

Wine from the Netherlands: investigating the effect of soil-type on taste

Geert-Jan Vis (1), Denise Maljers (1), and Stan Beurskens (2)

(1) TNO, Geological Survey of the Netherlands, (2) Wijnbouwadvies Beurskens

During the last decade professional viticulture has seen a strong increase in the Netherlands, reaching 270 ha in 2015. Although on a European scale this is a small area, the number of prize-winning quality wines is steadily growing. This growth can largely be ascribed to new grape varieties from Germany and Switzerland, that are better adapted to the cooler and moister climate at the northern fringe of the viticultural zone, as well as to increasing viticultural expertise.

The distribution of vineyards across the Netherlands shows that they occur on a plethora of substrates. Dutch substrate is dominated by typical lowland deposits such as fluvial and marine sands and clays and aeolian sands. Unlike many European countries, bedrock is scarce. Only in the south-eastern extremity and in the east of the country, carbonate bedrock is present at or near the surface. This wide variety of substrate triggered our interest in the effect of the various soil-types on the smell and taste characteristics of wines. An effect which is often mentioned concerning well-known foreign wines. We wondered whether an Auxerrois wine from carbonate rocks tastes significantly different from a wine from the same grape variety from loess. And how about a Johanniter wine from fluvial deposits versus windblown sands? And what happens if you make wine in exactly the same way with the same grape variety and from the same vineyard, but with three different yeast types?

To answer our questions, we selected ten Dutch vineyards with varying soil-types and the grape varieties Auxerrois and Johanniter. In October 2014 we harvested the grapes and wine was made under controlled identical conditions (in a double setup). The wines were scientifically tested at the institute of Viticulture and Oenology in Neustadt, Germany.

The results show no significant effect of soil-type on the smell and taste of Dutch wines in our experiment. Varying yeast types (Cryarome, 3079, VL2) used on Souvignier Gris grapes from the same vineyard did show significant differences in the taste characteristics. We conclude that the effect of grape ripening and yeast on the smell and taste of Dutch wines is much stronger than the effect of soil. This implies that from virtually any soil a high-quality wine can be made. The use of geology to promote the quality of a wine is thus merely a marketing tool.