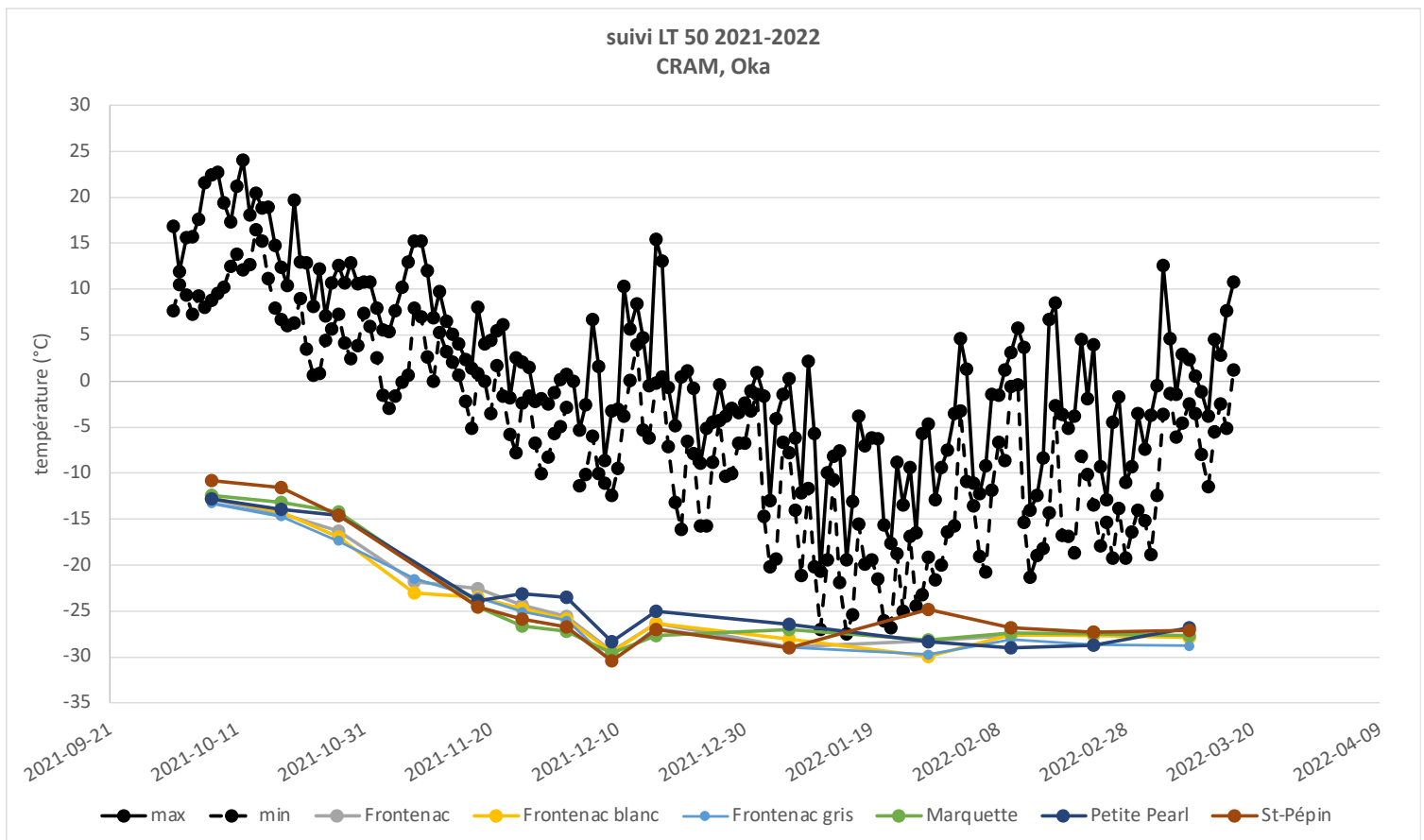


Bud hardiness monitoring for the winter 2021-2022

Bulletin 9

By Andréanne Hébert-Haché, Ph.D. candidate, Alexander Campbell, M.Sc. agr. and Caroline Provost, Ph.D

Since the end of January, we have seen a steady increase in daily temperatures. Warmer temperatures are returning with the arrival of spring, and vine deacclimation will follow very quickly if daily averages continue to rise. As of March 10, the vines are still generally acclimated to near -27 C (LTE 50). During the month of April, a final round of survival analysis will be completed to better characterize the effects of the extreme cold periods experienced in January 2022. We are still several weeks away from vine bud break, however there is still time to perform survival analysis on the vines to adjust pruning practices.



Acknowledgements

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Tableau 1 : Lethal temperatures for cultivars across the province. LTE 10, LTE 50, and LTE 90 represent the lethal temperatures for 10%, 50%, and 90% of the buds, respectively.

région	MRC	cépage	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90
Estrie	Memphrémagog		2022-01-04			2022-01-18			2022-02-08			2022-02-22			2022-03-08		
		Frontenac	-25.03	-28.24	-30.37	-25.76	-29.02	-31.35	-25.76	-28.95	-31.32	-25.65	-28.21	-30.61	-20.8	-26.68	-30.67
		Frontenac blanc	-13.08	-26.22	-29.64	-27.58	-30.54	-32.71	-24.77	-28.41	-30.65	-27.66	-30.32	-31.51	-25.04	-27.06	-29.29
Lanaudière	Joliette		2022-01-12						2022-02-16			2022-03-02			2022-03-16		
		Frontenac							-15.94	-26.49	-32.14	-27.95	-32.1	-33.3	-27.95	-32.1	-33.3
		Marquette							-28.34	-32.41	-34.59	-28.89	-33.31	-34.97	-28.89	-33.31	-34.97
Lanaudière	D'Autray		2022-01-12						2022-02-16			2022-03-02			2022-03-16		
		Frontenac	-30.85	-33.37	-34.65				-27.61	-31.43	-32.37	-31.31	-32.7	-34.36	-27.18	-28.6	-30.42
		Frontenac blanc	-29.89	-32.94	-34.26				-24.89	-32.32	-33.83	-32.49	-33.46	-34.7	-27.52	-29.09	-30.17
		Frontenac gris	-30.44	-32.27	-34.83				-24.63	-32.11	-33.65	-30.12	-33.53	-35.59	-27.59	-29.65	-31.06
		Marquette	-29.97	-31.97	-33.31				-29.53	-31.15	-33.27	-28.11	-31.09	-32.66	-27.04	-29.06	-30.83
		Petite Pearl						-29.89	-31.85	-33.59	-25.72	-30.42	-32.55	-24.76	-26.78	-28.93	
Laurentides	Deux-Montagnes		2022-01-06			2022-01-28			2022-02-10			2022-02-23			2022-03-10		
		Frontenac	-27.36	-28.88	-31.19	-21.76	-28.22	-30.07	-24.45	-27.67	-28.48	-25.89	-27.28	-28.74	-24.71	-27.88	-29.65
		Frontenac blanc	-26.01	-28.01	-29.76	-24.59	-29.95	-32.25	-24.84	-27.58	-29.62	-26.11	-27.67	-29.13	-26.29	-27.82	-29.73
		Frontenac gris	-27.22	-28.92	-30.51	-27.2	-29.75	-31.49	-25.86	-28.09	-30.07	-27.62	-28.69	-29.8	-26.84	-28.8	-29.98
		Marquette	-22.89	-27.04	-29.72	-25.97	-28.13	-29.7	-23.57	-27.37	-28.76	-24.39	-27.48	-28.95	-25.43	-27.64	-28.94
		Petite Pearl	-22.99	-26.43	-28.82	-16.5	-28.38	-31.53	-25.12	-29	-30.21	-26.96	-28.7	-30.35	-22.98	-26.82	-27.81
		St-Pépin	-26.26	-29.04	-30.89	-17.82	-24.86	-31.01	-24.7	-26.8	-28.58	-24.56	-27.25	-28.47	-25.1	-27.09	-28.48
		Seyval	sous toile			sous toile			sous toile			sous toile			sous toile		
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile		
Laurentides	Deux-Montagnes (Site 2)		2022-01-05						2022-02-09						2022-03-09		
		Frontenac	-23.68	-29.68	-32.53				-27.4	-29.66	-32.18				-26.99	-28.78	-29.99
		Marquette															
		St-Pépin	-26.37	-30.53	-32.02				-29.27	-31.59	-33.02				-27.7	-28.79	-29.63
Montérégie	Brome-Missisquoi		2022-01-04			2022-01-18			2022-02-08			2022-02-22			2022-03-08		
		Frontenac	-20.38	-29.23	-31	-29.27	-30.82	-32.72	-27.38	-29.11	-30.59	-27.63	-28.72	-30.35	-27.23	-28.67	-30.21
		Frontenac blanc	-22.52	-28.77	-30.49	-29.23	-30.66	-32.26	-28.06	-30.24	-31.51	-27.69	-28.8	-29.89	-26.64	-27.6	-29.11
		Frontenac gris	-24.59	-28.62	-31.27				-27.16	-29.42	-30.93	-27.32	-28.63	-29.65	-25.18	-27.99	-29.79
		Petite Pearl	-27.1	-30.09	-32.03	-28.05	-30.2	-31.9	-27.02	-29.24	-31.34	-25.43	-28.02	-29.3	-25.44	-28.25	-29.9
Montérégie	Les Jardins-de-Napierville		2021-01-11						2022-02-15			2022-03-01			2022-03-15		
		Frontenac	-29.42	-31.66	-33.28				-26.6	-30.43	-33.3	-30.49	-32.11	-34.28	-25.52	-27.79	-30.56
		Frontenac blanc	-30.38	-33.03	-34.72				-31.5	-33.26	-34.89	-29.67	-31.85	-33.79	-27.31	-29.15	-30.96
		Marquette	-28.22	-32.09	-33.68				-29.19	-30.97	-32.57	-31	-32.6	-33.32	-27.46	-28.2	-29.71
		Petite Pearl	-28.03	-30.55	-33.78				-29	-30.24	-32.09	-28.32	-30.5	-32.86	-24.47	-26.83	-28.12
		Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile		
Montérégie	Les Jardins-de-Napierville (site 2)	Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile		
		Pinot noir															
		Pinot gris															
		Vidal															
		Seyval															
		Gamay															

région	MRC	cépage	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90	LTE 10	LTE 50	LTE 90
			2021-01-11			2021-01-25			2022-02-15			2022-03-01			2022-03-15		
Montérégie	Le Haut-Richelieu	Marquette	-27.58	-30.68	-32.69	-29.65	-32.1	-36.34	-29.01	-31.71	-32.83	-29.41	-31.52	-33.72	-24.64	-26.8	-29.23
		St-Pépin	-25.38	-29.88	-32.67	-29.31	-29.98	-32.51	-29.15	-30.45	-32.05	-28.37	-31.08	-33.62	-24.63	-27.27	-28.95
			2021-01-11			2021-01-25			2022-02-15			2022-03-01			2022-03-15		
Montérégie	Le Haut-St-Laurent (site 2)	Frontenac	-26.18	-30.56	-31.74	-31.36	-32.57	-33.86	-26.62	-30.7	-31.91	-25.05	-30.67	-32.56	-24.78	-27.01	-28.45
		Frontenac blanc	-23.22	-28.77	-31	-27.71	-31.98	-33.93	-26.95	-30.67	-32.02	-26.55	-31.08	-33.42	-25.64	-27.08	-28.08
		Marquette	-19.48	-28.88	-30.81	-27.02	-30.31	-35.02	-27.79	-29.48	-31.25	-26.86	-30.08	-31.74	-24.72	-26.55	-27.96
		Petite Pearl	-20.54	-31.52	-32.9	-28.91	-30.94	-32.53	-24.15	-28.88	-30.5	-28.29	-30.79	-33.41	-25.72	-28.39	-30.41
		St-Pépin	-26.91	-29.17	-31.5	-27.81	-30.54	-32	-24.74	-28.52	-30.22	-27.17	-29.31	-32.11	-23.08	-25.41	-27.12
Montérégie	Les Maskoutains	Pinot noir	sous toile			sous toile			sous toile			sous toile			sous toile		
		Gamaret	sous toile			sous toile			sous toile			sous toile			sous toile		
		Gamay	sous toile			sous toile			sous toile			sous toile			sous toile		
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile		
			2022-01-05			2022-01-19			2022-02-09			2022-02-23			2022-03-08		
Montérégie	Marguerite d'Youville	Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile		
		Frontenac	-25.72	-29.3	-31.89	-28.85	-32.35	-34.45	-26.36	-28.6	-30.61	-26.82	-28.04	-29.65	-26.6	-27.8	-29.24
		Frontenac gris	-25.59	-28.92	-30.41	-30.73	-32.04	-34.43	-26.08	-28.23	-29.58	-26.47	-28.15	-29.99	-24.61	-27.43	-29.03
		Marquette	-26.29	-29.69	-31.03	-30.08	-32.15	-33.28	-27.73	-29.53	-31.84	-27.07	-28.45	-29.4	-27.57	-28.96	-30.01
		Pinot noir	sous toile			sous toile			sous toile			sous toile			sous toile		
		St-Pépin	-28.14	-30.59	-32.38	-31	-33.43	-35	-27.18	-28.87	-29.7	-22.23	-27.87	-29.33	-25.48	-29.2	-30.51
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile		
			2022-01-04			2022-01-18			2022-02-08			2022-02-22			2022-03-09		
Montérégie	Rouville	Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile		
		Frontenac	-25.31	-29.89	-31.28	-28.87	-31.87	-34.42	-28.27	-30.53	-32.36	-26.32	-28.52	-29.71	-24.74	-27.41	-28.88
		Frontenac blanc	-24.12	-28.73	-30.17	-31.22	-32.49	-33.77	-27.1	-29.07	-30.64	-26.7	-29.09	-30.62	-25.91	-27.09	-29.34
		Frontenac gris	-24.36	-28.52	-30.36	-29.62	-32.64	-35.59	-27.04	-29.69	-30.7	-27.02	-28.78	-31.07	-25.43	-27.39	-29.33
		Marquette	-25.68	-29.59	-31.26	-30.16	-31.91	-33.22	-28.92	-30.68	-32.14	-27.45	-29.99	-31.02	-27.39	-29.34	-31.39
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile		
			2022-01-06			2022-01-20			2022-02-10						2022-03-10		
Montérégie	Vaudreuil-Soulanges	Frontenac	-15.04	-18.25	-29.14	-31.01	-32.65	-33.16	-15.75	-23	-29.52				-23.93	-27.8	-28.78
		Frontenac blanc	-13.35	-16.25	-28.06	-28.34	-31.78	-33.58	-21.52	-28.56	-31.18				-25.94	-28.83	-30.28
		Frontenac gris	-14.22	-16.37	-28.82	-31.39	-32.51	-33.63	-21.08	-28.47	-30.88				-22.8	-27.78	-29.18
		Marquette	-24.43	-29.32	-31.2	-30.11	-32.31	-33.11	-26.35	-28.54	-30.61				-28.44	-30.03	-31.97
		Petite Pearl				-25.84	-29.56	-32.36	-26.46	-28.6	-29.44				-24.19	-27.91	-30.49
		St-Pépin	-26.9	-28.71	-30.35	-31.2	-33.12	-34.23	-27.4	-28.93	-30.27				-26.47	-28.48	-30.11