

# **Montana's** **Grape & Wine** **Industry**



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# Montana's Grape & Wine Industry

A historical and current review of Montana's grape and winery industry

All photos by Larry Robertson unless noted otherwise.

Cover Page:

Ripe Marquette grapes, Tom Eggensperger photo, Thompson Falls  
Bob Thaden, Tongue River Winery, processing Frontenac Gris grapes  
and Swenson Red grape cluster.

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## The History of Montana's Grape & Wine Industry.

Grape growing for wine production was mostly started in the early eighties with true pioneers such as Dudley Page and Tom Campbell, Sr. around Flathead Lake. Pinot's were planted with the thought that Montana's cool climate would be perfect for Pinot Noir since it was successful in other cool climate areas. The first thing we learned is that Pinot does not ripen consistently in our cooler, shorter growing season. Dudley Page was one of the early adopters of hybrid grapes realizing that Pinot's were just a hobby, to become commercial you needed grapes to ripen every year and produce an acceptable wine quality for sale. Although there are now over a dozen wineries in Montana, only a handful utilize locally grown grapes in their wine production.

The 1990's saw a surge of experimentation with hybrid grapes. Several new hybrids were being developed in Minnesota, Wisconsin and across to New York and Canada fueled plantings across Montana. As the early growers around Flathead Lake became successful ripening wine grapes, growing hybrids across Montana started to evolve into a spattering of small vineyards across the Montana landscape.

Here comes the 21st century— Montana starts to show it's True Potential! Montana is currently ranked 49th out of 50 states in wine production. The good news is the number of vineyards in Montana have doubled over the past 3 or 4 years and many more are planned that will effectively double production every few years for a while as Montana's wine industry expands. Pat McGlynn, MSU Extension Agent in Kalispell, initiated a cold hardy grape project in 2011 that brought attention to the fledgling wine grape industry in Montana. This project not only tested hybrid grape potential, it quickly evolved into a movement to expand grape production in western Montana. Grape growers and those interested in grape production came together to share experiences and eventually formed the Montana Grape and Winery Association in 2014.

Many of the recently planted new vineyards in Montana consist of smaller test vineyards of 10-20+ vines. These small test vineyards allow for a smaller investment in order to assess the viability of expanding into a commercial scale operation. Encouragement of growers to start on a small scale has allowed testing of varieties over a wide range of sites to determine which varieties are adaptable to Montana's climate and environment.

Small test vineyard in the mountains above Kalispell at 3900'. This vineyard had such a successful start in 2015 that the grower intends to expand the vineyard in 2016. The vineyard will stay small until it is proven that the grapes produced will ripen on this site. These unique micro-climates may prove feasible with today's new generation cold hardy grape varieties.



## A Montana Winery

### Tongue River Winery, Miles City, Montana



**Photo of the Tongue River Winery by Bob Thaden.**

Bob, Marilyn and Josh Thaden started the Tongue River Winery in 2010, they planted their first grapes in 2004 and planted some grapes nearly every year since. The Thaden's also grow and purchase many other fruits besides grapes to make a unique variety of wine. They produce approximately 2000 gallons of wine yearly including red and white, sweet and dry, grape and fruit wines and many unusual blends. The Tongue River Winery produces many award winning wines each year.



The Thaden's grow Frontenac Noir, Gris and Blanc; and Marquette, LaCrescent, Petite Pearl, Brianna and Swenson Red and a smattering of other grapes. They also grow and find apples, plums, pears, cherries, raspberries, currant, choke-cherry, aronia, rosehips and edible honeysuckle to round out the wines they produce. The Miles City climate can be brutal, plunging to more than -40°C in winter and enduring season ending frost on early autumn nights. The saving grace, if they can avoid these pitfalls, is a summer full of sun and heat that can ripen their fruit to perfection. If you can be successful in Miles City, then it's possible in most of Montana!

Bob is active in the North Dakota Grape and Wine Association, currently serving as the Vice-chairman of the organization and chairman of the research committee, and is a board member in the Montana Grape and Winery Association. Bob is an innovator, their overhead bird netting is a great alternative to covering every row and provides easy access to vines for canopy management and harvest. Bob also provides excellent talks for groups on grape growing and wine making and is an industry promoter.

**Frontenac Gris, photo by Bob Thaden.**

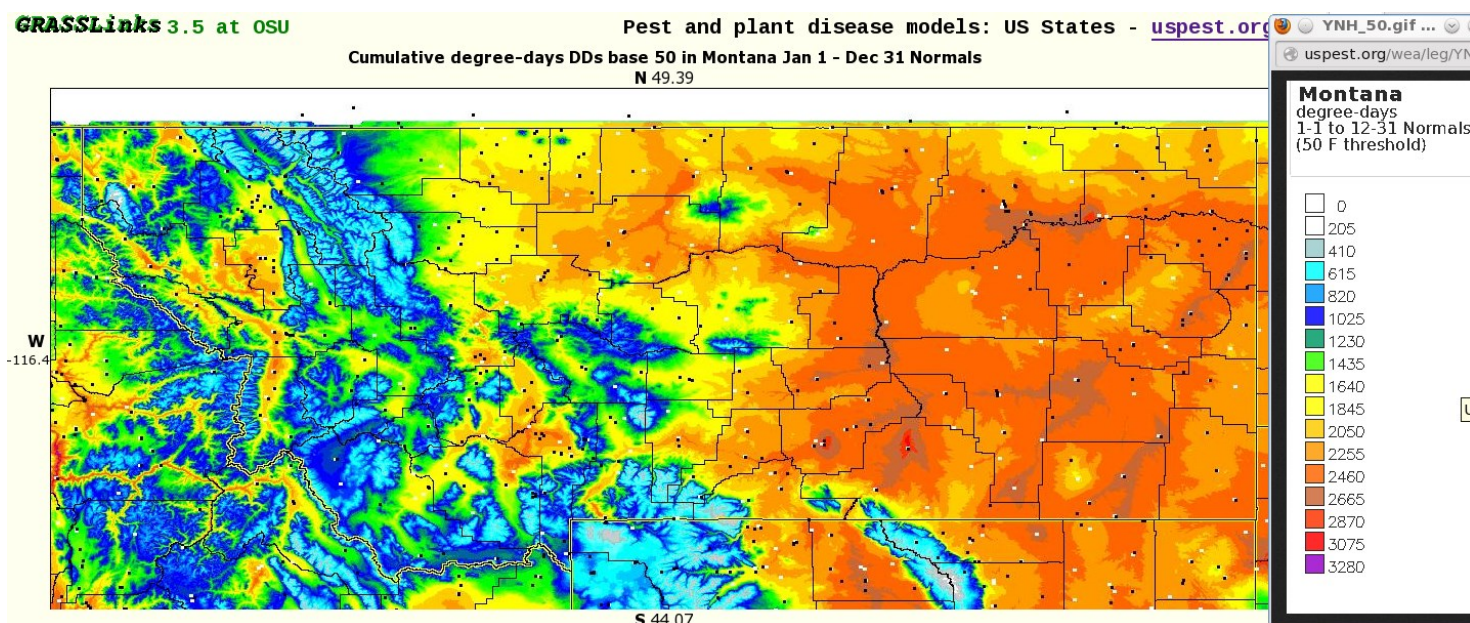


## Montana's Climate & soils, growing regions, growing degree days and frost free seasons.

Most of western Montana has a milder Pacific climate, avoiding most of the polar cold events that are common in eastern Montana's continental climate, but struggle with having enough GDD and frost free season to ripen grapes properly.

Soils vary tremendously across the state. Soils in the west usually have lighter textures such as gravelly loams & silt loams with smaller amounts of clay. Although eastern Montana has some lighter soils, many have higher clay contents and higher pH along with water quality problems limiting availability of good vineyard sites.

Growing degree days range from 1500 to 2700 GDD (GDD using 50 degree F base).



Minimal growing degree days with a short frost free season of between 90 and 130 days really makes it a challenge to grow grapes in Montana. Isolated western valleys have successful vineyards on favorable sites. Eastern Montana shows great potential for vineyard development which have far more degree days available for ripening grapes as long as favorable up-slope sites are used to minimize harsh winter temperatures. The frost free growing season is generally shorter than other cool climate grape regions placing more emphasis on GDD and the intensity of the season's heat to ripen grapes. When favorable sites are established, Montana's consistently cool nights heighten flavors of grapes and other fruit to help produce premium wines.

Vineyard management becomes more critical when growing grapes in Montana's difficult climate. Vine spacing, crop load, vineyard site soils and aspect, irrigation and fertility practices and canopy management are crucial to success. Many grape growers have been successful growing grapes under these extreme conditions, sharing these experiences with others will lead to a successful grape and wine industry in Montana.

## **Public/Private Partnership aims to improve quantity & quality of grape production to support a wine industry utilizing hybrid grapes and fruit.**

MT Grape & Winery Association— Representing growers & wine makers

The MT Grape & Winery Association was formed in 2014 and in 2015 held their first annual membership meeting/conference. The main goals of the association center around education, holding conferences to disseminate up-to-date information on cold hardy varieties and management practices needed to grow quality grapes. Wine making assistance is the other main educational goal, to help wineries produce high quality wine is essential to growing the industry.

MSU Extension— Research, Technology Transfer and direct community assistance. Pat McGlynn, Flathead County Extension Agent, initiated the cold hardy grape research project in 2011 to assess 12 different cold hardy grape varieties viability in western Montana. This project was a success on several levels. We gained knowledge on varieties and most importantly minimum vineyard management necessary to successfully grow grapes. The project also brought together grape growers and wineries to start discussion on the future of Montana's wine industry that initiated the state-wide association to accomplish this. MSU-Extension initiated a list-serve of grape growers, wineries and interested persons who share the vision of a new wine industry in Montana.

MSU Corvallis Experiment Station established a test vineyard in 2014 and is currently evaluating eight varieties in a variety of training systems. Hardiness varied among varieties. The reds (Fontenac, Marquette, and Petite Pearl) did well, with 90-100% surviving into the second fall. Eighty percent of the Somerset and Frontenac-Gris survived. St. Pepin, La Crescent, and Bluebell were the least hardy, with 50 to 75% of the vines surviving. The station is expanding their research in 2016 to include additional Tom Plocher varieties. The Experiment Station also initiated a dark fruit research study in 2015 which will support the fruit wine industry. They are also conducting workshops including hard cider production.

MSU-Bozeman is looking for ways to support the wine industry including fermentation research facilities and a lab for juice/berry analysis. More work needs to be completed to compile an industry analysis to serve the needs of this fledgling industry.

USDA/NRCS— Technical support from NRCS field offices and cost share assistance for growers.

NRCS technical assistance is available to meet vineyard needs for water and nutrient management, variety and vineyard management for growing quality grapes.

Financial assistance for vineyards is available through the Environmental Quality Assistance Program (EQIP) to help improve resource issues including water quality & quantity, pollinator habitat, frost protection, and soil quality. Practices utilized to treat these resource issues include conversion to micro-irrigation systems, irrigation and nutrient management, mulching, pollinator habitat and cover crop plantings.

## **Future development of a sustainable grape and wine industry in Montana.**

### Research & Development-

- Varietal testing

- Industry analysis & project development

- Grape and Winery Industry needs assessment

### Industry Support -

- MSU Extension

- MSU Agricultural Experiment Stations

- USDA-NRCS

- MSU Bozeman viticulture & enology facility & staff development

- MT Grape & Winery Association

  - Outreach & program development

  - Annual conferences

  - Group Facebook page

  - Coordination of vineyard research projects

  - Grant procurement to meet industry needs

  - Cold hardy grape Branding

## **First Annual MT Grape & Winery Assoc. Conference a Success**

Nearly 70 people attended the MGWA conference June 12th to hear from the leader in cold hardy grape breeding/ growing and wine making experts in winery practices necessary to utilize these new grapes. The conference highlighted the diverse potential for not only grape production, but other quality fruits Montana can raise for this new fledgling industry.

“As a winery owner with the need for lots of different fruits, I was delighted with the energy that the growers expressed, and their excitement about the increasing possibilities for our shared industry in Montana. We together, wineries and growers, can build a proud expanding market of “made in Montana” and “grown in Montana” products.” Bob Thaden, Tongue River Vineyard & Winery, Miles City, MT.



Tom Plocher, private cold hardy grape breeder from Hugo, Minnesota, went into great detail on the grape breeding process and the number of years it takes to be able to release new varieties. Tom released Petite Pearl, a wine grape capable of making premium wines that is changing the notion that cold hardy grapes are anything less than the standard California or Washington wine offerings. Tom's Crimson Pearl and Verona grapes will be released in 2016 to grape growers .

Tom also presented on grape growing covering most every aspect of viticultural practices needed to grow quality grapes, especially sunlight management on the grape trellis. Tom is co-author of "Northern Winework," an extensive compilation of viticultural practices necessary to successfully grow cold hardy wine grapes.

Rod Ballinger, owner of Bear Creek Vineyard and Winery in Fargo, ND, is the first licensed winery to produce Petite Pearl wine. Rod went into detail about how winery practices can shape different styles of wine from the same hybrid grape, emphasizing Petite Pearl, Crimson Pearl, and Marquette red wine grapes, and LaCrescent, a white wine grape. Rod has been very important in the background facilitating relationships with the ND Legislature, securing legislative funding for the grape breeding project at NDSU and is heading up the NDSU micro-vinification of promising varieties as they emerge. He has a university student working with him on this project. Rod emphasized the need for the MT Grape and Winery Association members to build the relationships with the Montana legislature, universities and the wine industry into the future.

Rod relayed this message about the conference: "I found the MGWA to have very knowledgeable, passionate people who are so willing to learn. Also, Montana has a huge potential to turn this industry into a viable AgriTourism industry. The key will be planting the right varieties of grapes and pursuing a high degree of quality control for both growers and wine makers. I think it is important to work closely with Tom Plocher and his varieties and NDSU's breeding program to maximize your efforts. As I mentioned, the wine is made in the vineyard and networking with other winemakers is imperative."

Bob Thaden, Tongue River Vineyard and Winery in Miles City, gave talks on fruit wine production and overhead bird netting. The sheer variety of quality fruits grown in Montana that can be made into wine is staggering. And the consistently cool nights in Montana heighten the flavors of fruits, including grapes, to be able to make premium wines. (A few California vineyard owners/managers were in attendance specifically to look for vineyard ground, knowing this Montana quality.) Bob receives numerous top awards for his fruit and grape wines and shared this expertise with the group.

Bob is the leader in an innovative approach to bird control, overhead netting. Instead of draping bird netting over every grape trellis/row, Bob has installed high posts and a wire grid system that stretches large swaths of netting over his entire 2 acre vineyard. This allows unimpeded access to vines and grapes for pruning, management practices, and harvest- "the best thing I ever did," says Bob. One year of loss from birds hanging on row netting and creatively swinging the netting to get at a large amount of grapes can pay for the extra expense in one year!

Bob heads up the ND Grape and Wine Association's grape research committee which provides grower input to a joint ND State University/ Tom Plocher "Fast Track" grape breeding program. This innovative breeding program hopes to release several cold hardy grape varieties soon that have the ability to ripen in shorter growing seasons with fewer degree days and that can tolerate the severe North Dakota winters.

Maybe one of the most significant outcomes from this first annual conference is the credibility Montana has received from Tom Plocher and Rod Ballinger. They are committed to including Montana in the test phase of the newly bred wine grape varieties being developed at North Dakota State University! Testing some of these varieties at the Western Montana Agricultural Experiment Center in Corvallis, Montana and at Montana vineyards, some as early as 2016, will give a good indication of each varieties promise in cold climate viticulture.

Montana has officially entered into the grape wine industry in America.





Josh Thaden-happy that it's harvest day at Tongue River Winery.