

Using Data Mining to Classify Terroir Specific Aromatic Profiles of True-To-Type Wines from Burgenland a District of Austria

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Abstract

The purpose for this research work was motivated by another research work conducted by the government agency of wine agriculture in Austria. The basic goal was to identify the influence of terroir on the aroma profile of specific analysed wines of the region, namely 'Blaufränkisch' and 'Zweigelt'. Sensoric data was collected from standardized micro vinified red wines of geologically different areas of the wine growing region of Burgenland. These different samples were tasted and quantitatively assessed by a tasting commission. A selected list of descriptors was used to correlate the sensoric values to the soils of their origin. The method used to build the correlation model is based on artificial neural network (multilayer perceptron with back propagation algorithm) for model building. The evaluation has been done calculating the dependency matrix of the built artificial neural network. The results identified a unique relation between the terroir and the aroma profiles of the analysed wines.

Key words: artificial neural networks, system identification, aromatic profile, terroir, red wine