineyard to keep out the deer and raccoons. You know your grapes are ripe when the raccoons show up. They love ripe grapes and can wipe out a vineyard even faster than birds."

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>
> **Sean O'Keefe**, winemaker, Villa Mari Vineyards

When Challenged, Let's Make It Harder

As if snow, frost, mildew and pests didn't provide enough of a challenge, some Michigan winemakers go out of their way to make things even harder. **Lee Lutes** was born in Michigan. His parents pursued teaching jobs in Australia, where he has early memories of his parents enjoying wine in Yalumba. Returning to Traverse City in 1975, he graduated from Michigan State University with a degree in finance. Finding no affinity for working in the finance field, he returned to the Barossa Valley and found inspiration for a potential career. He moved to New York, worked for **Danny Meyers**, spent time volunteering at **Gristina Vineyards** on Long Island and worked as assistant winemaker at **Abbazia di Valle Chiari** in Northern Italy.

He returned to Traverse City in 1993 to work at **Leelanau Wine Cellars** before founding **Peninsula Cellars** with the **Kroupa** family in 1994. In 1998 he was hired to develop the winery and make the wine at **Black Star Farms**, where he is currently winemaker/distiller/general manager. The first thing he did was to plant Pinot Noir—a lot of Pinot Noir. "I love Pinot Noir," Lutes explained. "So I thought, why not take a shot at it?"

Forget that Pinot Noir tends to bud early, making it very susceptible to spring frost. Lutes brought in Dijon clones and had at it. He is now farming five uniquely different Pinot Noir sites, carefully managing his vines to produce small clusters and keeping crop loads around 2 tons per acre. Lutes produced 3,500 cases of Pinot Noir in 2012.

According to Lutes the typical long, cool growing season in Northern Michigan delivers a different flavor profile than most other places. Harvest doesn't take place until late October or early November. He contends that flavor development comes early, and then growers wait for sugar to rise and acid to drop. That's a different scenario from California and other places where sugar development comes first and winemakers wait for flavors to develop. "Our Pinot Noir can be fairly high in pH, which can make it taste broad in its texture and add a perception of sweetness," said Lutes. "Our Pinot usually spends extended time on the lees following fermentation, which adds to an extended mid-palate."

Wherever wine is made, winemakers and winery owners know that it is very hard to obtain or grow high-quality grapes and then turn those grapes into great wine. Even after you do that, the real test comes when you try to sell the wine. A question comes to mind: Who is going to buy wine from Michigan and why would they?

By 1996, Mawby had developed a reputable winery with a devoted following. He made dry and sweet wines from hybrids as well as vinifera grapes, and 15 percent of his production was sparkling wine. Life was good, so using good Northern Michigan logic, Mawby decided to focus on sparkling wine production and give up 85 percent of his sales.

"I have two views when it comes to winemaking," Mawby told me. "One is aesthetic, and the other is commercial. From an aesthetic standpoint, I wanted to make the best wine I could from my grapes on the Leelanau Peninsula. It seemed to me that my best shot was to focus on sparkling wine. Because it was harvested sooner, sparkling wine was less influenced by hostile weather events, so I felt we could produce consistently good sparkling wine."

Mawby figured that the best way to make good sparkling wine was to focus on it. "I didn't want to mess around with other stuff. I didn't want to occupy my time thinking about other wines. I decided to concentrate exclusively on making good sparkling wine every year." Commercially, he quickly realized

that walking away from 85 percent of his business was not economic suicide. More and more wineries were opening in the area. There was a solid rationale in becoming a specialist winery. It made him unique among all of the wineries. As time went on, his winery became the go-to place for sparkling wine in Michigan.

Marketing Michigan Wines

Lutes points out that the bulk of wine sales for all of the wineries in Northern Michigan occurs in the individual tasting rooms. A lot of those visitors are new to wine. Some of them are trying it for the first time. They have neither the experience nor the sophisticated palates of people visiting wineries in California, Washington or Oregon.

"We work at pleasing the consumers," said Lutes, "and in some instances that means making sweeter-styled wines. Fortunately, our high acids prevent our wines from becoming cloying. When we started our winery, we produced six different wines. Now we make 32 different wines, and 30 to 40 percent of those have some residual sugar."

Stassen added, "All of our wine is 100 percent estate-bottled, and we sell virtually every bottle from our tasting room. We get 50,000 visitors each year at the winery, and that number is growing." Olivier makes 13 wines at 2 Lads: 10 still wines and three *methode champenoise* sparkling wines. "Eighty to 85 percent of our wine is sold on-site, and the rest is self-distributed or sold wholesale."

Mawby, who produces 10 different *method champenoise* wines and another eight charmat or cuvée close method wines, called it, "the tyranny of success. I've been trying to cut back on the number of wines for years, but the consumers have their favorites, and they'd go crazy if I stopped production."

Embracing Acidity

When you taste wines from Northern Michigan, the first surprise is how well made they are and how good they taste. The second thing you are aware of is the acid. Most wines from Michigan have a lot of acid. Each winemaker deals with that issue slightly differently.

In talking about acidity in the grapes, Stassen said, "I don't like to remove acid from wine. I'd prefer to leave a little bit of residual sugar to balance the

acid." He also uses 71B yeast, which naturally removes acid during fermentation. Stassen often picks grapes with 8 to 9 g per liter of acid. After fermentation, he sees 7.5 g per liter. "At that acid, about 15 g per liter residual sugar usually creates the perfect balance, depending on vintage."

Olivier likes to use yeast strains that help decrease malic acid content in his white wines. When acids are very high, he might de-acidify some of the juice and then blend to achieve the acid content he wants. On Chardonnays he will use malolactic. On Rieslings he uses a small amount of residual sugar to find the perfect balance between acidity, sweetness and body. "Of course, on all of the red wines, we put them through malolactic fermentation to lower the malic acid," he said.

Lutes said, "Ultra-high acidity is rarely a serious issue that cannot be dealt with through some ML manipulation, a little amelioration, de-acidification (only in the worst years) and/or a combination of all of these things. With Pinot, we have not had to do any of these things in most vintages; but if the fruit quality is poor enough to not be considered for red wine, we make it into Rosé or sparkling."

For Riesling and white wines O'Keefe said, "I use extended skin contact to increase potassium in juice or long fermentation in neutral oak ovals with extended gross and fine lees contact. In the worst case scenario I will de-acidify the juice. Also, malic lowering yeasts, like 71B, SVG, etc., can help, as well as co-inoculation with ml bacteria."

As usual, Larry Mawby has a slightly different take. When asked what he does about the acidity, Mawby replied, "I embrace it. High acid is great for sparkling wine, and it's good for most table wines as well. With still wine, a winemaker can always use malolactic fermentation to lower the acid and, if necessary, a bit of residual sugar will help as well."

An Evolving Region

For this writer, high acid is about the only downside for Michigan wines. Especially for the red wines, I find that the acid builds and builds, making it difficult to sail through an entire bottle. Perhaps the best policy is to follow Larry Mawby's lead. Embrace the wines from Northern Michigan, acid and all. We have to remember, most of them have been at this for less than 20 years in Northern Michigan. They will figure out what to do with the acidity.

Their Rieslings are already stunning and rival any other Rieslings being produced in this country. These fearless winemakers fight harsh winters, freezing springs, rot and pests. They take grapes with high acid and low sugars and somehow extract balanced flavors and substantial color to make very nice wines. They are succeeding in a very competitive marketplace, and their industry is growing steadily.

One thing for sure, they are not going to give up. It is just not in their nature. **WBM**