

COLUMBIA, Mo. - While many Missourians will be donning ear muffs instead of Easter bonnets this weekend, the record-setting cold nights are expected to batter the state's grape crop, said a University of Missouri Extension viticulture specialist.

"The temperatures expected this weekend will probably cause a lot of damage," Andy Allen said. "We saw vines yesterday that experienced a pretty serious amount of frost injury from Wednesday night's low temperatures."

Allen said grape vines were two weeks or more ahead of schedule because of the March warm-up.

Pat Guinan, an MU climatologist, said: "I cannot recollect a period during this time of year where we had such an abrupt transition in temperatures that were averaging 20 degrees above normal to (now) 20 degrees below normal. It's nothing short of incredible."

Columbia's record lows for April 7 and 8 are 25 degrees (1898) and 24 degrees, set in 1997. This weekend's forecasted low temperatures for Columbia are 20 degrees Saturday morning and 21 degrees Sunday, which would be record breakers.

"What really makes this situation troubling is all the cold weather has come on the heels of an unusually warm period last month," Guinan said. "Preliminary numbers indicate it was the third warmest March on record in over 60 years in the state."

The average high temperature for the last 11 days of March in Columbia was 75 degrees. Average low temperature was 57, nearly 19 degrees above normal and more typical of the last week of May, Guinan said.

Many plants reacted to the warm spell and were ahead in growth for the time of year, getting the growing season off to a rocky start, he said.

While ornamental trees and shrubs may receive significant bud damage over the weekend, it's doubtful the plants will suffer long-term harm, said Chris Starbuck, a horticulture specialist with MU Extension.

"Fruit trees and vines will be hit the hardest," Starbuck said. "Most fruit trees can withstand temperatures into the high 20s with only a little crop loss. But when we get into the low 20s-even the upper teens-when plants are this far along, then we will see crop loss."

Hardest hit may be the state's grape crop. Allen said: "Even late-budding varieties like Norton and Vignole, started swelling and budding out. Many of those vines already had a large number of buds open especially in the southern region of the state."

Allen added that many early varieties already had secondary buds that were swelling or opening.

He also said many hybrid varieties have fruitful secondary buds that may be the salvation of this season for Missouri vineyards.

If only the primary buds are injured, producers may still be able to harvest a fairly good crop from the secondary buds, he said.

"But if the injury is so severe that both primary and secondary buds are injured, we could have a greatly reduced crop this fall," Allen said.

There is little producers can do to minimize the freeze damage at this point. "Most frost-protection methods have only limited effectiveness, and the vines are only protected down to the mid-20s," he said. "The predicted temperatures are going to exceed these methods' capacity to provide protection."

After the cold system breaks, Allen and Keith Striegler, director of MU's Intercontinental Center for Viticulture and Enology, will survey vineyards to assess the damage of the major varieties, Allen said.

"It will take a while for freeze injury to show the full extent of damage," he said.