

## 2018 - 2019 Winter Grape Bud Hardiness Okanagan Valley 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					
Cabernet Franc	Osoyoos, north	Wed	-15.1	-23.3	-23.1	-23.1	-22.9	-23.6	-23.5					
Cabernet Franc	Oliver east	Tues	-17.4	-22.9	-24.0	-23.8	-24.3	-23.8	-24.4					
Cabernet Franc	Naramata Bench	Tues	-15.4	-20.9	-21.1	-21.9	-21.9	-22.4	-22.2					
Cabernet Franc	Black Sage	Wed	-15.2	-22.2	-23.3	-22.5	-23.1	-23.8	-23.8					
Cabernet Franc	Osoyoos, southeast	Wed		-21.0	-24.1	-23.0	-23.6	-24.7	-24.9					
Cabernet Sauvignon	Osoyoos northeast	Tues	-16.4	-22.7	-23.5	-23.7	-23.5	-23.5	-23.9					
Cabernet Sauvignon	Osoyoos northeast	Tues	-16.6	-21.6	-23.0	-22.4	-23.0	-23.3	-23.5					
Cabernet Sauvignon	Osoyoos, southeast	Wed	-16.5	-21.7	-23.2	-22.2	-23.8	-23.0	-23.9					
Cabernet Sauvignon	Black Sage	Tues	-16.7	-21.7	-22.1	-22.6	-23.5	-23.3	-23.2					
Chardonnay	OK Falls, east	Tues	-18.5	-23.5	-24.0	-24.0	-25.2	-23.4	-24.2					
Chardonnay	Oliver east	Tues	-17.0	-22.6	-23.3	-23.9	-24.7	-24.3	-24.6					
Chardonnay	Naramata Bench	Tues	-18.9	-23.5	-23.4	-24.0	-24.0	-23.3	-25.3					
Chardonnay	Osoyoos, southeast	Wed	-17.3	-23.2	-24.7	-24.2	-25.0	-24.7	-24.6					
Chardonnay	Black Sage	Tues	-15.9	-23.3	-23.5	-23.5	-24.6	-24.5	-25.2					
Chardonnay	Oliver, south	Wed	-17.6	-23.8	-23.8	-23.5	-24.5	-23.9	-24.7					
Gewurztraminer	OK Falls, west	Tues	-17.0	-22.5	-23.8	-23.5	-24.8	-24.6	-24.8					
Gewurztraminer	Oliver east	Tues	-18.6	-22.3	-22.5	-22.4	-23.3	-23.2	-23.0					
Gewurztraminer	Kelowna	Tues	-16.8		-21.8	-22.5	-23.0	-22.8	-23.1					
Malbec	Osoyoos, southeast	Tues	-17.4	-21.3	-22.1	-22.4	-23.3	-23.2	-22.5					
Malbec	Osoyoos, north	Wed	-17.1	-22.7	-22.5	-21.1	-21.0	-22.1	-24.2					
Malbec	Osoyoos, southeast	Wed		-21.7	-21.5	-22.0	-22.6	-22.6	-23.6					
Merlot	Osoyoos northeast	Wed	-17.4	-22.0	-23.1	-22.8	-23.5	-22.9	-24.3					
Merlot	Black Sage	Tues	-18.1	-22.2	-23.3	-22.6	-23.9	-22.6	-23.0					
Merlot	Osoyoos northeast	Wed	-17.4	-22.3	-23.1	-23.1	-23.3	-22.9	-23.1					
Merlot	Osoyoos northeast	Wed	-18.0	-22.3	-23.4	-23.3	-22.8	-23.6	-24.1					
Merlot	Osoyoos northeast	Wed	-17.0	-24.5	-23.3	-23.5	-24.0	-23.8	-25.1					
Merlot	Naramata Bench	Tues	-16.5	-21.7	-21.4	-21.8	-22.8	-22.8	-22.9					
Merlot	Osoyoos northeast	Wed	-16.7	-22.0	-22.5	-23.0	-23.0	-22.2	-22.9					
Merlot	Oliver east	Wed	-17.2	-23.3	-23.1	-22.7	-22.9	-23.1	-23.3					
Merlot	Oliver, west	Wed	-16.9	-21.6	-21.9	-22.0	-22.3	-22.6	-22.5					
Merlot	Osoyoos west	Wed	-16.4	-21.1	-22.1	-22.7	-22.5	-22.4	-23.4					
Merlot	Osoyoos, southeast	Wed	-17.1	-22.4	-22.7	-22.6	-23.0	-23.2	-24.1					
Merlot	Black Sage	Wed	-15.1	-23.5	-23.0	-22.3	-22.7	-23.4	-24.7					
Merlot	Black Sage	Wed	-17.1	-21.8	-21.6	-22.8	-22.6	-22.6	-23.6					
Merlot	Osoyoos, southeast	Wed		-21.3	-22.3	-22.4	-22.7	-23.0	-22.9					
Pinot blanc	Oliver east	Tues	-20.0	-23.4	-25.4	-24.2	-25.0	-23.8	-24.9					
Pinot blanc	Black Sage	Tues	-18.6	-23.0	-23.8	-24.1	-24.1	-23.0	-23.5					
Pinot gris	OK Falls, east	Tues	-18.8	-24.0	-23.9	-24.3	-24.6	-23.9	-25.2					
Pinot gris	Oliver east	Tues	-17.6	-23.3	-23.8	-24.1	-24.5	-23.7	-24.6					
Pinot gris	Naramata Bench	Tues	-16.5	-22.6	-23.6	-23.3	-23.7	-23.1	-24.8					
Pinot gris	Black Sage	Tues	-18.1	-23.1	-24.3	-23.9	-24.9	-24.2	-24.9					
Pinot gris	Oliver east	Wed	-21.5	-24.8	-27.2	-25.5	-25.7	-25.5	-27.3					
Pinot noir	Osoyoos northeast	Wed	-19.2	-23.4	-24.7	-24.0	-24.3	-24.5	-25.1					
Pinot noir	OK Falls, east	Tues	-19.7	-22.7	-23.3	-23.0	-24.5	-23.2	-24.0					
Pinot noir	Naramata Bench	Tues	-17.7	-22.1	-23.2	-22.8	-23.1	-23.0	-23.8					
Pinot noir	Black Sage	Wed	-18.2	-23.2	-24.4	-23.9	-24.4	-24.2	-24.8					
Pinot noir	Kelowna	Tues	-17.8		-23.8	-23.2	-24.3	-23.6	-24.2					
Riesling	Oliver east	Tues	-20.0	-22.1	-22.9	-22.6	-24.3	-23.3	-25.2					
Riesling	Naramata Bench	Tues	-18.1	-24.0	-24.9	-24.2	-24.9	-25.0	-25.4					
Riesling	Black Sage	Tues	-19.6	-23.5	-24.4	-24.4	-25.3	-24.6	-27.1					
Riesling	West Kelowna	Tues	-19.1		-23.3	-24.1	-24.8	-24.3	-25.6					
Riesling	Black Sage	Tues	-18.7	-22.7	-23.9	-23.7	-24.6	-25.1	-24.1					
Sauv blanc	Oliver east	Tues	-15.7	-21.3	-22.2	-22.4	-23.2	-22.7	-23.3					
Sauv blanc	Oliver east	Tues	-18.1	-23.0	-23.8	-23.0	-24.9	-24.2	-24.2					
Sauv blanc	Osoyoos northeast	Wed	-17.1	-20.6	-22.1	-21.5	-21.7	-22.7	-22.8					
Sauv blanc	Osoyoos northeast	Wed	-18.2	-22.9	-23.7	-22.1	-23.0	-22.6	-23.2					
Sauv blanc	Osoyoos northeast	Wed	-18.0	-21.5	-22.9	-22.7	-23.6	-23.4	-23.2					
Sauv blanc	Oliver east	Wed	-17.8	-22.5	-23.0	-22.9	-23.4	-23.7	-24.3					
Sauv blanc	Oliver east	Wed	-18.0	-21.3	pulled	pulled	pulled	pulled	pulled					
Sauv blanc	Black Sage	Wed	-14.9	-22.0	-22.9	-22.1	-23.2	-23.0	-23.2					
Sauv blanc	Black Sage	Tues	-17.7	-22.8	-22.1	-22.0	-22.6	-22.7	-24.1					
Shiraz	Osoyoos northeast	Tues	-15.2	-19.9	-22.0	-21.9	-22.8	-23.2	-23.3					
Shiraz	Osoyoos northeast	Wed	-16.1	-21.0	-22.3	-22.6	-23.4	-22.8	-23.6					
Shiraz	Osoyoos, southeast	Wed	-18.1	-23.0	-23.5	-23.7	-23.3	-24.2	-25.2					
Shiraz	Black Sage	Tues	-16.7	-22.4	-23.9	-23.2	-24.1	-23.7	-24.5					
Shiraz cl. 174	Osoyoos, southeast	Wed	-15.4	-21.2	-21.7	-22.5	-23.9	-23.5	-21.8					
Tempranillo	Oliver, south	Wed	-18.2	-23.2	-22.9	-22.1	-21.6	-22.1	-22.2					
Viognier	Osoyoos, southeast	Tues	-16.9	-21.6	-22.8	-22.6	-24.5	-23.1	-23.9					
Viognier	Osoyoos west	Wed	-18.7	-22.8	-25.0	-23.6	-24.1	-24.3	-25.9					
Viognier	Osoyoos, southeast	Wed	-22.3	-23.2	-23.8	-23.8	-24.4	-24.4	-25.7					
Zinfandel	Osoyoos northeast	Wed	-16.2	-20.4	-22.7	-21.6	-22.8	-23.0	-24.0					

LTE - Lethal Temperature Exotherm (°C)

Average LTE/site is the mean temperature for bud death from 3 vines at selected sites in the Okanagan Valley

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