

Growers say KDL® helps defang Jack Frost's bite.

Cold Climate grape cultivars are helping growers build a robust wine and tourism industry across many states, but this is a viticulture that requires a well-planned strategy for frost protection. Whether the frost arrives late in the spring as it did in 2012 or early in the fall as in 2011, growers know the risk is there.

Each year more growers are learning that Agro-K's KDL® (Potassium Dextro-Lac®) 0-0-24 doesn't just dramatically enhance brix, color development, and uniform maturity when applied at about veraison. They also have seen how applying KDL® a few hours ahead of a frost can provide a buffer against the impact of those often devastating temperature dives.

KDL's unique formulation links potassium to a molecular sugar complex that can quickly penetrate plant tissue to increase potassium and sugar levels within the plant. This temporarily puts the plant into a more "winterized" or hardened mode so tissue is better able to survive cold temperatures, explained Larry Shafer, Agro-K Vice President.

Here is what the growers have to say.



When the frost of September 15, 2011 hit, my 3,000 grape vines were vulnerable to damage, so I sprayed them with KDL about 12-15 hours before the frost. I walked into the vineyard about 5 a.m. and the temperature was 28 degrees. We have two adjacent blocks of Marquette grapes, and since one of them was still a year from meaningful production, we did not treat it with KDL. There was no appreciable frost-related damage to the treated vines, but there was total loss of leaves on the untreated vines. We were able to keep the treated block of grapes healthy and picked a good crop three weeks later."

*Don Dinesen, Calisota Vineyards
Cannon Falls, Minnesota*

After two killing frosts had hit us along about April 10-11, we were down to two buds per shoot. We found out about KDL and applied it 24 hours ahead of another frost that came on about April 19 with a temperature of 26 degrees.

But this time there was no bud loss or damage whatsoever. Instead we had primary buds on new growth and fantastic bloom and fruit set. We carried 6 to 10 tons of grapes per acre and feel we were very fortunate.

*Dick Faltz, Fox Valley Winery
Oswego, Illinois*



We're a small estate winery, so our crop is everything and losing it would be devastating. Agro-K rushed me some KDL and I applied it ahead of the frosts that reached 25 degrees on April 10 and 27 degrees on April 11. I ran out midway down the last row. After the freeze the treated vines were absolutely perfect but the untreated vines all had brown leaves. Extension horticulturists took photos the next day and growers who came by later couldn't believe how good our grapes were. We even had 35 to 40% more grapes this year. KDL saved us from disaster.

*John Burns, Barrel Head Winery
Dubuque, Iowa*

The frost protection we had with KDL was phenomenal. In April we had one day at 26 degrees and two days at 27. We applied KDL along with System™-CAL 24 hours in advance of each frost. Some young non-bearing vines were not sprayed and froze down to the ground. Everything we sprayed was relatively unscathed. It was a day-and-night difference.

*Eric Nelson, Oak Creek Vineyards
Raymond, Nebraska*



We sprayed KDL before frosts in early April and afterward found there were only two plants in the whole vineyard with some damage. I feared

we would lose hundreds of plants. Instead we had increased flowering and more fruit set, and larger, premium quality yield with higher brix. A growing season that appeared in jeopardy turned into a dream growing year.

*Gary Balcome, Spring Creek Vineyard
Millville, Minnesota*

We had two nights with temperatures in the lower 20s. I had sprayed KDL with System-CAL. The grass looked dead and you could tell every step I took walking out to the tractor. But when it was over we had a little damage, but it really wasn't bad. Considering the frosts and the drought, I am happy with the yield. The fruit was in excellent condition and the winery was happy with them. The vines look very healthy, with green foliage.

*Don Beyer
Mitchell, Iowa*



If we had not used KDL we would have lost a significant amount of our 2012 crop when the frosts hit in April. KDL saved the Frontenac Gris, which has been our money crop. The Marquette and the Chambourcin definitely benefitted from the KDL. The table grapes are in the lowest area of the vineyard and are the most sensitive. They showed the strongest visual effect of the KDL.

*Scott Ellenbecker, Round Lake, Minnesota
Round Lake Vineyards*

To find out how KDL fits your comprehensive science-based nutrition program and frost protection strategy, call **800-328-2418**, visit **www.agro-k.com**, or email **info@agro-k.com**.



AGRO-K CORPORATION
8030 Main Street, NE • Minneapolis, MN 55432
800-328-2418 • www.agro-k.com

Science-Driven NutritionSM

**Learn more at the
AGRO-K Booth #46**