HOW TO PREDICT THE ODOR PROFILE OF WINE FROM ITS CHEMICAL COMPOSITION? IN SILICO MODELLING USING EXPERTS’ KNOWLEDGE, FUZZY LOGIC AND OPTIMIZATION

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**BACKGROUND**

The odor component of food represents the identity, exemplarity, acceptability and the recognition by consumers of the food product\(^1\). The analysis of odor odor provides a list of molecules\(^2\), but no information about the perceptual influence of mixed compounds.

The perception of a mixture of odorants is not the simple sum of the odor of each odorant but the results of highly complex perceptual interactions\(^3\)\(^4\).

However there are few papers focusing on the odor characteristics of mixtures of molecules\(^4\)\(^5\).

**RESULTS & DISCUSSION**

**Predictive approaches** are now developing to predict the odor characteristics of molecules: detection thresholds\(^6\)\(^7\), odor quality\(^8\), odor intensity\(^9\)\(^10\)\(^11\), odor pleasantness\(^12\)\(^13\).

The Intensity of the descriptor "Blackcurrant bud" has been predicted (\(\text{R}^2 = 0.80\), \(\text{SE} = 0.17\)) from the modelling strategy.

**Conclusions**

**Principal Component Analysis**: PCA(Sensory evaluation)=PCA(Sensory predicted score) ?

The average of the prediction accuracy for the 15 sensory descriptors is higher than 96.6%. But the wine ranking has to be improved.

**BIBLIOGRAPHY**