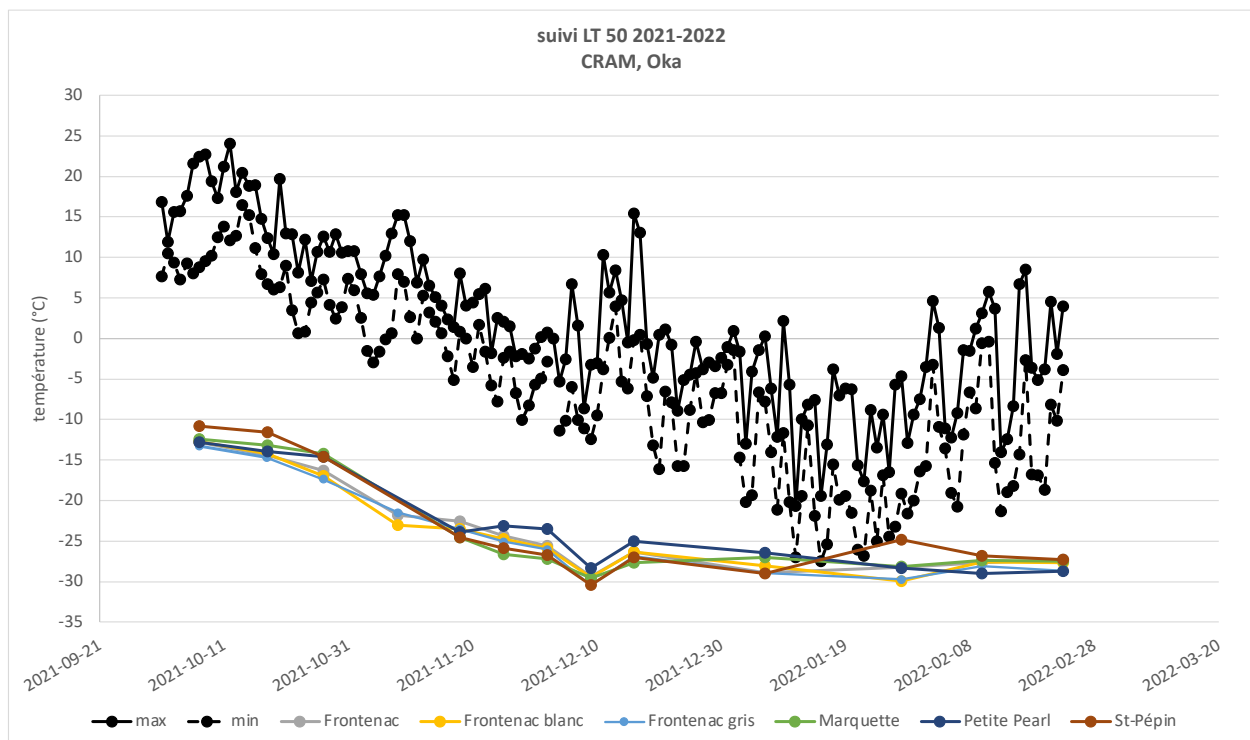


Bud hardiness monitoring for the winter 2021-2022
Bulletin 6

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

Analyses performed in early March show that vine buds are still very well acclimated, with LT50 around -28 °C in general. This is good news, but we expect to see the start of deacclimation this month. In 2021, Quebec vines had lost 10 degrees of acclimation between early and late March. As during acclimatization and the maximum hardiness phase, deacclimatized vines are sensitive to outside temperatures. The rate of deacclimation changes with temperature and timing in the year. Warmer temperatures will lead to faster deacclimation. Given the hardiness of the vines in early March, the rate of deacclimation may appear rapid once temperatures reach above 2 °C. Data shared in future bulletins will certainly capture this change in vine physiology in preparation for bud break.



Acknowledgements

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Table 2: 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	LTE 10	LTE 50	LTE 90
Estrie	Memphrémagog		2021-12-07			2021-12-21			2022-01-04			2022-01-18			2022-02-08			2022-02-22		
		Frontenac	-23.68	-25.87	-27.45	-20.51	-27.1	-29.39	-25.03	-28.24	-30.37	-25.76	-29.02	-31.35	-25.76	-28.95	-31.32	-25.65	-28.21	-30.61
		Frontenac blanc	-22.41	-25.62	-26.87	-25.57	-28.4	-30.35	-13.08	-26.22	-29.64	-27.58	-30.54	-32.71	-24.77	-28.41	-30.65	-27.66	-30.32	-31.51
Lanaudière	Joliette		2021-12-15			2022-01-12			2022-02-16			2022-03-02								
		Frontenac																		
		Marquette	-28.46	-30.07	-31.78										-15.94	-26.49	-32.14	-27.95	-32.1	-33.3
Lanaudière	D'Autray		2021-12-15			2022-01-12			2022-02-16			2022-03-02								
		Frontenac	-26.33	-29.22	-31.58				-30.85	-33.37	-34.65				-27.61	-31.43	-32.37	-31.31	-32.7	-34.36
		Frontenac blanc	-27.36	-28.95	-30.97				-29.89	-32.94	-34.26				-24.89	-32.32	-33.83	-32.49	-33.46	-34.7
		Frontenac gris	-26.51	-28.58	-29.52				-30.44	-32.27	-34.83				-24.63	-32.11	-33.65	-30.12	-33.53	-35.59
		Marquette	-26.62	-28.02	-30.05				-29.97	-31.97	-33.31				-29.53	-31.15	-33.27	-28.11	-31.09	-32.66
		Petite Pearl	-24.56	-27.29	-29.06									-29.89	-31.85	-33.59	-25.72	-30.42	-32.55	
Laurentides	Deux-Montagnes		2021-12-16			2022-01-06			2022-01-28			2022-02-10			2022-02-23					
		Frontenac	-23.87	-26.35	-27.77				-27.36	-28.88	-31.19	-21.76	-28.22	-30.07	-24.45	-27.67	-28.48	-25.89	-27.28	-28.74
		Frontenac blanc	-23.19	-26.38	-27.91				-26.01	-28.01	-29.76	-24.59	-29.95	-32.25	-24.84	-27.58	-29.62	-26.11	-27.67	-29.13
		Frontenac gris	-25.59	-26.89	-28.89				-27.22	-28.92	-30.51	-27.2	-29.75	-31.49	-25.86	-28.09	-30.07	-27.62	-28.69	-29.8
		Marquette	-25.64	-27.67	-29.02				-22.89	-27.04	-29.72	-25.97	-28.13	-29.7	-23.57	-27.37	-28.76	-24.39	-27.48	-28.95
		Petite Pearl	-19.01	-25.05	-27.2				-22.99	-26.43	-28.82	-16.5	-28.38	-31.53	-25.12	-29	-30.21	-26.96	-28.7	-30.35
		St-Pépin	-24.06	-27	-28.9				-26.26	-29.04	-30.89	-17.82	-24.86	-31.01	-24.7	-26.8	-28.58	-24.56	-27.25	-28.47
		Seyval	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
Laurentides	Deux-Montagnes (Site 2)		2021-12-08			2022-01-05			2022-02-09											
		Frontenac	-23.85	-29.16	-30.62				-23.68	-29.68	-32.53				-27.4	-29.66	-32.18			
		Marquette																		
		St-Pépin	-27.47	-29.96	-31.59				-26.37	-30.53	-32.02				-29.27	-31.59	-33.02			
Montérégie	Brome-Missisquoi		2021-12-07			2021-12-21			2022-01-04			2022-01-18			2022-02-08			2022-02-22		
		Frontenac	-27.23	-27.98	-29.09	-27.67	-29.26	-30.62	-20.38	-29.23	-31	-29.27	-30.82	-32.72	-27.38	-29.11	-30.59	-27.63	-28.72	-30.35
		Frontenac blanc	-26.32	-27.93	-29.02	-27.31	-28.73	-29.97	-22.52	-28.77	-30.49	-29.23	-30.66	-32.26	-28.06	-30.24	-31.51	-27.69	-28.8	-29.89
		Frontenac gris	-25.18	-28.02	-29.16	-26.63	-28.32	-29.49	-24.59	-28.62	-31.27				-27.16	-29.42	-30.93	-27.32	-28.63	-29.65
		Petite Pearl	-25.24	-28.51	-29.42	-27.07	-30.05	-32.43	-27.1	-30.09	-32.03	-28.05	-30.2	-31.9	-27.02	-29.24	-31.34	-25.43	-28.02	-29.3
Montérégie	Les Jardins-de-Napierville		2021-12-14			2021-01-11			2022-02-15											
		Frontenac	-20.91	-27.01	-29.52				-29.42	-31.66	-33.28				-26.6	-30.43	-33.3			
		Frontenac blanc	-25.11	-27.79	-29.6				-30.38	-33.03	-34.72				-31.5	-33.26	-34.89			
		Marquette	-26.94	-29.5	-30.84				-28.22	-32.09	-33.68				-29.19	-30.97	-32.57			
		Petite Pearl	-24.48	-26.58	-28.87				-28.03	-30.55	-33.78				-29	-30.24	-32.09			
		Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
Montérégie	Les Jardins-de-Napierville (site 2)		2021-12-14			2021-01-11			2022-02-15											
		Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
		Pinot noir	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
		Pinot gris	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
		Seyval	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		
		Gamay	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile		

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	LTE 10	LTE 50	LTE 90		
Montérégie	Le Haut-Richelieu	Marquette	-26.07	-28.11	-28.77				-27.58	-30.68	-32.69	-29.65	-32.1	-36.34	-29.01	-31.71	-32.83	-29.41	-31.52	-33.72		
		St-Pépin	-22.98	-27.42	-29.65				-25.38	-29.88	-32.67	-29.31	-29.98	-32.51	-29.15	-30.45	-32.05	-28.37	-31.08	-33.62		
Montérégie	Le Haut-St-Laurent (site 2)		2021-12-14						2021-01-11			2021-01-25			2022-02-15			2022-03-01				
		Frontenac	-22.31	-26.31	-29.13				-26.18	-30.56	-31.74	-31.36	-32.57	-33.86	-26.62	-30.7	-31.91	-25.05	-30.67	-32.56		
		Frontenac blanc	-24.44	-26.1	-27.36				-23.22	-28.77	-31	-27.71	-31.98	-33.93	-26.95	-30.67	-32.02	-26.55	-31.08	-33.42		
		Marquette	-25.43	-27.35	-29.33				-19.48	-28.88	-30.81	-27.02	-30.31	-35.02	-27.79	-29.48	-31.25	-26.86	-30.08	-31.74		
		Petite Pearl	-28.28	-29.5	-31.18				-20.54	-31.52	-32.9	-28.91	-30.94	-32.53	-24.15	-28.88	-30.5	-28.29	-30.79	-33.41		
		St-Pépin	-22.91	-24.42	-26.19				-26.91	-29.17	-31.5	-27.81	-30.54	-32	-24.74	-28.52	-30.22	-27.17	-29.31	-32.11		
Montérégie	Les Maskoutains	Pinot noir	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile				
		Gamaret																				
		Gamay																				
		Vidal																				
Montérégie	Marguerite d'Youville		2021-12-08						2022-01-05			2022-01-19			2022-02-09			2022-02-23				
		Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile				
		Frontenac	-26.23	-28.47	-29.51				-25.72	-29.3	-31.89	-28.85	-32.35	-34.45	-26.36	-28.6	-30.61	-26.82	-28.04	-29.65		
		Frontenac gris	-25.25	-28.2	-30.51				-25.59	-28.92	-30.41	-30.73	-32.04	-34.43	-26.08	-28.23	-29.58	-26.47	-28.15	-29.99		
		Marquette	-27.2	-28.75	-30.29				-26.29	-29.69	-31.03	-30.08	-32.15	-33.28	-27.73	-29.53	-31.84	-27.07	-28.45	-29.4		
		Pinot noir	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile				
	St-Pépin	-26.12	-28.51	-30.21				-28.14	-30.59	-32.38	-31	-33.43	-35	-27.18	-28.87	-29.7	-22.23	-27.87	-29.33			
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile				
Montérégie	Rouville		2021-12-07			2021-12-21			2022-01-04			2022-01-18			2022-02-08			2022-02-22				
		Chardonnay	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile				
		Frontenac	-24.45	-26.28	-27.61	-25.66	-28.02	-29.97	-25.31	-29.89	-31.28	-28.87	-31.87	-34.42	-28.27	-30.53	-32.36	-26.32	-28.52	-29.71		
		Frontenac blanc	-22.86	-26.52	-27.91	-20.64	-27.33	-28.42	-24.12	-28.73	-30.17	-31.22	-32.49	-33.77	-27.1	-29.07	-30.64	-26.7	-29.09	-30.62		
		Frontenac gris	-23.49	-26.14	-27.96	-21.38	-27.07	-29.35	-24.36	-28.52	-30.36	-29.62	-32.64	-35.59	-27.04	-29.69	-30.7	-27.02	-28.78	-31.07		
		Marquette	-26.84	-28.31	-29.66	-24.3	-26.7	-29.62	-25.68	-29.59	-31.26	-30.16	-31.91	-33.22	-28.92	-30.68	-32.14	-27.45	-29.99	-31.02		
		Vidal	sous toile			sous toile			sous toile			sous toile			sous toile			sous toile				
Montérégie	Vaudreuil-Soulanges		2021-12-09						2022-01-06			2022-01-20			2022-02-10							
		Frontenac							-15.04	-18.25	-29.14	-31.01	-32.65	-33.16	-15.75	-23	-29.52					
		Frontenac blanc							-13.35	-16.25	-28.06	-28.34	-31.78	-33.58	-21.52	-28.56	-31.18					
		Frontenac gris							-14.22	-16.37	-28.82	-31.39	-32.51	-33.63	-21.08	-28.47	-30.88					
		Marquette							-24.43	-29.32	-31.2	-30.11	-32.31	-33.11	-26.35	-28.54	-30.61					
		Petite Pearl										-25.84	-29.56	-32.36	-26.46	-28.6	-29.44					
		St-Pépin						-26.9	-28.71	-30.35	-31.2	-33.12	-34.23	-27.4	-28.93	-30.27						