

Grapevine Bud Hardiness in the Okanagan Valley, BC, 2019-2020. Carl Bogdanoff, Agriculture and Agri-Food Canada, Summerland, BC.

Variety	Location	sample day	Avg LTE/vine (Oct 22-24)	Avg LTE/vine (Nov 6,7)	Avg LTE/vine (Nov 20,21)	Avg LTE/vine (Dec 4,5)	Avg LTE/vine (Dec 18,19)	Avg LTE/vine (Jan 6,7)	Avg LTE/vine (Jan 15,17)	Avg LTE/vine (Jan 29,30)	Avg LTE/vine (Feb 12,13)	Avg LTE/vine (Feb 26,27)	Avg LTE/vine (Mar 11,12)	Avg LTE/vine (Mar 25,26)	Avg LTE/vine (Apr 8,9)
Cabernet Franc	Oliver east	Wed	-15.3	-22.0	-23.1	-24.6	-24.3	-23.9	-26.0	-22.7	-24.1				
Cabernet Franc	Naramata Bench	Wed	-13.5	-18.8	-21.3	-23.3	-23.8	-23.7	-25.3	-22.6	-22.9				
Cabernet Franc	Black Sage	Thur	-14.7	-20.8	-22.2	-23.7	-23.4	-22.5	-25.0	-22.6	-22.4				
Cabernet Franc	Osoyoos, southeast	Thur	-17.5	-23.1	-23.3	-25.2	-25.6	-23.6	-24.8	-24.4	-24.2				
Cabernet Franc	Black Sage	Wed	-14.9	-20.9	-22.4	-25.0	-25.2	-25.3	-24.3	-24.3	-24.2				
Cabernet Franc	Osoyoos, north	Thur	-15.5	-21.6	-23.4	-24.6	-25.9	-23.5	-26.0	-23.9	-24.2				
Cabernet Franc *(1yr)	Oliver east	Wed		-19.2	-20.1	-22.5	-22.9	-21.0	-24.3	-21.8	-22.5				
Cabernet Franc *(2yr)	Oliver east	Wed		-19.9	-21.3	-23.1	-23.5	-21.3	-24.1	-22.4	-22.6				
Cabernet Sauvignon	Osoyoos northeast	Wed	-16.3	-21.3	-22.7	-23.8	-24.5	-23.1	-23.1	-23.1	-23.4				
Cabernet Sauvignon	Osoyoos northeast	Wed	-14.1	-20.4	-20.7	-23.8	-23.1	-23.1	-23.6	-22.0	-21.9				
Cabernet Sauv *(1yr)	Black Sage	Wed		-14.5	-18.9	-21.0	-21.4	-20.6	-24.0	-20.8	-22.3				
Cabernet Sauvignon	Osoyoos, southeast	Thur	-15.4	-20.2	-21.5	-23.9	-23.7	-23.4	-24.1	-22.9	-23.0				
Cabernet Sauvignon	Black Sage	Wed	-14.7	-20.0	-20.6	-23.6	-23.9	-23.7	-23.8	-22.9	-22.6				
Chardonnay	OK Falls, east	Wed	-18.8	-21.3	-22.3	-24.6	-24.3	-23.7	-24.6	-21.9	-22.3				
Chardonnay	Oliver east	Wed	-18.1	-21.1	-21.9	-24.0	-23.7	-23.2	-24.3	-23.0	-21.8				
Chardonnay	Naramata Bench	Wed	-15.9	-20.8	-21.6	-23.6	-23.2	-23.1	-23.2	-22.6	-22.0				
Chardonnay	Osoyoos, southeast	Thur	-16.9	-20.7	-22.3	-23.6	-24.1	-23.2	-23.8	-22.5	-22.3				
Chardonnay	Black Sage	Wed	-17.0	-21.5	-22.5	-25.5	-24.9	-23.4	-25.0	-23.6	-23.9				
Chardonnay	Oliver, south	Thur	-17.9	-21.7	-22.7	-25.0	-24.5	-23.4	-24.9	-23.2	-22.5				
Gewurztraminer	OK Falls, west	Thur	-16.5	-21.3	-21.0	-23.1	-23.1	-22.8	-22.7	-21.6	-23.5				
Gewurztraminer	Oliver east	Wed	-15.7	-21.2	-21.0	-21.8	-22.9	-22.1	-23.0	-21.4	-22.7				
Gewurztraminer	Kelowna	Wed	-14.2	-18.4	-21.0	-21.7	-22.3		-22.4	-22.1	-21.8				
Malbec	Osoyoos, southeast	Thur		-20.6	-20.8	-22.8	-23.7	-22.3	-23.5	-22.0	-21.2				
Malbec	Osoyoos, north	Thur	-16.2	-20.9	-21.2	-23.1	-23.0	-22.5	-24.5	-21.7	-22.0				
Malbec	Osoyoos, southeast	Thur	-14.3	-20.6	-21.7	-23.4	-22.7	-21.9	-24.6	-22.5	-21.6				
Merlot	Osoyoos northeast	Thur	-12.6	-19.7	-21.8	-21.6	-22.7	-21.6	-25.1	-21.8	-21.4				
Merlot	Osoyoos northeast	Thur	-15.8	-19.8	-21.5	-21.1	-22.1	-21.7	-25.2	-21.3	-21.8				
Merlot	Black Sage	Wed	-15.8	-20.3	-22.5	-22.7	-22.9	-23.1	-25.3	-22.1	-21.6				
Merlot	Osoyoos northeast	Thur	-15.8	-20.6	-20.8	-21.7	-23.1	-21.0	-25.1	-20.0	-21.3				
Merlot	Osoyoos northeast	Thur	-15.2	-19.6	-21.5	-22.4	-22.6	-21.6	-24.4	-22.6	-22.4				
Merlot	Oliver east	Wed	-15.5	-19.7	-21.3	-22.2	-23.5	-22.0	-24.6	-21.7	-22.6				
Merlot	Naramata Bench	Wed	-13.7	-17.8	-20.8	-23.0	-22.7	-21.2	-23.9	-22.8	-20.8				
Merlot	Oliver, west	Thur	-14.7	-19.8	-21.1		-22.4	-21.8	-25.1	-21.8	-22.2				
Merlot	Osoyoos west	Thur	-16.6	-20.4	-22.5	-22.6	-22.8	-22.2	-23.9	-23.0	-22.2				
Merlot	Osoyoos, southeast	Thur	-14.5	-20.0	-21.1	-23.5	-23.8	-23.6	-23.9	-21.9	-22.1				
Merlot	Black Sage	Thur	-15.4	-20.0	-21.3	-23.1	-23.1	-23.9	-23.8	-22.2	-21.8				
Merlot	Black Sage	Thur	-14.0	-18.3	-19.4	-21.2	-23.8	-21.7	-24.7	-21.6	-21.8				
Merlot	Osoyoos, southeast	Thur	-14.1	-19.6	-19.8	-23.8	-23.7	-23.0	-24.6	-23.0	-22.1				
Pinot blanc	Oliver east	Wed	-16.9	-21.2	-21.5	-23.3	-22.9	-22.4	-25.3	-22.5	-23.4				
Pinot blanc	Black Sage	Wed	-19.0	-23.4	-23.5	-26.3	-25.9	-24.4	-25.0	-24.7	-26.5				
Pinot gris	Oliver east	Thur	-17.6	-22.2	-22.8	-24.7	-24.1	-24.0	-25.9	-23.3	-24.0				
Pinot gris	OK Falls, east	Wed	-18.7	-22.5	-22.3	-23.8	-24.9	-24.1	-25.3	-23.4	-23.0				
Pinot gris	Naramata Bench	Wed	-16.6	-20.4	-21.4	-23.6	-22.6	-21.7	-24.1	-22.9	-22.7				
Pinot gris	Black Sage	Wed	-18.2	-22.1	-22.9	-24.5	-24.0	-23.1	-24.8	-23.6	-23.3				
Pinot gris	Oliver east	Thur	-18.6	-23.0	-22.3	-24.7	-24.3	-25.8	-25.5	-24.2	-23.1				
Pinot noir	Osoyoos northeast	Wed	-17.8	-22.3	-24.2	-25.1	-25.1	-24.3	-25.9	-24.0	-24.6				
Pinot noir	OK Falls, east	Wed	-18.8	-22.4	-23.3	-24.3	-24.5	-23.9	-26.0	-23.5	-24.0				
Pinot noir	Naramata Bench	Wed	-17.8	-22.8	-23.6	-24.4	-24.4	-25.1	-26.4	-25.0	-24.8				
Pinot noir	Black Sage	Thur	-15.9	-21.8	-22.2	-23.9	-24.3	-24.3	-24.6	-22.2	-23.4				
Pinot noir	Kelowna	Wed	-16.7	-22.3	-23.1	-24.7	-25.2		-24.6	-24.3	-24.2				
Riesling	Oliver east	Wed	-15.2	-19.8	-22.5	-21.9	-24.2	-22.1	-23.9	-23.0	-23.1				
Riesling	Naramata Bench	Wed	-17.0	-21.5	-23.3	-24.5	-24.4	-23.4	-25.7	-24.1	-24.6				
Riesling	Black Sage	Wed	-14.4	-20.5	-22.6	-24.6	-25.6	-24.9	-23.9	-24.6	-24.3				
Riesling	West Kelowna	Wed	-18.7	-23.5	-24.2	-24.1	-24.6		-25.8	-23.7	-24.1				
Riesling	Black Sage	Wed	-18.8	-23.1	-23.7	-25.6	-26.0	-24.8	-25.1	-25.1	-25.8				
Sauvignon blanc	Osoyoos northeast	Thur	-14.4	-21.4	-21.6	-23.3	-23.6	-22.5	-25.3	-22.6	-22.2				
Sauvignon blanc	Osoyoos northeast	Thur	-15.9	-21.4	-22.5	-22.8	-23.3	-22.5	-25.4	-22.1	-22.3				
Sauvignon blanc	Oliver east	Thur	-16.1	-21.3	-21.9	-22.6	-23.3	-21.8	-24.3	-22.4	-22.5				
Sauvignon blanc	Oliver east	Thur	-16.2	-20.9	-21.6	-23.1	-23.4	-22.3	-24.2	-21.7	-21.7				
Sauvignon blanc	Black Sage	Thur	-15.7	-21.4	-21.4	-23.4	-24.0	-22.0	-25.3	-23.5	-23.2				
Sauvignon blanc	Black Sage	Wed	-16.9	-20.8	-23.2	-22.8	-22.8	-22.2	-24.9	-22.4	-22.5				
Shiraz	Osoyoos northeast	Thur	-12.7	-18.3	-19.8	-22.8	-22.1	-21.7	-23.8	-21.2	-22.1				
Shiraz	Osoyoos northeast	Wed	-14.3	-18.8	-21.1	-22.3	-22.3	-20.9	-24.0	-21.9	-22.2				
Shiraz	Osoyoos, southeast	Thur	-15.0	-19.8	-21.9	-23.4	-22.7	-24.0	-24.9	-22.4	-22.2				
Shiraz	Black Sage	Wed	-16.1	-20.2	-22.0	-23.8	-24.3	-22.6	-24.9	-22.8	-23.4				
Shiraz cl.174	Osoyoos, southeast	Thur	-12.4	-18.8	-19.8	-22.9	-22.1	-22.7	-23.6	-22.2	-22.0				
Tempranillo	Oliver, south	Thur	-14.8	-19.5	-19.8	-21.7	-21.8	-19.8	-22.5	-20.0	-19.9				
Vioignier	Osoyoos, southeast	Thur		-19.9	-21.8	-22.9	-23.5	-22.7	-24.6	-22.3	-22.5				
Vioignier	Osoyoos west	Thur	-17.4	-21.9	-24.2	-24.9	-25.4	-25.0	-26.0	-24.3	-24.3				
Vioignier	Osoyoos, southeast	Thur	-14.8	-21.2	-21.4	-23.9	-24.1	-23.9	-24.9	-22.8	-22.9				
Zinfandel	Osoyoos northeast	Wed	-14.9	-19.5	-21.8	-23.4	-23.7	-23.0	-24.5	-22.3	-21.8				
Zinfandel *(1yr)	Black Sage	Thur		-16.6	-19.0	-20.3	-20.5	-20.6	-22.4	-19.4	-21.3				

LTE: Lethal temperature exotherm (°C). AVG LTE: Average lethal temperature exotherm for buds collected from 3 vines at selected sites in the Okanagan Valley.