



# TAKING ROOT IN MONTANA

## Small fruit orchards & vineyards are successfully growing

**Wind. Drought. Frost. Deer. Rocks.** Montana's rugged growing conditions make it hard to imagine growing fruit like grapes, currants and cherries among the state's snow-capped mountains and windswept fields. But from Missoula to Miles City, Montana farms are successfully growing fruits for both the fresh and value-added markets.

"Montana's climate can be pretty unforgiving, but if growers follow simple rules for establishment and select the right fruit, for the right site, there are some great options that are unique, healthy and delicious," said Zach Miller, PhD, Superintendent at the MSU Western Agricultural Research Center (WARC) in Corvallis, MT, where much of Montana's fruit-growing research is conducted.



Mark Rehder, owner of Geyser Farms, outside of Livingston, agrees that successful growers understand these principles. "It's a 'what grows here' approach to farming. I grow currants because they're short, stocky and can withstand wind." Rehder grows one acre of mostly black and some red currants to make kombucha, a value-added drink sold locally.

His success comes from choosing the right plant and doing his research before establishing a crop. "I always approach skilled growers when I get to a new species to discuss success and failures," said Rehder.

This strategy is shared by other successful growers, including Rich Torquemada, a grape grower in Stevensville who sells Marquette grapes to local wineries. "I spent time mentoring with Andy Sponseller at Tenspoon Winery in Missoula, and have found interacting with other growers at the

Montana Grape and Winery Association Conference to be tremendously helpful," said Torquemada.

Currants and grapes aren't the only Montana-grown fruit to withstand challenging growing conditions. Haskaps and Saskatoons are cold-hardy berries which are popular in Canada, Korea, Russia and Japan for their high levels of antioxidants and flavor. They grow well in Montana and other Northern regions, and are cultivated for flavor and size as an alternative to blueberries on soils with higher pH, like many Montana soils.

Since 2011, Corey and Noelle Meier have been experimenting with various varieties of haskap and Saskatoon berries. "We jumped into planting before we were really ready, which resulted in failure," cautioned Noelle Meier. Deer ate many unprotected plants and what was left succumbed to weeds, ground squirrels, and poor water management. "We can't claim to be experts in how to grow haskaps and Saskatoons, but feel pretty confident that we know many ways to fail," she said.

Like many fruit growers, the Meiers have learned from mistakes. With a continued passion for cold-hardy berries, proper deer fence, a well-designed irrigation system and increased knowledge to manage weeds and rodents, the Meiers plan to expand their two-acre orchard near Twin Bridges to 11 acres by 2025. "It's a rare thing to find something that's good for us, that also tastes good," said Meier, who describes haskaps as "a cross between a blueberry and a blackberry with the tang of a huckleberry."



“By growing two acres per year, its affordable financially, and lets us plant the newest and best cultivars,” said Meier of the decision. Their current favorites are ‘Smokey’ and ‘Northline’ Saskatoons and ‘Aurora’ haskaps, with ‘Tundra’ as a pollinator.

Selecting the right cultivars can be as important as selecting the right fruit. Michael Billingsley experimented with more than 50 cider apple varieties on his 10-acre Stevensville orchard to determine what would make the best hard cider. “There wasn’t a lot of information when I planted the orchard in 2012,” said Billingsley. “I’ve had to whittle it down through trial and error, and a lot of error.” He has a few favorites, like ‘Hewe’s Virginia Crab,’ ‘Wickson’ and ‘Frequin Rouge,’ but has determined several he just won’t grow again, like ‘Harry Masters Jersey’ and ‘Sommerset Redstreak,’ due to fire blight, which is a major pathogen of apples and particularly of cider varieties.

WARC works with fruit growers to learn from their experience and develop projects to assist growers in the future. “We listen to growers’ needs and lessons learned to develop research and resources that will help them be productive and profitable going forward,” said Miller.

Since 2014, Miller, with support from a growing staff and new faculty member Rachel Leisso, has been researching fruit species and cultivars for production in Montana. Cultivar research trials include nearly 70 varieties of small fruits: aronia, red and black currants, haskaps, dwarf sour cherries, cider apples and cold-hardy grapes. The purpose of evaluating selected cultivars is to determine which will yield the highest quality fruits for fresh markets and value-added products like wine, cider, juices and preserves.

In addition to helping growers select cultivars, WARC is also conducting research on managing and harvesting crops for maximum yield and profit. “We know there are fruits cold-hardy enough to withstand Montana’s winters,” said Miller. “But we have other barriers to larger scale production like labor. We are addressing these challenges by helping growers select management systems that are feasible and profitable.”

For more information on WARC’s research programs, visit [agresearch.montana.edu/warc/](http://agresearch.montana.edu/warc/). For resources for growing fruit in Montana visit MSU Extension Publications (store.msuextension.org/Departments/Publications/AG-Yard-and-Garden/Fruits.aspx) or the WARC website. ■

## CONSIDERATIONS FOR GROWING FRUIT IN MONTANA

**Climates are varied and success requires matching the type of fruit with the local climate.**

**KNOW THE ZONE.** A plant’s ability to withstand cold winter temperatures is rated using USDA Cold Hardiness Zones. The lower the zone number, the colder the average minimum winter temperature and the more cold-hardy plants are required. Montana includes Zones 3-6, with much of the state in Zone 4. Go to <https://planthardiness.ars.usda.gov> to verify your hardiness zone and only select plants which are cold-hardy in that zone. Haskaps can be rated as low as Zone 2. Most other fruits require Zone 3-5.

**SUNLIGHT.** Most fruits need 6-8 hours of sunlight to develop and ripen.

**GROWING SEASON.** Some fruits, like grapes, require long, warm summers that only regularly occur in a few areas of Montana. Fruits can be vulnerable to frosts, especially during bloom. If lows in the 20s occur while apples are blooming, the crop will be lost, but berries like haskap/ Saskatoon can withstand lows in the teens

**WATER.** Mature berries need approximately 8- 10 gallons of water per week. Tree fruit need about 10-60 gallons of water per week depending on size and soil conditions.

**SOIL.** Soil pH is important for nutrient availability and is ideally in the range of 6.0-7.0 for most fruits.

**WIND.** High winds can be hard on all plants, trees in particular. In a windy area, consider stockier shrubs instead of fruit trees. If selecting a fruit tree, choose a standard rootstock which is better anchored, or at a minimum, stake trees on dwarfing rootstocks to provide additional support.

**CULTIVAR.** Talk to local growers, the county Extension agent or visit WARC’s website to learn about cultivars best suited for Montana growers. Once viable options are identified for the location, consider which you like to eat and what to do with the fruit.