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Harvesting at Night or During the Day – What is the Impact on the Sauvignon Blanc's Varietal and Aroma Profiles?

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Grape harvesting at night is often used as a marketing argument. It gives it a romantic edge. But what about the advantages of these methods on aroma generation in wine production?

One of the main reasons for harvesting at night is to preserve the quality of the grapes and thus increase the quality of the resulting wine. Harvesting at night allows the grapes to be picked at a lower temperature than during the day. What about the impact of temperature on the grapes? Uncontrolled fermentation by microorganisms naturally present on the grapes can lead to lower quality wines. Higher temperatures additionally lead to chemical changes and in particular oxidation of aroma compounds and their precursors, and the risk of the production of off-flavours due to spontaneous microbiological processes in defective grapes.

A comparative study carried out in collaboration between Agroscope and the Weinbauzentrum in Wädenswil (Switzerland) was carried out with Sauvignon Blanc grapes harvested on the shores of the Lake of Zürich (Switzerland). The aim of the project was to demonstrate the impact of harvest time (day or night) on Sauvignon Blanc quality. The night harvest was carried out between 00h00 and 06h00 in the morning. The daytime harvest took place between 06h00 and 13h00.

The thiol analysis shows that the 3-mercaptohexanol (3MH) and 4-mercapto-4-methylpentan-2-one (4MMP) thiols typical of Sauvignon Blanc are in greater concentration in the wines obtained after night-time harvesting. These results indicate that the precursors of these compounds are generally better preserved with night harvests. Additionally, the analysis of the volatile compounds showed significant differences between the two harvests. C6-volatile compounds and esters showed the greatest differences.

Numerous external parameters influence aroma formation in the juice prior to fermentation, and subsequently in the resulting wine. Of course, the yeasts selected for fermentation make a major contribution to the final aroma. Apart from economic and ecological reasons, the negative impact of too high a temperature at harvest is an important factor in the formation of aromatic precursors in grape juices. This study also raises new questions. Would night harvesting also have a positive effect on other grape varieties? Does night harvesting in a hot climate or a temperate climate show the same results? Does natural light during harvest also have an impact?

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Fig. 1. Night harvesting of Sauvignon Blanc grapes on the shores of Lake of Zurich (K. Mackie-Haas, Agroscope).

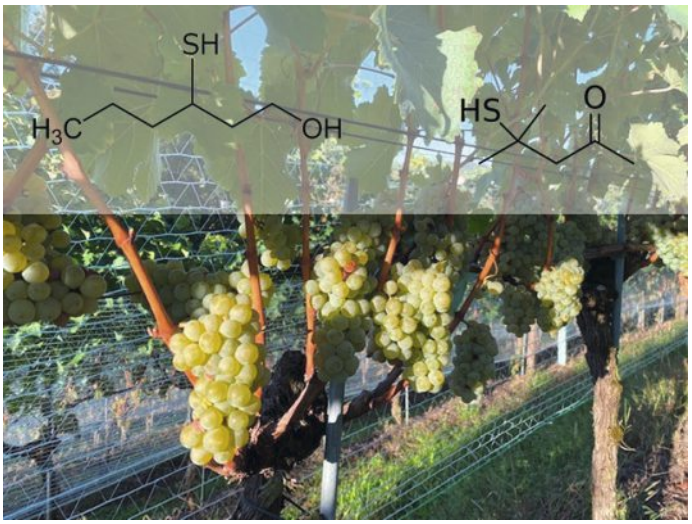

Fig. 2. 3-mercaptohexanol and 4-mercapto-4-methylpentan-2-one in Sauvignon Blanc grapes (K. Mackie-Haas, Agroscope).

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