



MONTANA
STATE UNIVERSITY

**MONTANA AGRICULTURAL
EXPERIMENT STATION**

Western Agricultural Research Center

Montana Vineyard Assessment 2021

Objectives and outline

- Document expansion and impact of the grape industry
- Predict supply, Let wineries know what varieties will be available
- Identify what varieties are doing well in the varied climates of Montana (including recent challenges)

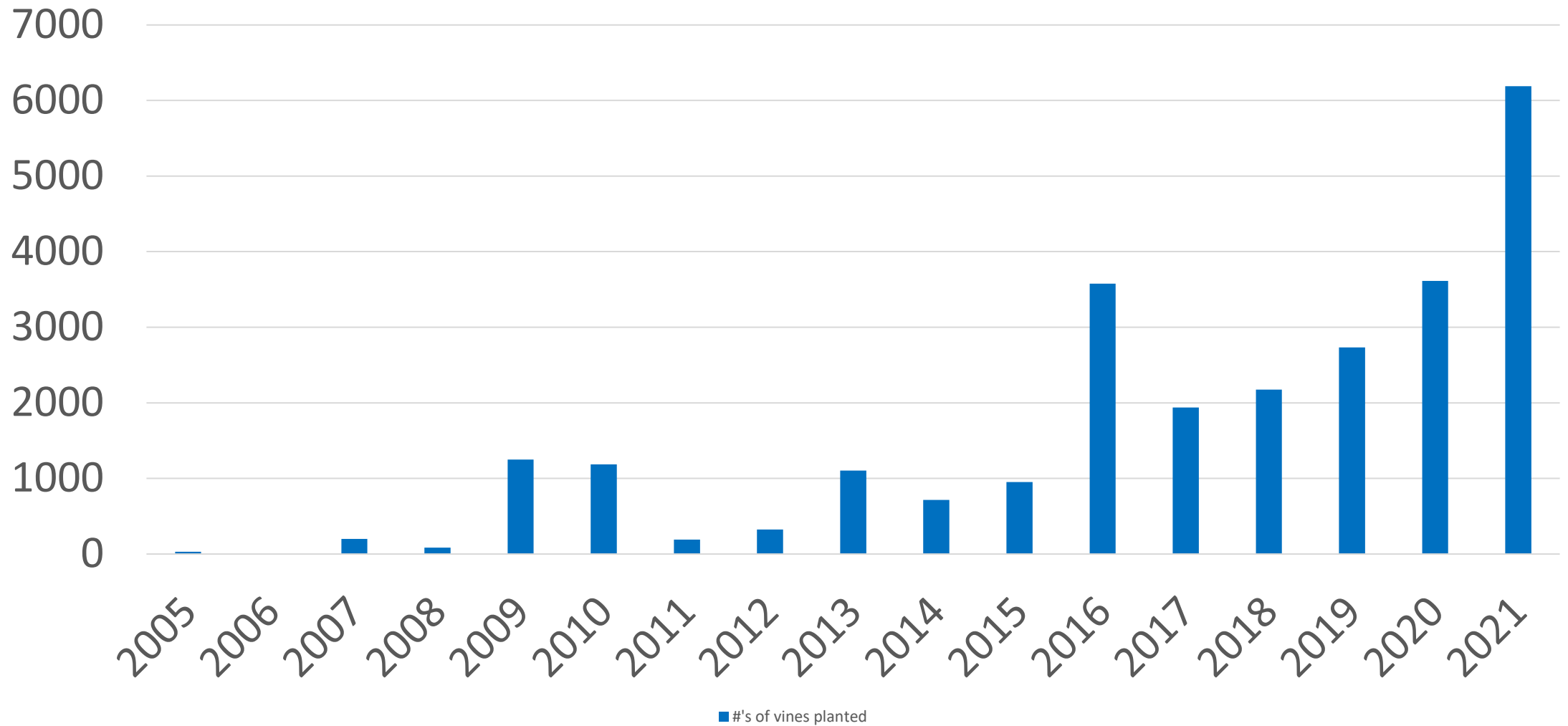


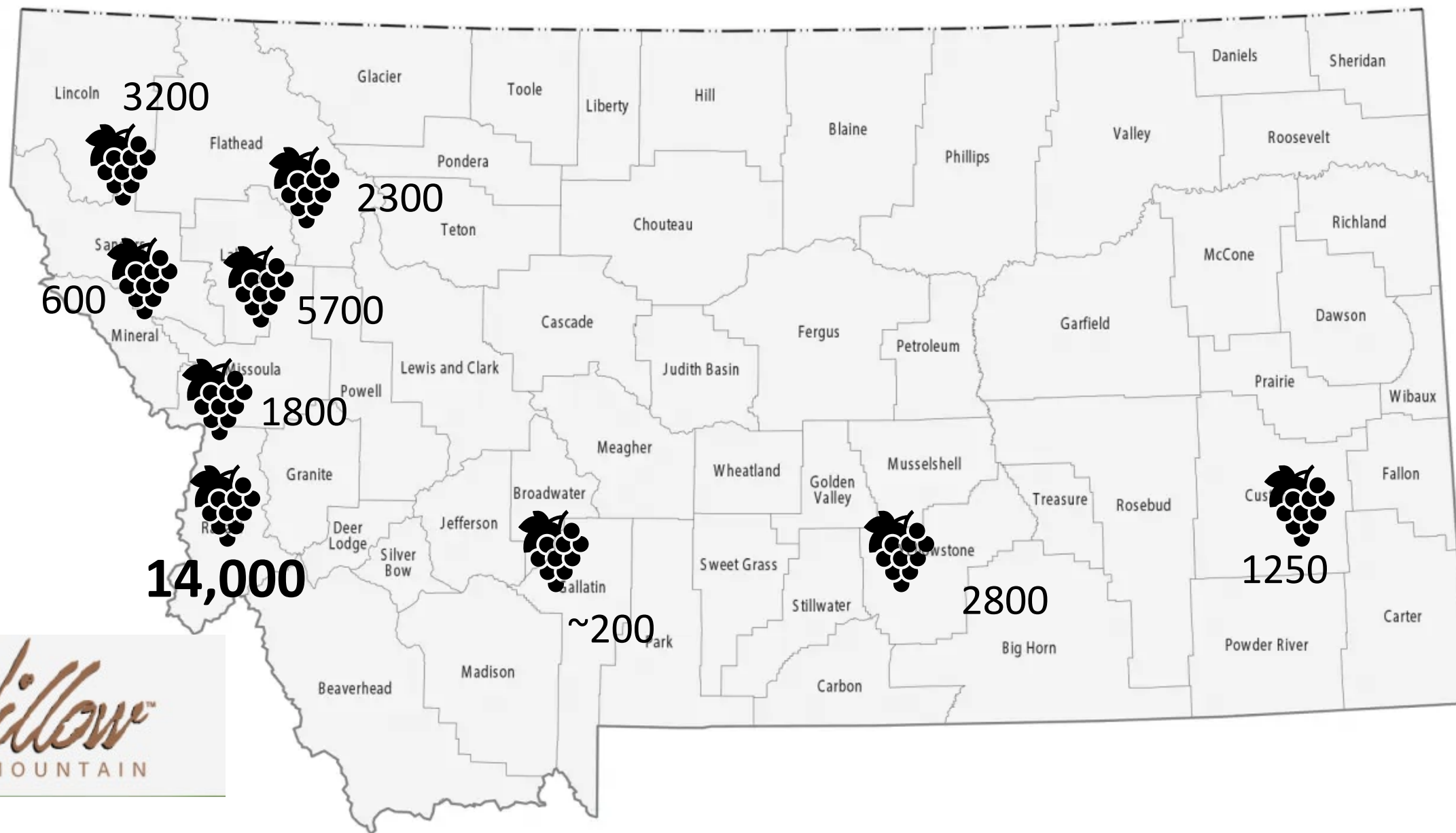
An Accurate Snapshot

- Survey responses
 - 28 vineyards, ~50 acres
 - ~27,000 hybrid vines, ~83% of vines in MT represented
 - Most small-median size 300 vines
 - Gaps:
 - Mid-sized vineyards (~2100 vines)
 - Small vineyards (~12 x 300 vines=3600 vines)
 - Est. 33,000 vines total



A growing industry





46% of hybrid vines in survey, 38% of hybrid vines in MT

Potential Production

- About ½ reported yields
- Red hybrids:
 - Mature yields ranged from 4-12 lbs. per vine
 - Projected 53.4 tons/year
 - Marquette (54%), Petite Pearl (21%), and Frontenac Noir (13%)



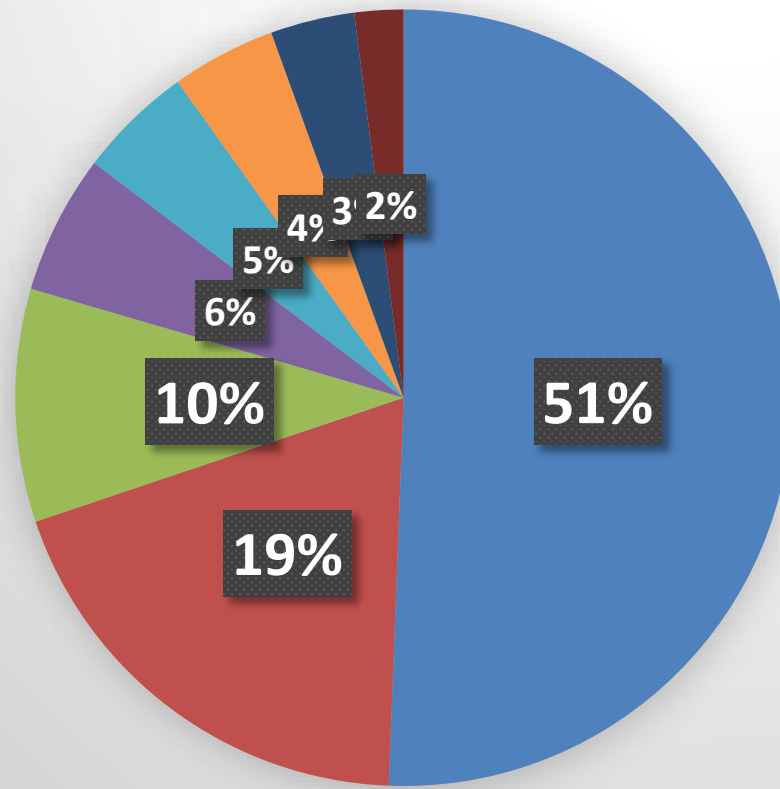
Potential Production

- White hybrids:
 - Mature yields ranged from 4 to 14 lbs./vine
 - Projected production 43.4 tons per year
 - Itasca (42%), Prairie Star (20%), St. Pepin (16%), and La Crescent (9%)



State-wide Planting

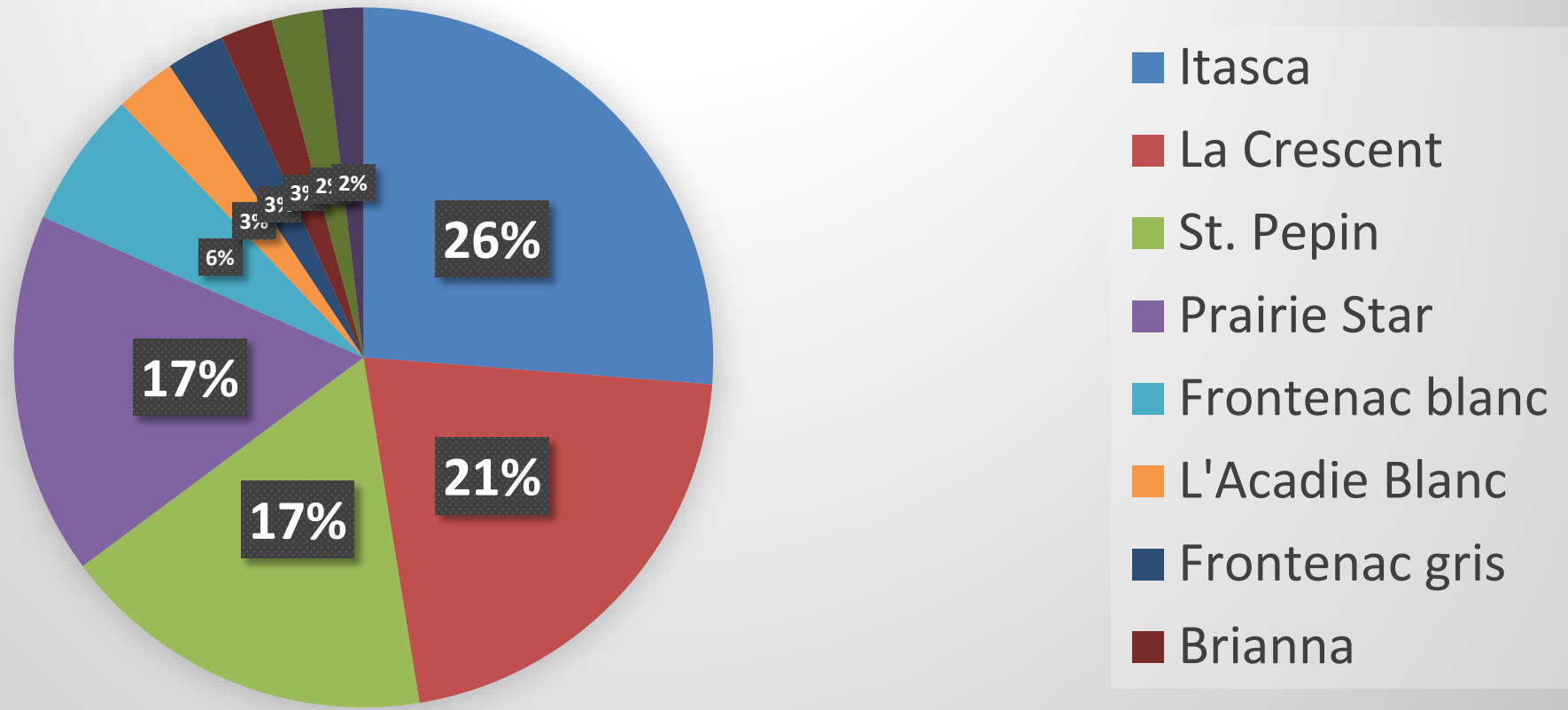
Red Wine Varieties



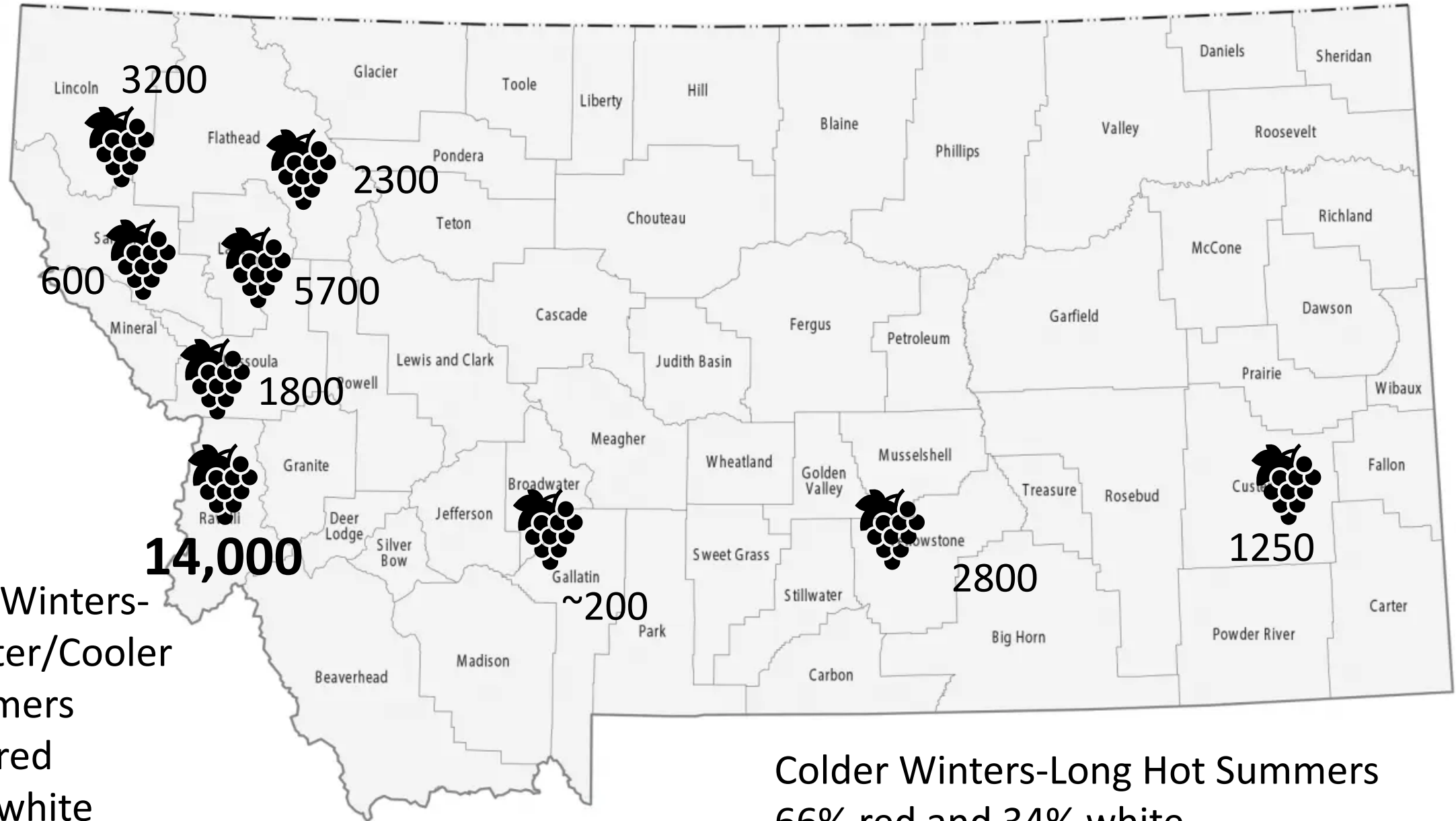
- Marquette
- Petite Pearl
- Fontenac
- Marechal Foch
- Crimson Pearl
- Leon Millot
- Verona
- Other Varieties (8)

State-wide Planting

White Hybrids



Different Varieties Fit Different Climates

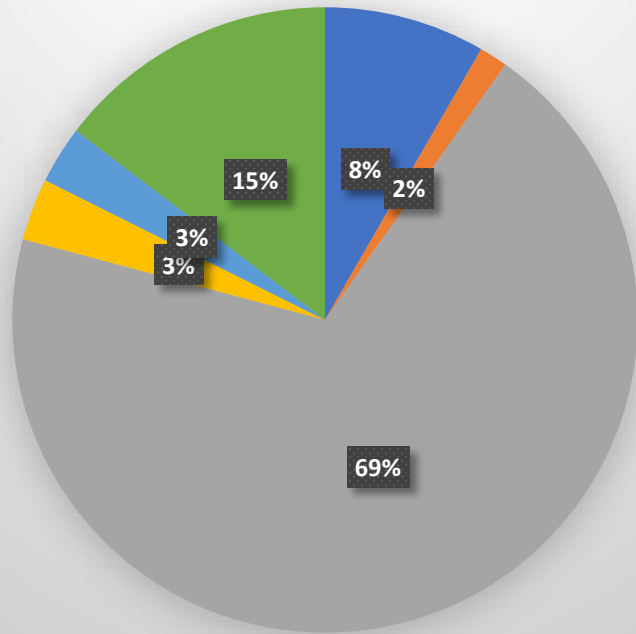


Mild Winters-
Shorter/Cooler
Summers
82% red
18% white
(excluding Willow Mnt.)

Colder Winters-Long Hot Summers
66% red and 34% white

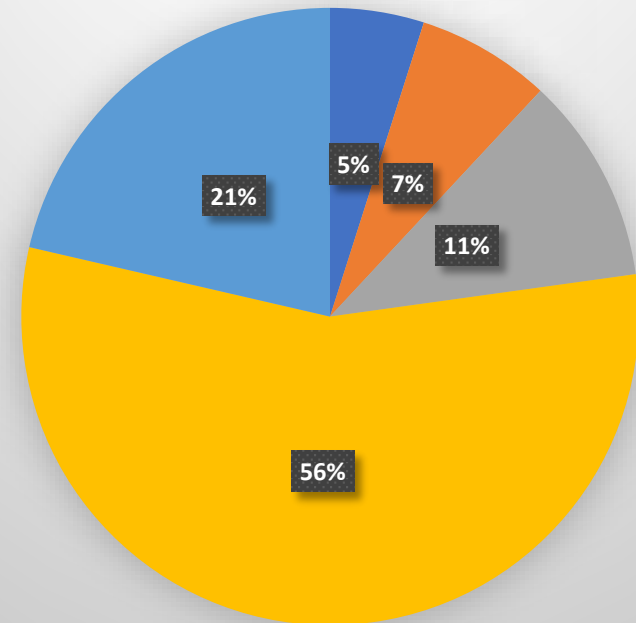
Most (81%) vines and vineyards (75%) are in good sites (mild winter (5a+) and >1900 GDD)

Percent of Vines by GDD base 50 F



■ 1700-1799 ■ 1800-1899 ■ 1900-1999
■ 2000-2099 ■ 2100-2199 ■ 2200-2700

Percent of Vines by USDA Cold Hardiness Zone

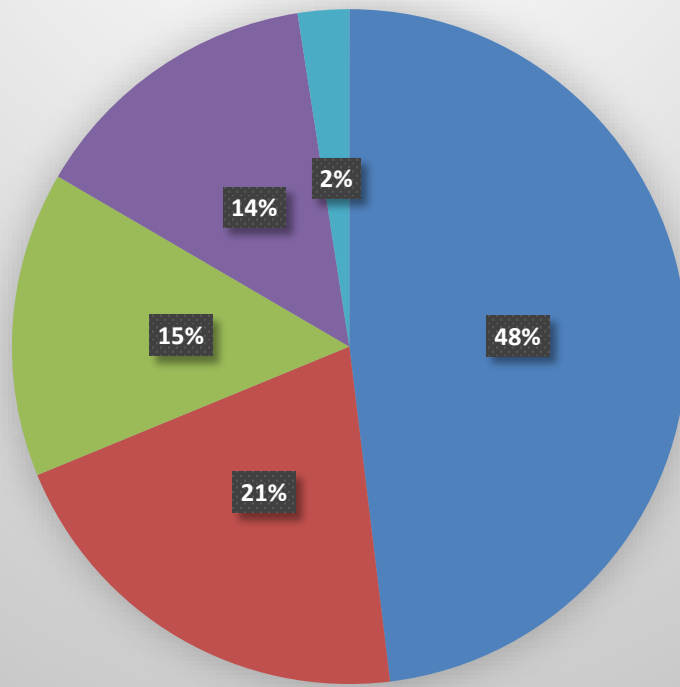


■ 4a ■ 4b ■ 5a ■ 5b ■ 6a

Red Hybrids

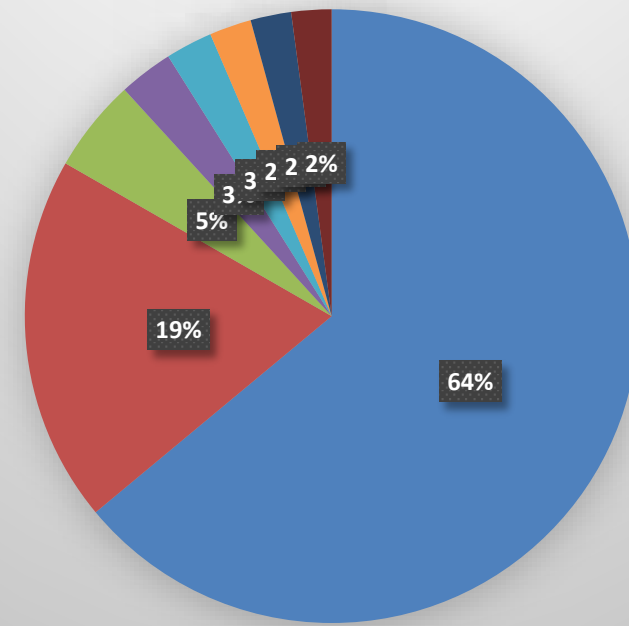
Eastern MT

Petite Pearl Marquette Crimson Pearl
Frontenac Other Varieties (4)



Western MT

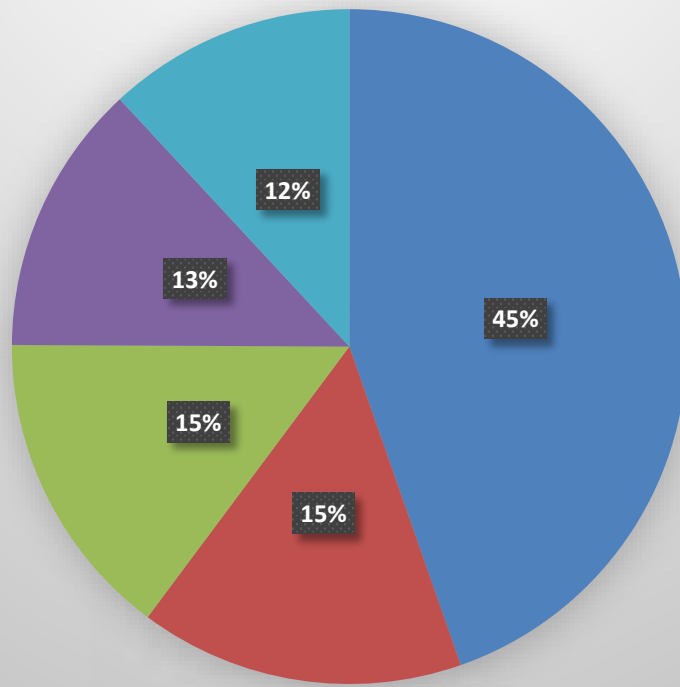
Marquette Petite Pearl Crimson Pearl
Sabrevois Frontenac Leon Millot
Verona Other Varieties (5)



White Hybrids

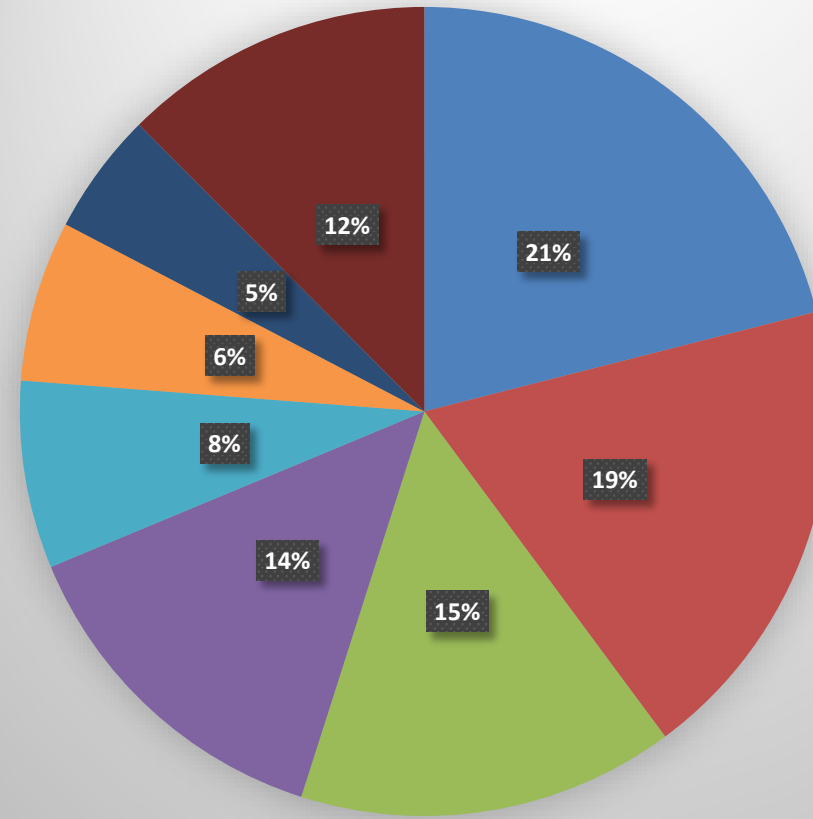
Eastern MT

■ Itasca ■ Frontenac blanc ■ La Crescent
■ Frontenac gris ■ Other Varieties (9)



Western MT

■ Itasca
■ L'Acadie Blanc
■ Somerset
■ Brianna
■ Prairie Star
■ Frontenac gris
■ Frontenac blanc
■ Other Varieties (7)

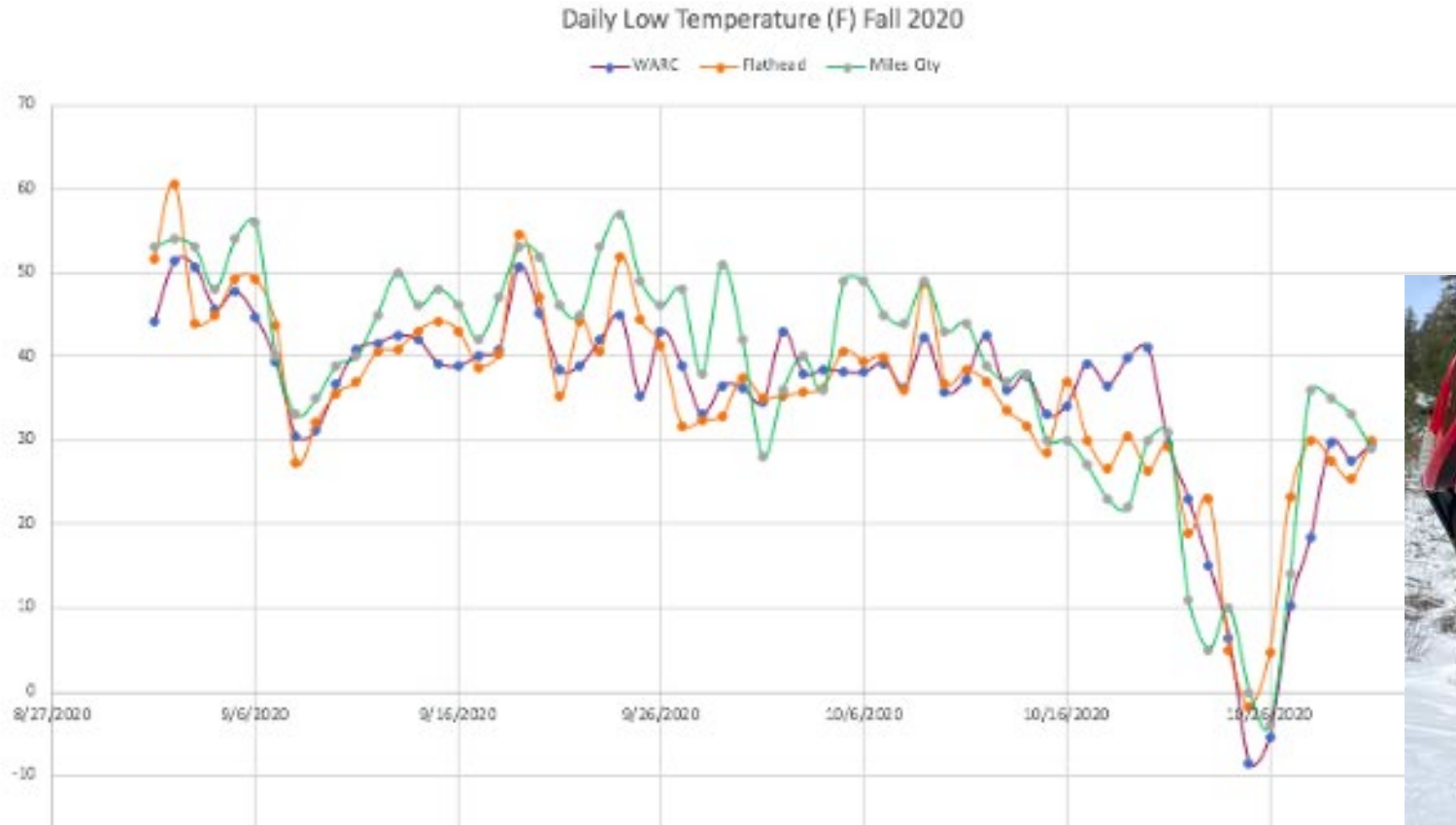


Picking Favorites

- Red Hybrids:
 - Top Favorites: Marquette (44%), Petite and Crimson Pearl (17%), Marechal Foch (13%)
 - Least Favorite: Petite Pearl (39%), Marquette (13%), and Crimson (9%)
- White Hybrids:
 - Top Favorites: St. Pepin (17%), Itasca/La Crescent/ Prairie Star/ L'acadie Blanc (13%)
 - Least Favorite: St. Croix (22%), La Crescent and Prairie Star (13%)



Fall and Spring cold is often most damaging



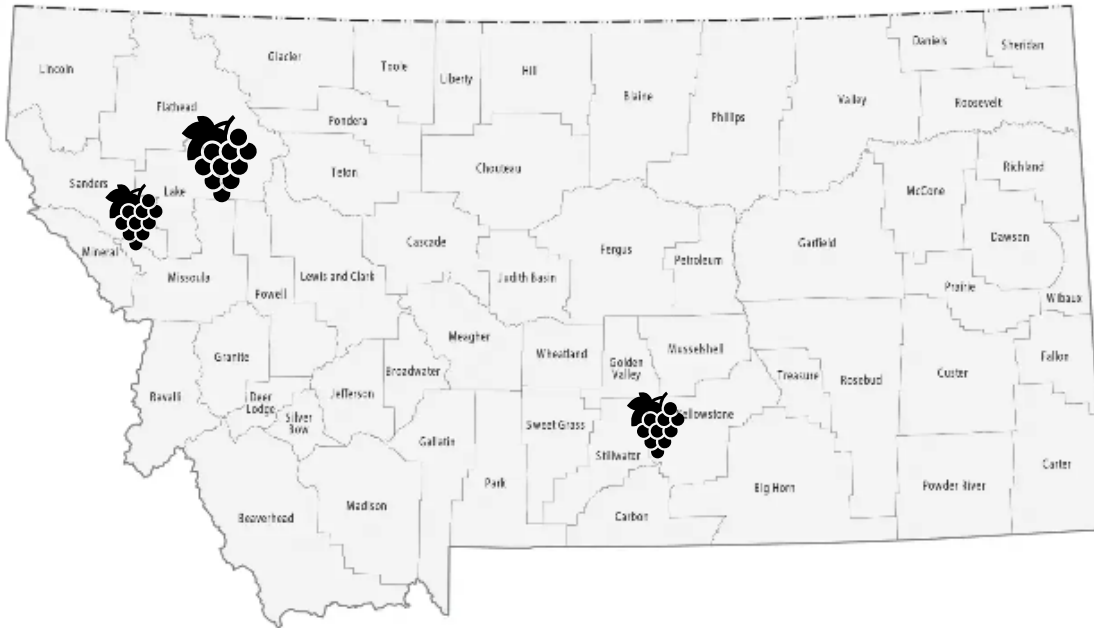
Devastating October Freeze Threatens Colorado Fruit Crop

As winter turns to spring, growers on the Western Slope are grappling with how the freezing temperatures will affect this year's fruit trees. Some aren't optimistic.

Cold impacted Much of the state:

MT Grapes were rare in 2021

- Based on responses: Areas that avoided injury of 2020 fall cold were around flathead lake, Sanders County, and Billings/Laurel
- Did any varieties do better than others?
- Generally NO, but in a few sites there were differences.



Vineyard	Gene Presser	Emmanuel Vineyard	F Bar 3 Vineyard
	Finley Point	Hamilton	Laurel
Marquette	No damage	No damage	Most buds killed
Fontenac Noir		No damage	No damage
Crimson Pearl	No damage		No damage
Petite Pearl	Most buds killed		No damage
Leon Millot	Most buds killed	Most buds killed	
Marchal Foch	Most buds killed	Most buds killed	

