Growing factors in vineyards impact sensory profiles of Riesling wines

What is this research about?
This research is about vineyards that produce fruits for winemaking. “Terroir” is the interactive ecosystem in a given place. The ecosystem is made up of the climate, soil and vine. In the wine industry, terroir is important because it helps make each wine unique. This research is about the wine characteristics for Riesling wine in the Niagara Peninsula.

About the Researchers:
Dr. Isabelle Lesschaeve is the Research Director – Consumer Insights & Product Innovations at the Vineland Research and Innovation Centre.
Dr. Andrew Reynolds is a Professor at the Viticulture Institute of Brock University.
Dr. Reynolds can be reached by email at areynolds@brocku.ca
Dr. Jim Willwerth is the Viticulturist at the Cool Climate Oenology and Viticulture Institute (CCOVI, Brock University) and can be reached by email at jwillwerth@brocku.ca


What you need to know:
Researching the growing characteristics of vines is important for winemakers. It helps understand how to grow better fruit and how the growing characteristics affect the wine produced. This research looked at vine water status – either high or low. Vine water status had a major impact on vine size, berry weight and wine sensory characteristics.

How can you use this research?
Vineyard owners and fruit producers can use the research about growing characteristics to better understand their own vines and fruit.
Consumers can use this information to learn more about vineyards and their impact on the wine they buy.

Keywords:
Terroir, viticulture, wine, Riesling wine, vine water status, sensory analysis
What did the researchers do?

Ten commercial Riesling vineyards were selected within the Niagara Peninsula. Areas of the vineyards were defined and used for research. Vines were monitored during the growing seasons of 2005, 2006, and 2007. Data were collected on growing characteristics. Characteristics included: vine water status (getting high or low amounts of water), soil texture and composition, soil moisture, vine performance, and fruit composition. Geographic software was used to map these characteristics. Riesling wine was made from each of the test areas – one batch from low water vines and another batch from high water vines. The sensory profiles of the wines were evaluated. The sensory profile is the flavours and aromas that make each wine unique.

Cite this work:


What did the researchers find?

First, they found that the water status of the vines stayed the same within vineyards over time. The other characteristics measured also generally stayed the same from year to year. Vine water status had some impact on the fruit composition in several vineyards.

Second, from testing the wines, the researchers found that wines from vines of similar water status had similar sensory properties (i.e. smell, aroma, taste). For example, in 2006, wines of low water status had a mineral aroma and sweet flavour. Wines of high water status from 2006 had a citrus aroma and citrus flavour. Vine water status had a major impact on vine size, berry weight and wine sensory characteristics.

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