

Authenticity of South African Wines

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Abstract

Wine is a premier agricultural product of SA and exported worldwide. It is crucial to keep up the reputation of SA wine and to minimise malpractices that may undermine the position of SA wine on the internal and international markets. Adulteration occurs globally and, in many forms, and affects almost all food commodities. Food fraud affects market growth by causing customers to lose confidence in what they are buying (once becoming aware that they are not getting what they have paid for), can have serious consequences on human health, and cause significant damage to honest businesses who cannot compete with adulterated products from unscrupulous competitors. Therefore, authentication of food is important not only for food processors, retailers and consumers, but also for regulatory authorities. Wine is one of the EU and SA's largest agricultural export products, contributing a significant amount to their GDPs. With such an opportunity for economic gain, counterfeit wine has become a global multi-billion-dollar industry. Although wines can be adulterated in various ways, the main adulterations internationally are the addition of water, cheaper foreign ethanol, sugar (chaptalisation), colourants and synthetic flavourants, organic acids, as well as the wrong indication of geographical and varietal origin, and vintage. Amidst all of this, analytical science has shown much promise in fraud detection. An authoritative analytical (104 chemical parameters) database of South African wines, including all variations caused by grape cultivar, geographic location, and vintage, were compiled over a number of vintages. Results showed that the database, together with multivariate statistical techniques, is an important tool for the detection of addition of sugar before fermentation to increase alcoholic strength, addition of water, as well as regional discrimination. Winetech, in collaboration with the Wine & Spirits Board and Department of Agriculture, Land Reform and Rural Development (DALRRD) are prioritising upkeep of the database and supporting to develop local scientific and technical competences needed to carry out authenticity analysis of wine, and these will also be presented.

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Dr van Jaarsveld is a Senior Researcher in the Post-harvest and Agroprocessing Technologies (PHATs) Division at ARC Infruitec-Nietvoorbij in Stellenbosch. Current and previous areas of expertise and research include wine, Brandy, Port and Cap Classique research, Protein Chemistry, Enzymology, and Wastewater Bioremediation, with a number of articles published in the various fields. Dr van Jaarsveld was coordinator of the South African leg of a four-year international project (1 April 2002 to 31 December 2005), "The Establishment of a Databank for Analytical Parameters for Wines from Third World Countries" (G6RD-CT- 2001-00646-WINE-DB), funded by the European Community under the "Competitive and Sustainable Growth" Programme. In November 2006 Dr van Jaarsveld received the SASEV price worth R30000 for best yearly publication in the South African Journal of Enology and Viticulture. Dr. van Jaarsveld have mentored/supervised PhD and MSc students, Post-Doctoral Fellows, WIL students, and NRF and overseas interns.