

Wine Uncorked

The tasting or, Should we say, Wine Smelling Experience

The practice of wine tasting is the sensory examination and evaluation of wine, and a tradition as ancient as wine itself. Wine tasting and how you taste wine could just as well be called wine smelling based on the physiology of the process, according to Jordan Ross, enology expert with YourLoveofWine. Jordan would be quick to point out that when it comes to the practice of wine tasting, taste and smell are often confused, and when one talks about the taste of a wine we are referring to sweet, sour, salt, bitter and umami - all picked up by taste receptors on our tongue. But much of what is called taste - spice, cherry, red currant - is actually our sense of smell.

Umami?

Umami is a Japanese word meaning "savory" or "deliciousness", and applies to the sensation of "savoriness", one of the five basic tastes sensed by the human tongue's specialized receptor cells, specifically the detection of natural amino acid, glutamic acid or glutamates. Umami is often, described as the overall reaction or feel of the palate to certain foods and beverages, and is associated with the sense of ripeness and developed flavor of some foods including vegetables (such as ripe tomatoes), meats, cheese and other protein-heavy foods. Cells respond to umami taste by secreting the neurotransmitter ATP (adenosine triphosphate; ATP transports chemical energy within cells for metabolism) and serotonin (a neurotransmitter produced in the brain known to influence the functioning of the cardiovascular, renal, immune and gastrointestinal systems) in a mechanism exciting sensory fibers that convey taste signals to the brain. Umami flavor is strongest when combined with aromas. With wine, the adjective applied is

"texture".

In the early 1900s, Japanese Professor Kikunae Ikeda first identified umami and believed it to be one of only two senses, the other being sweetness, which is perceived by the palate as pleasant. The significance of umami in food and wine pairing demonstrates why some wines, especially those that are more complex and mature, are naturally better food complements. The more umami a food contains, the more it disturbs the wine's flavor/acidity/fruit balance, and the addition of acidity and salt into the food will correct this imbalance. Once you understand the concept of umami and how it influences the wine tasting experience, you can successfully pair any wine with any food.

Retro-nasal smell

When sniffing a wine, the smells reach the wine taster's olfactory receptors that are one square inch in size, located at the top of the nasal cavity through the nose. But smells also get there by an alternative route - an internal chimney called the "retro-nasal passage" which connects the mouth to the nose. As you swallow, your mouth is closed, forcing you to exhale through your nose. The swallowing process aides the retro-nasal olfaction by carrying the residual wine vapor in the mouth - retro-nasally - to the smell center because of the connection of the mouth to the nose via the retro-nasal passage. The result is you smell, as well as taste, the wine. This is why wine tasters gargle the wine in their mouths.

Smell, emotion and memory are linked and affect the wine tasting experience

The wine taster processes smell, memory and emotion together in the brain. The primary olfactory cortex receives information about smells from nerves in the nose, and links directly to the amygdala, which controls expression and experience of emotion, and the hippocampus, which controls the consolidation of memories. Memories that are triggered by smell often seem more intense than

other memories because they appear to be more emotional than memories triggered by visual or audio stimuli, explaining why smells in a wine can send a tingle down the spine, or transport us back to a long-forgotten childhood memory. The smell sense can recreate significant past episodes in your life!

Why we don't all like the same taste in wine

A common generalization is that people don't like the same foods nor share the same taste in wines. Could it be that different people taste things differently? Experiments have shown that people do taste things differently and that some of these differences are genetic. Smell and taste are regulated by around 1,000 genes, over half of which are totally inactive. A study published in the journal *Nature Genetics* by Israeli researchers identifies at least 50 of these genes, active in some people and not in others. This may explain why some of us adore some smells and tastes while others are incapable of smelling them. Researchers at Israel's Weizmann Institute say their study shows that each human displays a unique pattern of active and inactive odor-detecting receptors. These receptors determine how our brain interprets flavors and smells in food. To some degree, we each live in our own sensory world.

Wine tasting jargon- why it's difficult to describe what we smell

There is a lot of uncertainty in wine tasting when it comes to naming-smells. The nose is-good at detection but bad at recognition or naming. Smells are conceptualized, owing to the fact that there are very few terms to describe them. We can describe smells only by analogy. The language of smell does not have a precise or exact descriptive domain unto itself like colors as visual descriptors. Memory plays a major role as a means of aiding our recognition of smells. While we can recognize thousands of different smells in our everyday lives, we cannot normally recall them independently of external stimuli. Smells are

virtual symbols in that they act as representations of representations in our minds. Often people are unsure and unable to recognize even a common smell like grapefruit and other familiar odors when they are separated from their sources. Smell memories are individual and personal and subject to an almost infinite set of variable factors relating to conditioning, culture, and contextual experience. These factors, in turn influence the wine tasting experience.