

Grapevine Bud Hardiness in the Okanagan Valley, BC, 2020-2021. Carl Bogdanoff, Agriculture and Agri-Food Canada, Summerland, BC.

| Variety | Location | sample day | Avg LTE50 (Oct 28,29) | Avg LTE50 (Nov 10,12) | Avg LTE50 (Nov 25,26) | Avg LTE50 (Dec 9,10) | Avg LTE50 (Dec 22,23) | Avg LTE50 (Jan 6,7) | Avg LTE50 (Jan 20,21) | Avg LTE50 (Feb 3,4) | Avg LTE50 (Feb 17,18) | Avg LTE50 (Mar 3,4) | Avg LTE50 (Mar 17,18) | Avg LTE50 (Mar31,Apr1) | Avg LTE50 (Apr 14,15) |
|----------------------|-------------------|------------|-----------------------|-----------------------|-----------------------|----------------------|-----------------------|---------------------|-----------------------|---------------------|-----------------------|---------------------|-----------------------|------------------------|-----------------------|
| Cabernet Franc | Black Sage | Wed | -15.8 | -19.9 | -21.4 | -22.3 | -22.5 | -23.1 | -23.0 | -23.7 | -24.1 | -22.2 | -17.6 | | |
| Cabernet Franc | Osoyoos west | Thur | -17.0 | -21.4 | -22.7 | -23.8 | -24.9 | -24.6 | -24.1 | -23.5 | -24.8 | -23.8 | -20.6 | | |
| Cabernet Franc | Oliver east | Wed | -16.6 | -20.5 | -22.3 | -23.6 | -23.5 | -24.0 | -23.5 | -24.1 | -24.6 | -23.3 | -21.2 | | |
| Cabernet Franc | Naramata Bench | Wed | -13.9 | -19.4 | -20.2 | -21.6 | -22.0 | -21.9 | -22.2 | -22.4 | -22.7 | -20.0 | -16.5 | | |
| Cabernet Franc | Black Sage | Thur | -14.5 | -19.2 | -21.3 | -22.0 | -22.8 | -22.3 | -23.0 | -22.3 | -23.3 | -21.2 | -18.3 | | |
| Cabernet Franc | Osoyoos southeast | Thur | -15.6 | -19.9 | -21.3 | -23.4 | -23.8 | -23.7 | -23.8 | -23.4 | -24.0 | -23.0 | -21.9 | | |
| Cabernet Franc (2yr) | Oliver east | Wed | -16.1 | -18.7 | -20.0 | -20.7 | -21.8 | -22.0 | -22.8 | -22.3 | -23.4 | -21.1 | pruned | | |
| Cabernet Franc (3yr) | Oliver east | Wed | -16.7 | -19.0 | -20.5 | -22.5 | -22.9 | -23.1 | -23.0 | -23.6 | -23.6 | -21.6 | -19.7 | | |
| Cabernet Sauv | Osoyoos northeast | Wed | -15.9 | -18.9 | -20.7 | -21.9 | -22.6 | -22.8 | -22.4 | -22.9 | -22.9 | -21.5 | -20.3 | | |
| Cabernet Sauv | Osoyoos northeast | Wed | -14.8 | -17.3 | -19.8 | -20.6 | -21.6 | -21.4 | -22.3 | -22.3 | -22.9 | -21.0 | -20.7 | | |
| Cabernet Sauv (2yr) | Black Sage | Thur | -14.3 | -18.1 | -20.9 | -22.0 | -22.1 | -22.3 | -22.3 | -22.5 | -23.3 | -21.3 | -20.6 | | |
| Cabernet Sauv | Osoyoos southeast | Thur | -14.3 | -18.9 | -19.8 | -21.4 | -20.8 | -22.6 | -21.8 | -21.8 | -21.7 | -20.1 | -19.6 | | |
| Cabernet Sauv | Black Sage | Wed | -14.8 | -18.8 | -19.9 | -20.9 | -21.4 | -21.8 | -22.2 | -22.4 | -23.2 | -21.1 | -20.6 | | |
| Chardonnay | OK Falls east | Wed | -18.1 | -21.6 | -22.1 | -23.2 | -22.9 | -23.2 | -23.0 | -22.8 | -24.0 | -21.0 | -18.4 | | |
| Chardonnay | Oliver east | Wed | -18.3 | -19.9 | -21.6 | -22.4 | -22.1 | -23.2 | -23.0 | -22.4 | -23.2 | -21.6 | -19.6 | | |
| Chardonnay | Naramata Bench | Wed | -17.7 | -20.5 | -21.0 | -22.0 | -22.3 | -22.6 | -22.1 | -22.4 | -22.8 | -21.1 | -18.9 | | |
| Chardonnay | Osoyoos southeast | Thur | -18.3 | -20.2 | -22.6 | -23.3 | -23.4 | -22.9 | -23.4 | -22.8 | -23.7 | -21.5 | -18.7 | | |
| Chardonnay | Black Sage | Wed | -17.0 | -20.0 | -22.2 | -22.9 | -22.8 | -23.2 | -23.3 | -22.7 | -24.1 | -21.7 | -19.8 | | |
| Chardonnay | Oliver south | Thur | -17.4 | -21.1 | -22.2 | -22.9 | -22.9 | -23.0 | -22.7 | -22.7 | -23.1 | -21.0 | -17.3 | | |
| Gamay noir | OK Falls west | Wed | -17.7 | -19.6 | -22.0 | -23.2 | -22.5 | -23.8 | -23.3 | -23.4 | -23.5 | -22.3 | -18.7 | | |
| Gewurztraminer | Oliver east | Wed | -16.6 | -19.4 | -20.6 | -21.8 | -21.2 | -22.1 | -22.7 | -22.6 | -23.1 | -21.3 | -20.1 | | |
| Gewurztraminer | Kelowna | Wed | | -19.4 | -20.4 | -21.2 | -21.6 | -22.2 | -22.0 | -22.2 | -22.4 | -20.4 | -15.6 | | |
| Grenache (1yr) | Osoyoos northeast | Thur | -13.6 | -17.0 | -19.0 | -19.3 | -20.4 | -19.6 | -20.4 | -18.5 | -21.0 | -19.5 | -15.7 | | |
| Malbec | Osoyoos southeast | Wed | -15.3 | -18.2 | -20.5 | -21.4 | -21.8 | -22.0 | -22.2 | -22.0 | -22.7 | -20.1 | -17.4 | | |
| Malbec | Osoyoos west | Thur | -15.9 | -19.2 | -20.3 | -20.8 | -21.5 | -21.8 | -22.1 | -21.2 | -22.8 | -20.9 | -18.3 | | |
| Malbec | Osoyoos southeast | Thur | -15.1 | -19.6 | -20.7 | -21.4 | -21.8 | -22.6 | -22.6 | -21.7 | -22.4 | -21.3 | -20.3 | | |
| Merlot | Osoyoos northeast | Thur | -15.8 | -18.7 | -19.9 | -20.9 | -20.7 | -22.0 | -22.2 | -21.7 | -22.1 | -21.0 | -18.9 | | |
| Merlot | Osoyoos northeast | Thur | -16.0 | -19.6 | -19.9 | -21.7 | -22.4 | -21.4 | -21.8 | -22.0 | -21.4 | -20.5 | -17.3 | | |
| Merlot | Black Sage | Thur | -16.7 | -20.3 | -21.9 | -23.1 | | -22.8 | -23.0 | -23.2 | -23.5 | -22.8 | -19.0 | | |
| Merlot | Osoyoos northeast | Thur | -16.8 | -20.5 | -21.5 | -22.8 | -23.8 | -23.1 | -22.6 | -22.5 | -23.2 | -21.7 | -18.7 | | |
| Merlot | Osoyoos northeast | Thur | -15.0 | -18.6 | -20.6 | -22.1 | -22.4 | -22.1 | -22.3 | -22.1 | -22.8 | -20.9 | -17.2 | | |
| Merlot | Oliver east | Thur | -17.2 | -20.2 | -21.3 | -22.3 | -22.8 | -21.1 | -22.9 | -21.5 | -23.0 | -21.2 | -18.9 | | |
| Merlot | Naramata Bench | Wed | -15.0 | -18.8 | -18.8 | -20.6 | -20.6 | -21.3 | -19.9 | -22.2 | -21.1 | -21.2 | -17.6 | | |
| Merlot | Oliver west | Thur | -13.6 | -19.1 | -19.2 | -20.7 | -21.9 | -21.8 | -21.3 | | | | | | |
| Merlot | Osoyoos west | Thur | -15.1 | -20.3 | -20.3 | -22.0 | -22.7 | -22.7 | -22.1 | -23.3 | -21.6 | -19.4 | | | |
| Merlot | Osoyoos southeast | Thur | -15.2 | -19.4 | -20.3 | -22.0 | -21.9 | -22.1 | -21.5 | -21.2 | -22.2 | -20.4 | -17.7 | | |
| Merlot | Black Sage | Thur | -16.1 | -19.8 | -21.6 | -21.7 | -23.4 | -23.8 | -22.9 | -23.1 | -23.8 | -22.1 | -18.6 | | |
| Merlot | Black Sage | Thur | -17.7 | -20.5 | -22.3 | -22.1 | -23.4 | -23.2 | -23.9 | -23.3 | -24.3 | -22.6 | -21.0 | | |
| Merlot | Osoyoos southeast | Thur | -14.9 | -20.4 | -21.7 | -22.9 | -22.9 | -23.0 | -22.9 | -23.1 | -23.0 | -21.2 | -17.6 | | |
| Mourvedre (1yr) | Osoyoos northeast | Thur | -12.9 | -16.5 | -17.0 | -17.4 | -20.0 | -19.8 | -20.6 | -19.7 | -20.7 | -19.3 | -17.5 | | |
| Pinot blanc | Oliver east | Wed | -16.5 | -20.5 | -20.8 | -22.6 | -23.1 | -23.2 | -23.7 | -22.7 | -24.5 | -22.7 | -21.6 | | |
| Pinot blanc | Black Sage | Wed | -18.1 | -23.2 | -23.9 | -23.4 | -24.2 | -23.8 | -24.2 | -25.0 | -23.8 | -22.8 | -21.3 | | |
| Pinot gris | Oliver east | Wed | -18.8 | -21.2 | -22.7 | -23.6 | -23.2 | -23.4 | -23.7 | -23.9 | -24.2 | -22.2 | -20.2 | | |
| Pinot gris | OK Falls east | Wed | -19.4 | -21.8 | -22.5 | -24.1 | -23.6 | -24.1 | -23.1 | -22.8 | -24.5 | -21.7 | pruned | | |
| Pinot gris | Naramata Bench | Wed | -15.8 | -18.8 | -21.9 | -22.0 | -22.9 | -23.3 | -22.4 | -23.1 | -23.8 | -20.8 | -19.3 | | |
| Pinot gris | Black Sage | Wed | -16.6 | -19.6 | -20.6 | -22.4 | -22.6 | -23.0 | -23.2 | -22.5 | -23.5 | -21.1 | -19.9 | | |
| Pinot gris | Oliver east | Thur | -16.9 | -21.8 | -22.6 | -23.0 | -24.1 | -23.6 | -23.8 | -23.4 | -24.7 | -23.0 | -20.1 | | |
| Pinot noir | Osoyoos northeast | Thur | -17.7 | -20.8 | -22.0 | -23.8 | -23.7 | -23.6 | -23.8 | -23.4 | -24.2 | -22.3 | -20.5 | | |
| Pinot noir | OK Falls east | Wed | -18.2 | -21.9 | -22.9 | -23.9 | -23.7 | -24.2 | -24.7 | -24.3 | -25.2 | -22.8 | -21.1 | | |
| Pinot noir | Naramata Bench | Wed | -18.5 | -22.7 | -23.3 | -23.7 | -24.4 | -24.5 | -24.7 | -24.7 | -24.7 | -24.0 | -22.3 | | |
| Pinot noir | Black Sage | Thur | -18.1 | -21.6 | -23.0 | -23.7 | -24.3 | -23.0 | -24.5 | -24.2 | -25.0 | -22.7 | -20.6 | | |
| Pinot noir | Kelowna | Wed | | -20.9 | -21.8 | -23.0 | -23.1 | -23.8 | -23.6 | -24.2 | -24.4 | -22.2 | -19.0 | | |
| Riesling | Oliver east | Wed | -18.3 | -19.5 | -20.9 | -22.4 | -22.8 | -22.5 | -23.2 | -22.4 | -23.0 | -21.9 | -20.4 | | |
| Riesling | Naramata Bench | Wed | -17.2 | -20.2 | -22.6 | -22.4 | -23.5 | -23.0 | -23.6 | -24.0 | -24.7 | -22.5 | -22.3 | | |
| Riesling | Black Sage | Wed | -16.4 | -20.1 | -21.7 | -23.2 | -22.0 | -23.3 | -22.9 | -23.0 | -23.3 | -22.4 | -21.1 | | |
| Riesling | West Kelowna | Wed | | -20.2 | -21.6 | -22.4 | -23.2 | -22.8 | -22.8 | -23.8 | -23.8 | -23.3 | -20.4 | | |
| Riesling | Black Sage | Wed | -17.8 | -21.6 | -23.0 | -23.2 | -23.4 | -23.1 | -23.8 | -24.4 | -24.5 | -23.5 | -22.2 | | |
| Sauvignon blanc | Oliver east | Thur | -17.2 | -20.5 | -21.0 | -22.1 | -22.9 | -22.4 | -22.7 | -22.1 | -23.4 | -21.1 | -20.5 | | |
| Sauvignon blanc | Black Sage | Thur | -16.3 | -19.8 | -22.6 | -22.2 | -23.7 | -23.9 | -24.2 | -23.7 | -24.5 | -23.4 | -20.1 | | |
| Sauvignon blanc | Black Sage | Wed | -15.4 | -19.6 | -21.5 | -21.5 | -22.4 | -22.7 | -22.3 | -22.6 | -23.5 | -21.9 | -21.5 | | |
| Sauvignon blanc | Oliver east | Wed | -15.2 | -19.1 | -20.7 | -20.7 | -21.8 | -22.3 | -22.2 | -22.3 | -23.0 | -21.6 | -20.5 | | |
| Shiraz | Osoyoos northeast | Wed | -14.4 | -17.1 | -19.7 | -20.3 | -20.8 | -21.1 | -21.9 | -22.1 | -23.2 | -21.6 | -18.7 | | |
| Shiraz | Osoyoos northeast | Thur | -14.0 | -16.5 | -19.7 | -20.4 | -21.9 | -21.2 | -22.3 | -21.5 | -22.4 | -20.4 | -19.7 | | |
| Shiraz | Osoyoos southeast | Thur | -15.5 | -19.5 | -21.1 | -21.7 | -22.9 | -22.4 | -22.6 | -22.5 | -23.5 | -21.3 | -19.7 | | |
| Shiraz | Black Sage | Wed | -15.3 | -20.0 | -21.0 | -22.6 | -23.0 | -23.0 | -23.6 | -23.4 | -24.2 | -21.6 | -19.4 | | |
| Shiraz cl.174 | Osoyoos southeast | Thur | -12.3 | -17.3 | -18.7 | -21.2 | -21.6 | -22.0 | -21.5 | -20.9 | -22.7 | -20.0 | -18.2 | | |
| Tempranillo | Oliver south | Thur | -14.6 | -17.5 | -19.3 | -21.1 | -19.8 | -20.6 | -20.0 | pruned | pruned | pruned | | | |
| Viognier | Osoyoos southeast | Wed | -14.7 | -18.8 | -19.9 | -22.2 | -22.5 | -21.9 | -22.8 | -22.0 | -23.7 | -20.4 | -18.6 | | |
| Viognier | Osoyoos west | Thur | -16.1 | -21.2 | -22.8 | -23.3 | -24.8 | -24.2 | -24.0 | -24.1 | -25.1 | -23.3 | -19.4 | | |
| Viognier | Osoyoos southeast | Thur | -14.8 | -19.8 | -20.9 | -21.6 | -23.5 | -22.5 | -22.8 | -22.9 | -24.0 | -21.6 | -20.3 | | |
| Zinfandel | Osoyoos northeast | Thur | -14.8 | -18.5 | -20.0 | -20.0 | -22.5 | -21.9 | -21.9 | -23.0 | -22.2 | -21.5 | -17.1 | | |
| Zinfandel (2yr) | Black Sage | Thur | -14.4 | -17.1 | -18.7 | -20.0 | -20.5 | -20.4 | -20.8 | -20.4 | -21.9 | -20.1 | -17.2 | | |

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.