

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

| Variety | Location | sample day | Avg LTE50 (Oct 22-24) | Avg LTE50 (Nov 6,7) | Avg LTE50 (Nov 20,21) | Avg LTE50 (Dec 4,5) | Avg LTE50 (Dec 18,19) | Avg LTE50 (Jan 6,7) | Avg LTE50 (Jan 15,17) | Avg LTE50 (Jan 29,30) | Avg LTE50 (Feb 12,13) | Avg LTE50 (Feb 26,27) | Avg LTE50 (Mar 11,12) | Avg LTE50 (Mar 25,26) | Avg LTE50 (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 | -23.4 | -21.8 | -20.3 | |
| Cabernet Franc | Naramata Bench | Wed | -13.5 | -18.8 | -21.3 | -23.3 | -23.8 | -23.7 | -25.3 | -22.6 | -22.9 | -21.8 | -16.6 | -16.0 | |
| Cabernet Franc | Black Sage | Thur | -14.7 | -20.8 | -22.2 | -23.7 | -23.4 | -22.5 | -25.0 | -22.6 | -22.4 | -21.8 | -19.0 | | |
| Cabernet Franc | Osoyoos, southeast | Thur | -17.5 | -23.1 | -23.3 | -25.2 | -25.6 | -23.6 | -24.8 | -24.4 | -24.2 | -23.8 | -22.0 | | |
| Cabernet Franc | Black Sage | Wed | -14.9 | -20.9 | -22.4 | -25.0 | -25.2 | -25.3 | -24.3 | -24.3 | -24.2 | -22.9 | -18.6 | | |
| Cabernet Franc | Osoyoos, north | Thur | -15.5 | -21.6 | -23.4 | -24.6 | -25.9 | -23.5 | -26.0 | -23.9 | -24.2 | -24.0 | -20.0 | | |
| Cabernet Franc (1yr) | Oliver east | Wed | | -19.2 | -20.1 | -22.5 | -22.9 | -21.0 | -24.3 | -21.8 | -22.5 | pruned | pruned | pruned | |
| Cabernet Franc (2yr) | Oliver east | Wed | | -19.9 | -21.3 | -23.1 | -23.5 | -21.3 | -24.1 | -22.4 | -22.6 | -22.2 | -19.7 | -18.5 | |
| Cabernet Sauv | Osoyoos northeast | Wed | -16.3 | -21.3 | -22.7 | -23.8 | -24.5 | -23.1 | -23.1 | -23.4 | -23.6 | -22.5 | -20.6 | -18.9 | |
| Cabernet Sauv | Osoyoos northeast | Wed | -14.1 | -20.4 | -20.7 | -23.8 | -23.1 | -23.1 | -23.6 | -22.0 | -21.9 | -22.2 | -20.1 | -19.3 | |
| Cabernet Sauv (1yr) | Black Sage | Wed | | -14.5 | -18.9 | -21.0 | -21.4 | -20.6 | -24.0 | -20.8 | -22.3 | -21.1 | -19.8 | | |
| Cabernet Sauvignon | Osoyoos, southeast | Thur | -15.4 | -20.2 | -21.5 | -23.9 | -23.7 | -23.4 | -24.1 | -22.9 | -23.0 | -22.2 | -19.6 | | |
| Cabernet Sauvignon | Black Sage | Wed | -14.7 | -20.0 | -20.6 | -23.6 | -23.9 | -23.7 | -23.8 | -22.9 | -22.6 | -22.4 | -21.3 | | |
| Chardonnay | OK Falls, east | Wed | -18.8 | -21.3 | -22.3 | -24.6 | -24.3 | -23.7 | -24.6 | -21.9 | -22.3 | -21.4 | -18.1 | -16.8 | |
| Chardonnay | Oliver east | Wed | -18.1 | -21.1 | -21.9 | -24.0 | -23.7 | -23.2 | -24.3 | -23.0 | -21.8 | -21.5 | -19.2 | -16.2 | |
| Chardonnay | Naramata Bench | Wed | -15.9 | -20.8 | -21.6 | -23.6 | -23.2 | -23.1 | -23.2 | -22.6 | -22.0 | -21.3 | -17.9 | -14.5 | |
| Chardonnay | Osoyoos, southeast | Thur | -16.9 | -20.7 | -22.3 | -23.6 | -24.1 | -23.2 | -23.8 | -22.5 | -22.3 | -20.6 | -18.3 | | |
| Chardonnay | Black Sage | Wed | -17.0 | -21.5 | -22.5 | -25.5 | -24.9 | -23.4 | -25.0 | -23.6 | -23.9 | -22.0 | -18.2 | | |
| Chardonnay | Oliver, south | Thur | -17.9 | -21.7 | -22.7 | -25.0 | -24.5 | -23.4 | -24.9 | -23.2 | -22.5 | -21.0 | -17.3 | | |
| Gewurztraminer | OK Falls, west | Thur | -16.5 | -21.3 | -21.0 | -23.1 | -23.1 | -22.8 | -22.7 | -21.6 | -23.5 | -22.3 | -20.4 | -18.6 | |
| Gewurztraminer | Oliver east | Wed | -15.7 | -21.2 | -21.0 | -21.8 | -22.9 | -22.1 | -23.0 | -21.4 | -22.7 | -21.8 | -19.6 | -18.3 | |
| Gewurztraminer | Kelowna | Wed | -14.2 | -18.4 | -21.0 | -21.7 | -22.3 | | -22.4 | -22.1 | -21.8 | -20.6 | -16.4 | | |
| Malbec | Osoyoos, southeast | Thur | | -20.6 | -20.8 | -22.8 | -23.7 | -22.3 | -23.5 | -22.0 | -21.2 | -19.8 | -17.4 | -15.1 | |
| Malbec | Osoyoos, north | Thur | -16.2 | -20.9 | -21.2 | -23.1 | -23.0 | -22.5 | -24.5 | -21.7 | -22.0 | -20.4 | -18.8 | | |
| Malbec | Osoyoos, southeast | Thur | -14.3 | -20.6 | -21.7 | -23.4 | -22.7 | -21.9 | -24.6 | -22.5 | -21.6 | -22.1 | -19.9 | | |
| Merlot | Osoyoos northeast | Thur | -12.6 | -19.7 | -21.8 | -21.6 | -22.7 | -21.6 | -25.1 | -21.8 | -21.4 | -21.3 | -19.4 | -17.6 | |
| Merlot | Osoyoos northeast | Thur | -15.8 | -19.8 | -21.5 | -21.1 | -22.1 | -21.7 | -25.2 | -21.3 | -21.8 | -20.4 | -18.7 | -16.9 | |
| Merlot | Black Sage | Wed | -15.8 | -20.3 | -22.5 | -22.7 | -22.9 | -23.1 | -25.3 | -22.1 | -21.6 | -21.3 | -19.9 | -19.1 | |
| Merlot | Osoyoos northeast | Thur | -15.8 | -20.6 | -20.8 | -21.7 | -23.1 | -21.0 | -25.1 | -20.0 | -21.3 | -20.8 | -19.8 | -14.4 | |
| Merlot | Osoyoos northeast | Thur | -15.2 | -19.6 | -21.5 | -22.4 | -22.6 | -21.6 | -24.4 | -22.6 | -22.4 | -21.2 | -18.7 | -16.8 | |
| Merlot | Oliver east | Wed | -15.5 | -19.7 | -21.3 | -22.2 | -23.5 | -22.0 | -24.6 | -21.7 | -22.6 | -22.5 | -20.1 | -18.0 | |
| Merlot | Naramata Bench | Wed | -13.7 | -17.8 | -20.8 | -23.0 | -22.7 | -21.2 | -23.9 | -22.8 | -20.8 | -21.0 | -17.8 | -16.6 | |
| Merlot | Oliver, west | Thur | -14.7 | -19.8 | -21.1 | | -22.4 | -21.8 | -25.1 | -21.8 | -22.2 | -20.6 | -19.2 | | |
| Merlot | Osoyoos west | Thur | -16.6 | -20.4 | -22.5 | -22.6 | -22.8 | -22.2 | -23.9 | -23.0 | -22.2 | -21.8 | -20.0 | | |
| Merlot | Osoyoos, southeast | Thur | -14.5 | -20.0 | -21.1 | -23.5 | -23.8 | -23.6 | -23.9 | -21.9 | -22.1 | -21.0 | -18.1 | | |
| Merlot | Black Sage | Thur | -15.4 | -20.0 | -21.3 | -23.1 | -23.1 | -23.9 | -23.8 | -22.2 | -21.8 | -21.9 | -20.1 | | |
| Merlot | Black Sage | Thur | -14.0 | -18.3 | -19.4 | -21.2 | -23.8 | -21.7 | -24.7 | -21.6 | -21.8 | -22.6 | -21.1 | | |
| Merlot | Osoyoos, southeast | Thur | -14.1 | -19.6 | -19.8 | -23.8 | -23.7 | -23.0 | -24.6 | -23.0 | -22.1 | -21.5 | -18.5 | | |
| Pinot blanc | Oliver east | Wed | -16.9 | -21.2 | -21.5 | -23.3 | -22.9 | -22.4 | -25.3 | -22.5 | -23.4 | -23.2 | -21.7 | -19.4 | |
| Pinot blanc | Black Sage | Wed | -19.0 | -23.4 | -23.5 | -26.3 | -25.9 | -24.4 | -25.0 | -24.7 | -26.5 | -24.4 | -21.9 | | |
| Pinot Gris | Oliver east | Thur | -17.6 | -22.2 | -22.8 | -24.7 | -24.1 | -24.0 | -25.9 | -23.3 | -24.0 | -23.2 | -19.7 | -17.9 | |
| Pinot Gris | OK Falls, east | Wed | -18.7 | -22.5 | -22.3 | -23.8 | -24.9 | -24.1 | -25.3 | -23.4 | -23.0 | -22.9 | -19.4 | -18.1 | |
| Pinot gris | Naramata Bench | Wed | -16.6 | -20.4 | -21.4 | -23.6 | -22.6 | -21.7 | -24.1 | -22.9 | -22.7 | -21.4 | -17.9 | -16.1 | |
| Pinot gris | Black Sage | Wed | -18.2 | -22.1 | -22.9 | -24.5 | -24.0 | -23.1 | -24.8 | -23.6 | -23.3 | -22.5 | -20.1 | | |
| Pinot gris | Oliver east | Thur | -18.6 | -23.0 | -22.3 | -24.7 | -24.3 | -25.8 | -25.5 | -24.2 | -23.1 | -23.3 | -21.6 | | |
| Pinot Noir | Osoyoos northeast | Wed | -17.8 | -22.3 | -24.2 | -25.1 | -25.1 | -24.3 | -25.9 | -24.0 | -24.6 | -23.2 | -22.0 | -17.9 | |
| Pinot Noir | OK Falls, east | Wed | -18.8 | -22.4 | -23.3 | -24.3 | -24.5 | -23.9 | -26.0 | -23.5 | -24.0 | -24.3 | -21.2 | -19.7 | |
| Pinot noir | Naramata Bench | Wed | -17.8 | -22.8 | -23.6 | -24.4 | -24.4 | -25.1 | -26.4 | -25.0 | -24.8 | -24.0 | -21.6 | -20.3 | |
| Pinot noir | Black Sage | Thur | -15.9 | -21.8 | -22.2 | -23.9 | -24.3 | -24.3 | -24.6 | -22.2 | -23.4 | -22.3 | -20.3 | | |
| Pinot noir | Kelowna | Wed | -16.7 | -22.3 | -23.1 | -24.7 | -25.2 | | -24.6 | -24.3 | -24.2 | -22.0 | -20.3 | | |
| Riesling | Oliver east | Wed | -15.2 | -19.8 | -22.5 | -21.9 | -24.2 | -22.1 | -23.9 | -23.0 | -23.1 | -22.3 | -22.3 | -19.5 | |
| Riesling | Naramata Bench | Wed | -17.0 | -21.5 | -23.3 | -24.5 | -24.4 | -23.4 | -25.7 | -24.1 | -24.6 | -23.0 | -21.4 | -20.3 | |
| Riesling | Black Sage | Wed | -14.4 | -20.5 | -22.6 | -24.6 | -25.6 | -24.9 | -23.9 | -24.6 | -24.3 | -23.5 | -21.5 | | |
| Riesling | West Kelowna | Wed | -18.7 | -23.5 | -24.2 | -24.1 | -24.6 | | -25.8 | -23.7 | -24.1 | -23.1 | -20.5 | | |
| Riesling | Black Sage | Wed | -18.8 | -23.1 | -23.7 | -25.6 | -26.0 | -24.8 | -25.1 | -25.1 | -25.8 | -24.8 | -22.5 | | |
| Sauv blanc | Osoyoos northeast | Thur | -14.4 | -21.4 | -21.6 | -23.3 | -23.6 | -22.5 | -25.3 | -22.6 | -22.2 | -21.7 | -18.2 | -13.8 | |
| Sauv blanc | Osoyoos northeast | Thur | -15.9 | -21.4 | -22.5 | -22.8 | -23.3 | -22.5 | -25.4 | -22.1 | -22.3 | -21.5 | -19.7 | -16.5 | |
| Sauv blanc | Oliver east | Thur | -16.1 | -21.3 | -21.9 | -22.6 | -23.3 | -21.8 | -24.3 | -22.4 | -22.5 | -22.2 | -21.2 | -19.2 | |
| Sauvignon Blanc | Oliver east | Thur | -16.2 | -20.9 | -21.6 | -23.1 | -23.4 | -22.3 | -24.2 | -21.7 | -21.7 | -22.1 | -20.7 | -18.6 | |
| Sauvignon blanc | Black Sage | Thur | -15.7 | -21.4 | -21.4 | -23.4 | -24.0 | -22.0 | -25.3 | -23.5 | -23.2 | -23.5 | -21.1 | | |
| Sauvignon blanc | Black Sage | Wed | -16.9 | -20.8 | -23.2 | -22.8 | -22.8 | -22.2 | -24.9 | -22.4 | -22.5 | -22.4 | -21.5 | | |
| Shiraz | Osoyoos northeast | Thur | -12.7 | -18.3 | -19.8 | -22.8 | -22.1 | -21.7 | -23.8 | -21.2 | -22.1 | -21.8 | -17.2 | -14.6 | |
| Shiraz | Osoyoos northeast | Wed | -14.3 | -18.8 | -21.1 | -22.3 | -22.3 | -20.9 | -24.0 | -21.9 | -22.2 | -21.3 | -19.7 | -15.8 | |
| Shiraz | Osoyoos, southeast | Thur | -15.0 | -19.8 | -21.9 | -23.4 | -22.7 | -24.0 | -24.9 | -22.4 | -22.2 | -21.4 | -18.9 | | |
| Shiraz | Black Sage | Wed | -16.1 | -20.2 | -22.0 | -23.8 | -24.3 | -22.6 | -24.9 | -22.8 | -23.4 | -22.4 | -20.4 | | |
| Shiraz cl.174 | Osoyoos, southeast | Thur | -12.4 | -18.8 | -19.8 | -22.9 | -22.1 | -22.7 | -23.6 | -22.2 | -22.0 | -21.1 | -18.9 | | |
| Tempranillo | Oliver, south | Thur | -14.8 | -19.5 | -19.8 | -21.7 | -21.8 | -19.8 | -22.5 | -20.0 | -19.9 | -19.8 | -17.9 | -16.7 | |
| Vioignier | Osoyoos, southeast | Thur | | -19.9 | -21.8 | -22.9 | -23.5 | -22.7 | -24.6 | -22.3 | -22.5 | -21.7 | -19.7 | -17.6 | |
| Vioignier | Osoyoos west | Thur | -17.4 | -21.9 | -24.2 | -24.9 | -25.4 | -25.0 | -26.0 | -24.3 | -24.3 | -23.0 | -21.2 | | |
| Vioignier | Osoyoos, southeast | Thur | -14.8 | -21.2 | -21.4 | -23.9 | -24.1 | -23.9 | -24.9 | -22.8 | -22.9 | -21.8 | -20.1 | | |
| Zinfandel | Osoyoos northeast | Wed | -14.9 | -19.5 | -21.8 | -23.4 | -23.7 | -23.0 | -24.5 | -22.3 | -21.8 | -20.2 | -17.8 | -16.1 | |
| Zinfandel (1yr) | Black Sage | Thur | | -16.6 | -19.0 | -20.3 | -20.5 | -20.6 | -22.4 | -19.4 | -21.3 | pruned | pruned | pruned | |

LTE: Lethal temperature exotherm (°C). AVG LTE50: Average lethal temperature exotherm at 50% bud mortality for buds collected from 3 vines at selected sites in the Okanagan Valley.