

Grapevine Bud Hardiness in the Okanagan Valley, BC, 2018-2019. Carl Bogdanoff, Agriculture and Agri-Food Canada, Summlerland, BC.

Variety	Location	sample day	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 2,3)	Avg LTE/vine (Jan 15,16)	Avg LTE/vine (Jan 29,30)	Avg LTE/vine (Feb 12,13)	Avg LTE/vine (Feb 26,27)	Avg LTE/vine (Mar 12,13)	Avg LTE/vine (Mar 26,27)	Avg LTE/vine (Apr 9,10)
Cabernet Franc	Black Sage	Tues	-17.7	-23.1	-22.3	-22.2	-23.4	-23.6	-23.8	-24.3	-25.2	-24.9	-18.6	-10.2
Cabernet Franc	Osoyoos, north	Wed	-15.1	-23.3	-23.1	-23.1	-22.9	-23.6	-23.5	-24.2	-24.3	-24.3	pruned	pruned
Cabernet Franc	Oliver east	Tues	-17.4	-22.9	-24.0	-23.8	-24.3	-23.8	-24.4	-23.8	-23.6	-24.3	-18.0	-11.5
Cabernet Franc	Naramata Bench	Tues	-15.4	-20.9	-21.1	-21.9	-21.9	-22.4	-22.2	-24.4	-22.4	-25.0	-14.7	-9.5
Cabernet Franc	Black Sage	Wed	-15.2	-22.2	-23.3	-22.5	-23.1	-23.8	-23.8	-25.1	-24.0	-23.8	-16.0	-9.5
Cabernet Franc	Osoyoos, southeast	Wed		-21.0	-24.1	-23.0	-23.6	-24.7	-24.9	-25.8	-25.1	-25.9	-20.6	-14.3
Cabernet Sauvignon	Osoyoos northeast	Tues	-16.4	-22.7	-23.5	-23.7	-23.5	-23.5	-23.9	-22.6	pruned	pruned	pruned	pruned
Cabernet Sauvignon	Osoyoos northeast	Tues	-16.6	-21.6	-23.0	-22.4	-23.0	-23.3	-23.5	-23.7	-23.7	-22.9	-19.5	-12.2
Cabernet Sauvignon	Osoyoos, southeast	Wed	-16.5	-21.7	-23.2	-22.2	-23.8	-23.0	-23.9	-26.3	-23.8	-23.4	-17.8	-10.2
Cabernet Sauvignon	Black Sage	Tues	-16.7	-21.7	-22.1	-22.6	-23.5	-23.3	-23.2	-23.2	-24.1	-23.9	-18.6	-12.3
Chardonnay	OK Falls, east	Tues	-18.5	-23.5	-24.0	-24.0	-25.2	-23.4	-24.2	-24.7	-25.2	-24.4	-15.6	-10.4
Chardonnay	Oliver east	Tues	-17.0	-22.6	-23.3	-23.9	-24.7	-24.3	-24.6	-25.1	-24.0	-24.2	-15.6	-9.2
Chardonnay	Naramata Bench	Tues	-18.9	-23.5	-23.4	-24.0	-24.0	-23.3	-25.3	-26.2	-26.7	-25.9	-18.2	-10.8
Chardonnay	Osoyoos, southeast	Wed	-17.3	-23.2	-24.7	-24.2	-25.0	-24.7	-24.6	-25.5	-25.3	-24.7	-17.3	-11.4
Chardonnay	Black Sage	Tues	-15.9	-23.3	-23.5	-23.5	-24.6	-24.5	-25.2	-24.8	-25.9	-24.7	-18.9	-11.7
Chardonnay	Oliver, south	Wed	-17.6	-23.8	-23.8	-23.5	-24.5	-23.9	-24.7	-24.8	-24.9	-24.0	-16.2	-10.8
Gewurztraminer	OK Falls, west	Tues	-17.0	-22.5	-23.8	-23.5	-24.8	-24.6	-24.8	-24.1	-25.0	-23.5	-16.5	-11.7
Gewurztraminer	Oliver east	Tues	-18.6	-22.3	-22.5	-22.4	-23.3	-23.2	-23.0	-24.1	-24.1	-23.5	-18.3	-12.8
Gewurztraminer	Kelowna	Tues	-16.8		-21.8	-22.5	-23.0	-22.8	-23.1		-23.2	-22.9	-15.4	pruned
Malbec	Osoyoos, southeast	Tues	-17.4	-21.3	-22.1	-22.4	-23.3	-23.2	-22.5	-23.6	-22.8	-22.3	-17.0	-11.1
Malbec	Osoyoos, north	Wed	-17.1	-22.7	-22.5	-21.1	-21.0	-22.1	-24.2	-25.4	-24.4	-23.4	-18.9	-12.1
Malbec	Osoyoos, southeast	Wed		-21.7	-21.5	-22.0	-22.6	-22.6	-23.6	-23.6	-23.6	-25.0	-19.9	-14.9
Merlot	Osoyoos northeast	Wed	-17.4	-22.0	-23.1	-22.8	-23.5	-22.9	-24.3	-24.9	-23.9	-23.6	-17.9	-11.3
Merlot	Black Sage	Tues	-18.1	-22.2	-23.3	-22.6	-23.9	-22.6	-23.0	-23.5	-23.5	-23.7	-17.5	-11.3
Merlot	Osoyoos northeast	Wed	-17.4	-22.3	-23.1	-23.1	-23.3	-22.9	-23.1	-23.3	-24.0	-23.6	-17.4	-11.2
Merlot	Osoyoos northeast	Wed	-18.0	-22.3	-23.4	-23.3	-22.8	-23.6	-24.1	-24.5	-25.1	-24.6	-17.4	-11.2
Merlot	Osoyoos northeast	Wed	-17.0	-24.5	-23.3	-23.5	-24.0	-23.8	-25.1	-23.7	-26.8	-27.2	-21.2	-14.9
Merlot	Naramata Bench	Tues	-16.5	-21.7	-21.4	-21.8	-22.8	-22.8	-22.9	-25.0	-23.1	-22.6	-15.7	-11.5
Merlot	Osoyoos northeast	Wed	-16.7	-22.0	-22.5	-23.0	-23.0	-22.2	-22.9	-23.8	-23.9	-23.5	-18.2	-12.5
Merlot	Oliver east	Wed	-17.2	-23.3	-23.1	-22.7	-22.9	-23.1	-23.3	-25.3	-24.6	-23.9	-18.5	-11.9
Merlot	Oliver, west	Wed	-16.9	-21.6	-21.9	-22.0	-22.3	-22.6	-22.5	-24.1	-22.9	-22.8	-17.5	-10.9
Merlot	Osoyoos west	Wed	-16.4	-21.1	-22.1	-22.7	-22.5	-22.4	-23.4	-24.6	-24.2	-23.3	-18.4	-11.9
Merlot	Osoyoos, southeast	Wed	-17.1	-22.4	-22.7	-22.6	-23.0	-23.2	-24.1	-24.9	-23.1	-23.9	-17.2	-11.2
Merlot	Black Sage	Wed	-15.1	-23.5	-23.0	-22.3	-22.7	-23.4	-24.7	-24.2	-25.6	-25.3	-18.6	-11.4
Merlot	Black Sage	Wed	-17.1	-21.8	-21.6	-22.8	-22.6	-22.6	-23.6	-24.4	-25.2	-24.7	-19.8	-12.7
Merlot	Osoyoos, southeast	Wed		-21.3	-22.3	-22.4	-22.7	-23.0	-22.9	-24.3	-24.0	-23.7	-17.3	-13.8
Pinot blanc	Oliver east	Tues	-20.0	-23.4	-25.4	-24.2	-25.0	-23.8	-24.9	-22.3	-25.6	-25.7	-21.1	-12.5
Pinot blanc	Black Sage	Tues	-18.6	-23.0	-23.8	-24.1	-24.1	-23.0	-23.5	-22.9	-24.4	-23.7	-17.0	-13.7
Pinot gris	OK Falls, east	Tues	-18.8	-24.0	-23.9	-24.3	-24.6	-23.9	-25.2	-24.1	-25.3	-25.0	-17.7	-11.6
Pinot gris	Oliver east	Tues	-17.6	-23.3	-23.8	-24.1	-24.5	-23.7	-24.6	-26.2	-25.6	-24.7	-17.9	-10.6
Pinot gris	Naramata Bench	Tues	-16.5	-22.6	-23.6	-23.3	-23.7	-23.1	-24.8	-23.6	-24.7	-23.8	-16.5	-12.8
Pinot gris	Black Sage	Tues	-18.1	-23.1	-24.3	-23.9	-24.9	-24.2	-24.9	-22.5	-26.2	-24.7	-18.7	-11.3
Pinot gris	Oliver east	Wed	-21.5	-24.8	-27.2	-25.5	-25.7	-25.5	-27.3	-23.9	-27.3	-26.5	-20.2	-14.3
Pinot noir	Osoyoos northeast	Wed	-19.2	-23.4	-24.7	-24.0	-24.3	-24.5	-25.1	-24.8	-24.9	-25.1	-20.3	-12.6
Pinot noir	OK Falls, east	Tues	-19.7	-22.7	-23.3	-23.0	-24.5	-23.2	-24.0	-23.2	-24.8	-24.0	-19.3	-13.3
Pinot noir	Naramata Bench	Tues	-17.7	-22.1	-23.2	-22.8	-23.1	-23.0	-23.8	-24.2	-24.3	-24.2	-19.3	-12.9
Pinot noir	Black Sage	Wed	-18.2	-23.2	-24.4	-23.9	-24.4	-24.2	-24.8	-25.3	-25.3	-25.0	-18.7	-12.3
Pinot noir	Kelowna	Tues	-17.8		-23.8	-23.2	-24.3	-23.6	-24.2		-24.5	-23.4	-16.0	pruned
Riesling	Oliver east	Tues	-20.0	-22.1	-22.9	-22.6	-24.3	-23.3	-25.2	-24.5	-25.2	-25.9	-21.0	-16.1
Riesling	Naramata Bench	Tues	-18.1	-24.0	-24.9	-24.2	-24.9	-25.0	-25.4	-23.6	-26.2	-25.0	-20.5	-11.5
Riesling	Black Sage	Tues	-19.6	-23.5	-24.4	-24.4	-25.3	-24.6	-27.1	-23.4	-27.0	-27.4	-21.9	-13.3
Riesling	West Kelowna	Tues	-19.1		-23.3	-24.1	-24.8	-24.3	-25.6		-26.9	-25.8	-18.8	pruned
Riesling	Black Sage	Tues	-18.7	-22.7	-23.9	-23.7	-24.6	-25.1	-24.1	-23.4	-24.3	-24.6	-19.5	-12.0
Sauv blanc	Oliver east	Tues	-15.7	-21.3	-22.2	-22.4	-23.2	-22.7	-23.3	-23.9	-24.9	-23.4	-20.7	-12.9
Sauv blanc	Oliver east	Tues	-18.1	-23.0	-23.8	-23.0	-24.9	-24.2	-24.2	-24.7	-25.3	-24.3	-17.9	-11.4
Sauv blanc	Osoyoos northeast	Wed	-17.1	-20.6	-22.1	-21.5	-21.7	-22.7	-22.8	-23.1	-22.0	-22.4	-15.6	-8.6
Sauv blanc	Osoyoos northeast	Wed	-18.2	-22.9	-23.7	-22.1	-23.0	-22.6	-23.2	-25.4	-23.0	-22.5	-17.9	-10.0
Sauv blanc	Osoyoos northeast	Wed	-18.0	-21.5	-22.9	-22.7	-23.6	-23.4	-23.2	-23.6	-22.2	-22.1	-16.6	-9.2
Sauv blanc	Oliver east	Wed	-17.8	-22.5	-23.0	-22.9	-23.4	-23.7	-24.3	-24.0	-24.1	-23.8	-19.4	-12.0
Sauv blanc	Oliver east	Wed	-18.0	-21.3	pulled	pulled	pulled	pulled	pulled	pulled	pulled	pulled	pulled	pulled
Sauv blanc	Black Sage	Wed	-14.9	-22.0	-22.9	-22.1	-23.2	-23.0	-23.2	-25.3	-23.6	-23.0	-17.0	-10.1
Sauv blanc	Black Sage	Tues	-17.7	-22.8	-22.1	-22.0	-22.6	-22.7	-24.1	-24.6	-24.5	-23.9	-19.9	-10.8
Shiraz	Osoyoos northeast	Tues	-15.2	-19.9	-22.0	-21.9	-22.8	-23.2	-23.3	-23.2	-23.8	-22.6	-16.8	-11.3
Shiraz	Osoyoos northeast	Wed	-16.1	-21.0	-22.3	-22.6	-23.4	-22.8	-23.6	-24.6	-23.4	-23.7	-18.7	-12.6
Shiraz	Osoyoos, southeast	Wed	-18.1	-23.0	-23.5	-23.7	-23.3	-24.2	-25.2	-26.6	-24.6	-24.1	-18.6	-11.8
Shiraz	Black Sage	Tues	-16.7	-22.4	-23.9	-23.2	-24.1	-23.7	-24.5	-24.4	-25.4	-24.1	-18.9	-12.6
Shiraz cl.174	Osoyoos, southeast	Wed	-15.4	-21.2	-21.7	-22.5	-23.9	-23.5	-21.8	-23.3	-23.5	-22.8	-16.8	-11.3
Tempranillo	Oliver, south	Wed	-18.2	-23.2	-22.9	-22.1	-21.6	-22.1	-22.2	-22.9	-22.2	-21.7	-17.4	pruned
Viognier	Osoyoos, southeast	Tues	-16.9	-21.6	-22.8	-22.6	-24.5	-23.1	-23.9	-22.6	-24.5	-24.7	-19.8	-12.9
Viognier	Osoyoos west	Wed	-18.7	-22.8	-25.0	-23.6	-24.1	-24.3	-25.9	-24.4	-25.5	-24.1	-18.3	-11.1
Viognier	Osoyoos, southeast	Wed		-22.3	-23.2	-23.8	-24.4	-24.4	-25.7	-24.3	-24.6	-25.3	-20.5	-12.1
Zinfandel	Osoyoos northeast	Wed	-16.2	-20.4	-22.7	-21.6	-22.8	-23.0	-24.0	-24.6	-24.3	-23.4	-17.6	-10.3

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