Can a new sensory concept be shared by consumers and professionals?
Example of semantic and sensory analyses of minerality in wine

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Why minerality is important in wine?
Minerality is a new word, appeared 20 years ago and is frequently used to describe and sell wines. Moreover, it has no clear definition and seems to refer to different meanings or sensory perceptions. The aim of this study was to explore the “minerality concept” from two points of view: mental representation from consumers and wine professionals and sensory agreement among wine professionals.

Material & Methods
Open-ended questions
Survey and respondents
1898 wine professionals and 1697 consumers have answered to an on-line survey:
If I speak to you about minerality in wine, what comes to mind?

From textual responses to numerical data
• Correcting mistakes (spelling & orthographic)
• Lemmatization = convert all nouns and adjectives to singular masculine, different verbal form to infinitive, etc. (TreeTagger software)
• Removal of functional words (prepositions, articles…)
• Creation of two lists of words (professionals and consumers)

Statistical analyses
• A Chi-square was performed on the two lists of words.

Results
Terms frequently used by both professionals and consumers
Wine and Minerality ➔ but words to explain

Specific terms used by professionals and consumers

Sensory analysis - Exemplarity measurement
Wines and professional tasters
• 80 Chasselas wines in equal numbers from each of the four French-speaking cantons – vintage 2012
• 62 Swiss & 19 Burgundy wine professionals

Sensory protocol – 1 question
• Do you think that this wine is a good example or a poor example to illustrate to your friend what minerality in wine is?

Statistical analyses
• Interjudge (dis)agreement was evaluated by two different ways: PCA and Kendall’s W scores.

Conclusion
• Minerality in wine is difficult to define using words. However, it is possible to identify a few clear topics: Terroir, specific sensory perceptions like flinty (or gunflint), acidity and salinity, wine containing mineral ions referring to bottled water.
• Based on the sensory task, no clear consensus among tasters have been found but in average, Swiss and Burgundy professionals have a common sensory perception of minerality.

References:

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