



Sensory evaluation of wine and commercial realities: Review of current practices and perspectives

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This review discusses the tools provided by sensory evaluation professionals to assist wineries in challenging their current wine styles and developing new products.

- In a Sensory Symposium organized as part of the 50th Anniversary of the American Society for Enology and Viticulture, Dr. Ann Noble noted that “wineries are not taking advantage of the vast strides that have been made in sensory methods and data analysis”. As the current author points out, a key conclusion of this symposium was that “although the wine industry values sensory data, very few wineries are using sensory techniques in their winery operations”.
- In the first part of the review, the author addresses the question “what is a wine expert?”, and contrasts it with “what is an expert assessor?”. A **wine expert** “has extensive experience in a product category, and is able to perform evaluations to draw conclusions on effects of raw material, processing, storage, aging, etc”. In contrast, an **expert assessor** is “someone with a high degree of sensory acuity who has the ability to make consistent and repeatable sensory assessments”.
- Whereas studies show that wine experts have superior abilities to discriminate between wines, it is interesting to examine how this expertise relates to the consumer sensory experience. The superior abilities of wine experts seem to be linked to their greater *wine knowledge*, rather than to their superior *sensory acuities*. And the author mentions an excellent example of what wine experts sometimes rely on: “*I smell gooseberry, therefore this wine is a Sauvignon blanc, and I should also smell grapefruit and cat urine*”. However, studies show that there is no evidence that wine expertise can predict consumer liking or market success. And that’s where a qualified sensory evaluation program can be extremely valuable.
- Far from replacing traditional tastings, the author emphasizes how sensory evaluation can be the ideal tool to complement traditional wine tastings conducted by experts. She believes one possible reason why sensory analysis might not be so widely accepted is because wine professionals tend to think of it as a research tool, when in fact, it is a **business tool**. If your winery does not have a sensory program, the author captures in a clear table (Page 254 of original text. Table 2) the **requisites necessary** to start implementing one at either of two investment levels: using winery personnel (cost-effective program), or using an external panel (optimum program).
- Regardless of the sophistication of the sensory program we may adopt, the author reminds us of some “shoulds” that always apply: 1) wines should always be tasted blind, 2) the tasting should be organized by a third party, 3) tasters should not be informed of the purpose of the test, 4) comments (as well as meaningful gestures or noises) should happen after individual data has been collected, 5) emerging decisions should be based on the data and not on the opinion of the leader or a “respected” taster. Finally, 6) tasters should be required to conduct regular training sessions to keep their skills sharpened. Performing these tasks ideally would require a **fully-dedicated position**, one which must include the endorsement of winery management, as their resistance would nullify any potential benefit.

- Market researchers have traditionally used sensory techniques such as 1) **focus groups**, in which consumers discuss with a moderator why they like or dislike a product, and 2) **hedonic tests**, in which consumers express their degree of liking using a hedonic scale -or product ranking-, and then answer “diagnostic questions” (is sweetness, or acidity, or oak, etc “just about right”, “too weak”, or “too strong”?). However, these marketing techniques have sometimes proven unhelpful to winemakers due mainly to the fact that *consumer language* tends to be quite different than *technical language*. For instance, when consumers are asked about sweetness, they will answer according to their perception of sweetness, not the winemaker’s interpretation of sweetness (more based on knowledge of residual sugar, perhaps...?)

- To overcome this language discrepancy, researchers have tried to develop new sensory/marketing techniques that would bypass the need for consumers to “verbalize” their sensations. Two such techniques include: 1) **preference mapping**, in which products are first analyzed for their chemical and flavor properties, in addition to their consumer “liking”. Then, by correlating the objective analytical measurements with the subjective consumer scores, *the objective parameters that drive consumer likes and dislikes can be identified*. In a variation of this technique, 2) **“reverse engineering”** identifies empty spots in the “flavor space” representing a niche within a given product category where no product exists. Once this is determined, the researchers try to design a product with just those specific flavor characteristics, which they predict would please specific segments of the population.

- Towards the end of the review the author reflects on possible steps that would make sensory evaluation more widespread and accessible to the wineries, such as:
 - _ having more sensory professionals trained, as these positions are often taken by people who have received little formal training,
 - _ getting educators to emphasize the difference between “wine sensory evaluation” and “wine appreciation”, as courses that teach the latter do not necessarily end up teaching sound sensory practices,
 - _ having sensory professionals emphasize in their reports the business implications of the results of their evaluations, rather than just the methods used, and,
 - _ teaching wineries to let sensory professionals carry-out parallel small projects using good sensory practices. In this way, the results achieved with both methods can be credibly compared, and the complementary -or sometimes brand-new information- can be fully appreciated.

- Finally, some new topics that sensory evaluation faces in the immediate future include: 1) adopting techniques that truly mimic the way consumers drink wine when relaxing (i.e. repeated sipping), 2) a new sensory methodology called *temporal dominance sensations*, and how it compares with time intensity measurements, and 3) developing *consumer* rejection thresholds for given defects (in contrast to *expert* rejection thresholds), which may have important economic consequences given that consumers tend to reject wines at much higher levels of taint than experts do.

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