



Wine by the Numbers

HOW RELYING ON DATA CAN CLOUD YOUR WINEMAKING INSTINCTS

by Kate Nowell-Smith

THERE IS SOMETHING romantic about making wine without doing any number crunching. Who needs data when we have made wine for thousands of years without analyzing its specific components? Even if doing so allowed us to produce the Platonic ideal of wine, would we want a wine made entirely by robots?

There are numerous analytical technologies available to winemakers, many of them beneficial. For instance, sensors in the vineyard enable us to reduce inputs such as fertilizer, water, and fungicides to the essentials, thus lowering our carbon footprint and promoting regenerative viticulture.

Even if you decide when to pick your fruit based on looks and taste—which I would argue is the way to go—determining the fruit’s starting pH with a pH meter and its Brix with a device such as a refractometer can help to guide decisions that follow, most notably by indicating how at risk for spoilage the wine might be.

Back at the winery, a single employee and a sophisticated machine can generate all the important numbers by analyzing a few milliliters of must or wine. The winemaker can then make tweaks this way and that, raising or lowering acidity and potential alcohol, adding or subtracting tannins, and so on. Machines can be employed to remove excessive volatile acidity and ethanol; one can run bench trials on an infinite number of possibilities for any given wine. The bar has been raised when it comes to making wine that

lacks obvious flaws across all price points.

But there is a hollowing out of the soul of a wine when numerical data are relied upon too heavily. It comes down to that over-invoked but undeniably central concept of balance. Too little analysis and one is at risk for serious spoilage. However, if numbers run the show, then character and integrity slip away, leaving behind what I call “wine products” more akin to blended whiskey than testaments to a specific terroir and vintage. We all know these wines: They are smooth, with no obvious flaws; the acidity and tannins are “just right.” But as pleasing as they may be on the first sip, they’re one-dimensional, showing little evolution in the glass and certainly no complexity. As with people, a wine’s quirks usually add to its appeal; when you smooth every edge and take out every incongruity, blandness ensues.

It can be a challenge for winemakers to go with their gut. Choosing not to bring a wine into alignment with the textbook numbers takes strength. But wine is not just a simple solution of water, alcohol, acid, and a few polyphenols; it is a complex matrix of molecules all constantly interacting with one another. While machines can analyze many of these molecules, they cannot analyze how we will perceive them, and it is wise for winemakers to remember that every time they smell and taste a wine they are the generator and repository of all sorts of important data. As humans, we are exquisitely sensitive to nuances in taste, smell, sight, touch, and sound, and we can call upon our sense memories to inform our decision-making about what is in front of us. This makes us better equipped than any machine when it comes to making wines with character. *sj*

