

Grape Update - 2013

As I wrote last year's update in mid-March 2013, it was well below zero and we had just had a blizzard. The 5-day forecast was for temps above freezing and I was hoping for a warm up. Perhaps it did warm up, but winter and snow stayed around for about 6 more weeks. I could not really work in the orchard until May!

Because we have had problems in the past when icy snow pulled vines off of the trellis or broke canes, I climbed the fence in late April to check on the orchard. In the pictures, you can see that I shoveled the cordons out of the snow and I did some pre-emptive pruning. Even though it was hard work and I got a little sunburn on my nose, I think I saved the vines from trouble in the following weeks. I didn't notice any structural damage after the melt.



Grape training takes a lot of time and in our vineyard, it is compounded by vigor – the plants grow more and sometimes we have to leave extra canes to try to wean off that plant energy. This means extra pruning time, extra shoot care (thinning or combing), extra training. And in the end, the fruit may not ripen properly in our climate anyway.

This year, I decided to make my life simpler by trying to eliminate the varieties that fare the worst here. I cut off 12 of 16 plants of the following varieties:

- **Frontenac:** Over vigorous and does not ripen.
- **Frontenac Gris:** Over vigorous and does not ripen.
- **ES 6-16-30:** Not cold tolerant. Killed to ground in 2012 with little return vigor.
- **King of the North:** Does not ripen.
- **Sabrevois:** Partial removal. Very sensitive to fall frost and won't finish ripening. Growth habit is large internodes (7-9in). A mess on our trellises. Can't ripen suitably here.

Below: Typical 'Frontenac Gris' after 3 years of vigor-reduction work.



Right: 'Frontenac Gris' showing 3 healthy trunks and yet still producing a bull cane-like shoot from the roots.

I have to say that all of the vigor-reduction work has paid off and the grapes are shaping up nicely. Almost all plants had fruit and nice growth. The east half of the vineyard is less vigorous than the west half. This is probably due to past efforts to level the area which resulted in shallow topsoil to the east.



We have a great soil seedbank of black medic and for the past several years, I have been letting it grow over the summer until it fills in the area under the vines. The first year that this happened, I killed it just before Field Day so that the rows looked more ‘proper’. But I realized that where it grew, other weeds that I really hated were suppressed. It does well in dry, low nitrogen soils, which is what I achieve here each summer. Later in the summer, I spot-spray thistles or other perennial weeds that poke through. In fall, I used a riding mower to cut very closely to the trunks and then I raked up all of that biomass to discourage voles and mice. This may not be the best way to ripen the grapes as every bit of heat reflected from black soil helps, but this method cuts down on weeds and saves me time.

Because of the late spring, I had predicted that the grapes would not ripen this year, but they turned out pretty good. They didn’t flower until the last days of June but I was able to start collecting fruit samples on September 13.

From variety descriptions on the University of Iowa website¹, I found the following harvest parameters recorded 2003-06 in Minnesota that pertain to some of our grapes:

	“Ideal” or “Typical” in research plots				At CREC 9/25/2013		
Variety	Brix range	pH	TA (g/L)		Brix	pH	TA (g/L)
Frontenac	24-28	2.90 (or 3.24)	<15.0		Birds	na	na
Marquette	26.1	2.95	12.1		23.2	2.69	14.0
Petite Amie	Near 18	3.40	9.0		17.2	2.65	13.5
LaCrescent	24.5	3.00	11.9		22.8	2.68	17.6
Frontenac Gris	26-28	3.0	14.0		24.2	2.71	19.8

In the table *above*, you can see that CREC fruit had low pH and high acidity at this last sampling date. We had a touch of frost October 6th and daytime temperatures became cool (40s) after the 14th.

Here are the varieties that ripened the most:

	At CREC 9/25/2013		
	Brix	pH	TA (g/L)
Prairie Star	20.0	3.00	10.9
ES 8-2-43	21.5	2.75	9.7
Brianna ^a	15.2	3.15	3.6
Somerset Seedless	18.4	3.11	5.8

a. Brianna had reached these levels at least one week earlier. The Brix was very low each time it was checked. In 2012, it reached over 20°Brix.

The birds were extremely aggressive about eating grapes this year, probably due to the dry weather. By September 3rd, almost all of the ‘Valiant’ were eaten. ‘Frontenac’, ‘Marquette’ and ‘MN1200’ were other bird favorites.

1. <http://viticulture.hort.iastate.edu/cultivars/cultivars.html>