A fruity finish with a hint of disinfectant

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VICTORIAN scientists have identified more than 20 chemicals that make smoke-tainted wine taste like leather, disinfectant and other unpalatable ingredients, in new research that aims to limit damage to the industry from smoke.

Researchers hope the findings, part of a $4 million study, will lead to better timing of controlled burns and the creation of an online interactive tool to help wine growers assess the likelihood of their grapes having been damaged by smoke.

The research, undertaken at the Department of Primary Industries' research centre in Irymple, near Mildura, vastly increases the number of chemicals in smoke known to taint wine.

While the science of smoke taint is far from fully understood, the industry has long known wine grapes do not need to be exposed to smoke for long to be damaged.

'It's the compounds from gum trees that we believe cause the smoke taint.'

Senior research scientist Davinder Singh said the problem of smoke taint emerged in the wake of the devastating alpine bushfires of 2003, which caused some vineyards in north-eastern Victoria to be affected by smoke for about three months.

"When they made the wine out of it, it had a very unpleasant aroma and taste — like bacon and barbecue, disinfectant, leather and [an] ash kind of aroma and taste," he said. "And in taste it had very metallic and strong flavours at the back of the tongue.

"And because of these unpleasant flavours and aroma people didn't like it."

Smoke seemed to affect different varieties differently, Dr Singh said. This could be due to the type of grape and also the manner in which the wine was made.

Dr Singh said sangiovese was one variety that seemed to "accumulate as much smoke chemicals as possible" in its skin, more than other reds such as cabernet sauvignon, shiraz and merlot.

Agriculture Minister Peter Walsh said a range of grape varieties at different growth stages would be subjected to smoke in the research.

The berries and the wine they made would then be analysed.

"The breakthrough will give producers a better idea of whether their grapes have been tainted and to what extent they are affected," Mr Walsh said.

"It will help them avoid future losses so they are not investing money in producing wine only to find out later it is unsaleable because it is affected by smoke taint."

De Bortoli winemaker Steve Webber said research into smoke taint was necessary.

"There's just no question, we've got to have more of an understanding of it," he said. "I think this is a nice start."

Mr Webber said bushfires in Australia affected grapes in a different way to blazes overseas. "It's those compounds that come from the gum trees that we believe ... cause the problem."

In 2007, De Bortoli's King Valley property was severely hit by smoke. "We virtually lost the entire harvest up there with smoke taint," Mr Webber said. "Drought also affected us in the same year."

Two years later, smoke from the Black Saturday bushfires had a substantial impact on De Bortoli's Dixons Creek vineyard in the Yarra Valley.

Mr Webber said it was important to know if the chemicals in smoke from bushfires had the same impact as the chemicals in smoke from prescribed burns.