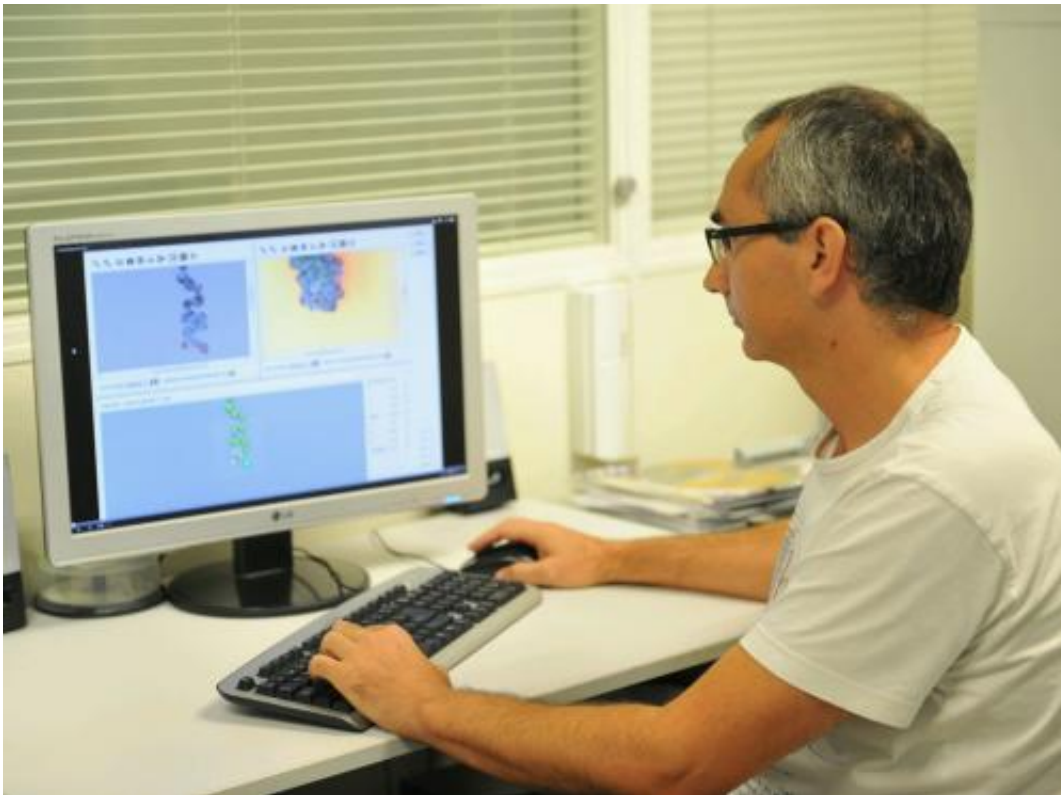


Researchers develop a system to reconstruct grape clusters in 3D and assess their quality

December 5 2014



Antonio Sánchez

Researchers of the Universitat Politècnica de València (UPV) have developed software to help reconstruct grape clusters with three-dimensional computer vision techniques. The system helps to automatically assess different parameters that define the quality of the wine grape during harvest time.

During the work, the researchers of the UPV collaborated with the Research Centre of Vine and Wine related Sciences of the University of La Rioja, the Spanish National Research Council (CSIC, in Spanish) and the Government of La Rioja. The results of this work were released last September in the journal Food Control.

Antonio José Sánchez Salmerón, researcher at the Instituto ai2 of the UPV, explains that, today, [grape](#) classification is based on an inspection by a panel of experts, that award it score depending on a series of parameters that determine its quality. Moreover, different tests are performed in the laboratory in order to estimate the quantity of sugar, the pH, the total acidity and the phenolic quality.

"Among the factors that define the quality of a [wine](#), one of the most important is the quality of the grape as the raw material, but this concept is difficult to assess, due to problems such as subjective parameters, the short period of time available in the field to do the analysis during harvest time, the lack of measuring instruments and their high price, as well as the mixing of good quality and bad quality grape in the trucks. The introduction of this 3D grape reconstruction system helps assess different quality parameters for a [wine grape](#) cluster avoiding these problems. One of these parameters is the average size of the grape, which is a very important factor as it establishes the ratio between the quantity of skin and pulp", explains the researcher.

"Increasing the objectivity and automating the grape quality monitoring tasks would be a technological breakthrough with regard to the traditional evaluation system of the grape, based on the knowledge of an expert, and it would have a great impact on the wine industry", adds Sánchez.

More information: E. Ivorra, A.J. Sánchez, J.G. Camarasa, M.P. Diago, J. Tardaguila. "Assessment of grape cluster yield components

based on 3D descriptors using stereo vision." *Food Control*. DOI: [10.1016/j.foodcont.2014.09.004](https://doi.org/10.1016/j.foodcont.2014.09.004)

Provided by Asociacion RUVID

Citation: Researchers develop a system to reconstruct grape clusters in 3D and assess their quality (2014, December 5) retrieved 23 June 2024 from <https://phys.org/news/2014-12-reconstruct-grape-clusters-3d-quality.html>

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