

Prairie Star Update

By Robert Parke

Many Prairie Star vines have been planted since we first named and recommended the variety in 2000. Our recommendation, though optimistic, contained the caution that there was still a lot to learn about the vine and the wine it could make. The following is a summary of what we have learned since then.

The wine: Robin Partch of Northern Vineyards has produced and just released the world's first commercial Prairie Star varietal. Tom Plocher, Gordon Rouse and I met to evaluate six commercial varietals from Minnesota and Nebraska including two barrel fermented LaCrosses, a Foch blush, a Frontenac rose, and a St. Laurent. All were grown in 2003 but St. Laurent, which was grown in 2002. We agreed that the Prairie Star was by far the best of the lot. Robin barrel fermented it and put it through full malolactic fermentation, a treatment often used for well ripened Seyval or Chardonnay. The oak was very apparent (this is still a young wine) with vanilla and pear aromas. The wine was full-bodied with a long and pleasing finish. We think it would compare well to a locally grown Chardonnay or Seyval because both of these varieties rarely ripen fully during our normal growing season. We had no hint of unripe fruit in the Prairie Star. Normally for locally grown whites I favor a style that does not use oak or malolactic fermentation, but this wine came together well enough to overcome my bias. Earlier tastings had led me to believe that the main value of Prairie Star would be to add body to a blend with a more aromatic grape. Robin's wine has convinced me otherwise.

Incidentally, the St. Laurent, a variety very closely related to Pinot Noir, was grown in the same vineyard as Prairie Star. While the wine had a pleasant berry/cherry nose, we agreed the body was light, adding to our impression that the fruit was unripe. Some years ago Tom tasted a St. Laurent in Germany, where the season is about four weeks longer, and remembered it having more color and fruit character. Even there though, the St. Laurent was outshone by Regent (of which St. Laurent is a parent.)

The vine: Some Prairie Star growers noted moderate to pronounced winter injury during the unusual cold and dry winter of 2002-03, while others in nearby locations saw minimal injury. Most of the plantings were only a few years old, but some well established vines suffered badly.

Peter Hemstad reported that the Horticultural Research Center's four vines of Prairie Star (two that were eleven years old and two that were three) had suffered pronounced winter damage and produced almost no fruit. My six young vines had shown minimal winter damage, while my older Foch saw moderate injury. Del Schott, whose vineyard is near the HRC, noted that his 200 three year old Prairie Star vines had suffered little or no damage.

Ray Winter's young vines suffered major dieback, but made a quick recovery, while Fieldstone Vineyards also had a major dieback, but their young vines have been much slower to recover.

A study by Larry Patterson which included reports from Ontario and Quebec showed similar variability for the winter of 2002-03.

Peggy Backup who has had the most success growing Prairie Star sent me the following report:

Our oldest vines averaged 21 lb/vine in 2003. This would be 6 t/ac at our spacing. The vines showed no stress, received no irrigation, and exhibited no disease all season. We do have a good spray program, but they received no special treatment, just what the rest of the vineyard received. These were the biggest, fullest clusters of Prairie Star I have seen, with almost no shot berries. I call these mature vines: 11 vines produced 230 lb. They range in age from 9 to 11, average 10.

We have 20 6-year old vines and 104 4-year olds, for a total of 135 vines. The younger vines produced 814 pounds, for a total of 1044 lb overall. They had no visible disease or stress and received no irrigation. The fruit was sold to Northern Vineyards, and has been bottled as the world's first commercial Prairie Star varietal. This works out to 7.7 lb/vine overall. This is not great, but our vineyard tends to improve productivity as the vines mature, so I expect the yield to increase. Our Prairie Star is planted in 5 rows scattered among 5 different blocks, so they sample all the variations our site provides.

We routinely see some dieback and occasional death in our 2-year old vines of many varieties. However we have no really young Prairie Star now and saw no deaths or dieback last winter. We have never seen winter injury in older Prairie Star, including the 02/03 winter. We had no obvious frost damage, but I can't rule out some frost damage in the 6 and 4-yr old vines due to the light crop. The oldest vines had no frost damage. The only damage of any kind occurred in the lowest half dozen vines in a part of the vineyard that may have had some spring frost damage. These 6 vines appear healthy but they bore little fruit and there was considerable die back in the spring. Another possibility is these 6 vines may have had root damage, probably based on too wet conditions during the previous year.

Conclusions: We can only speculate on why Prairie Star withstood the test winter well on some sites and poorly in others. While vine age, soil type, and microclimate were no doubt factors, they could not totally account for the varied results. We have no information on how well the vines were hardened off on each of the sites going into the winter. Tom Plocher notes that The open winter was certainly part of the problem, but the other part of the hardiness problem was the wet and mild autumn conditions that preceeded it, delaying hardening off in some varieties, probably PS among them. I think that set up many vines for winter injury. Performance of many varieties that we previously thought to be invulnerable to winter injury was variable. In my vineyard, for example, I literally lost (killed stone dead) mature (6 year old) vines of MN 1094 which had never shown even the slightest sign of injury in the past winters. Crazy, but some 1094's survived too with no injury. So something odd was going on in 2002-2003.

We have known for some time that Prairie Star tends to have rampant shoot growth during flowering and fruit set. This habit results in reduced fruit set. One method to counter this is to pinch off the ends of apical shoots just prior to flowering. The article *Leaf Canopy Structure and Vine Performance* in the September/October 2001 issue of *Practical Winery & Vineyard* covers this subject extremely well. Peggy Backup has found that using two AGRO foliar applied nutrient sprays during this time results in much better fruit set and less extreme shoot growth. Watch for her followup article for more specifics. I will be experimenting with foliar feeding during the upcoming growing season and should have more to report after harvest.