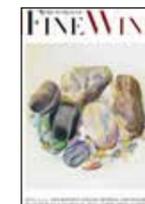


FERMENT

Dosage— No Place for Dogma



Photography from Alamy



This article from *The World of Fine Wine* may not be sold, altered in any way, or circulated without this statement.

Every issue of *The World of Fine Wine* features coverage of the world's finest wines in their historical and cultural context, along with news, reviews, interviews, and comprehensive international auction results.

For further information and to subscribe to *The World of Fine Wine*, please visit www.worldoffinewine.com or call +44 1795 414 681

Some Champagne consumers and winemakers like the idea and, increasingly, the reality of *brut zéro*. Others, equally knowledgeable and passionate, believe that a little sugar makes for better and more consistent wines. Anne Krebiehl investigates

Dosage—the mere mention of the word prompted one talented young Champenois winemaker to joke self-deprecatingly, “Ah, don’t you know that they say we chaptalize three times in Champagne? Once when we add sugar to the must, then to induce the second fermentation, and then when we add the *dosage*.” Perhaps he is tired of the increasingly dogmatic discussions that surround the subject of sugar, or rather, the demonization of it. *Dosage* has long been part of Champagne, has always helped tame the acid of the 49th parallel, just as blending and second fermentation have added body and texture to this northerly wine. Adding sugar after disgorgement subtly enhances flavors (Nathalie Martin, Aurélie Minard, and Olivier Brun, “Sweetness, Sourness, and Total Taste Intensity in Champagne Wine,” *American Journal of Enology and Viticulture* 53 [2002], pp.6–13). It is also integral to the consistency of house styles. But it can be, and has been, used to obscure, too.

Outside Champagne, on the face of it, the addition of sugar seems incongruous to most winemakers and drinkers. The uninitiated are often shocked to learn that sugar has been added to their *brut* Champagne. Sugar, generally, seems to be a dirty word, since drinking “dry” is still, socially at least, *de rigueur*. Reality, of course, is at odds with the common perception. In countless “dry,” high-volume wines, sugar is a common addition, but the labels never say so. In Germany’s more marginal regions or in the Loire—other places where cool climate and varieties spell high natural

acidity—sugar has long been central. Quite apart from horror stories of *Süssreserve*, sugar can mean both balance and diverse styles (as it can in Champagne). Crucially, though, the sugar here is truly “residual,” constituted mainly of fructose, and not added separately at the end. Indeed, it is strange that after painstaking work and meticulous care in both vineyard and cellar, discerning Champenois winemakers should simply add sugar—pure sucrose, after all—as *dosage*. But sugar does not equal sweet; nor does it have to be a blunt instrument. Quality-obsessed winemakers have measured, constantly evolving, and intelligent approaches to this final process. They have also thought about it for years, not just since the vogue for *brut zéro*.

Confiture de Champagne

Michel Drappier in Urville, a sleepy village 100 miles (160km) south of Reims in the Côte des Bar, started asking himself about *dosage* as soon as he took over from his father André in 1979. He developed a unique and completely stable sweetening agent that he calls *confiture de Champagne*. The ingredients are his own base wines, organic cane sugar from Martinique, and, most importantly, time. What put him on this unusual track? “For me, it’s not strange—it’s logical, it’s physical,” he says. “I was at school in Burgundy; we knew that Champagne could work differently: the wood, the fruit, the soil, the fine lees, this Burgundian way of making Champagne... I realized that *dosage* was makeup: It was to hide faults or unripe fruit,” he remembers. “Because I had decided

to reduce the *dosage*, the base wines had to be improved. Today it’s easy to produce *brut nature* and Champagne at 4g/l [of *dosage*], but in 1982, it was difficult, because most people—including connoisseurs, including the Champenois themselves—wanted some roundness, some richness. So, the idea was to reduce the *dosage* but to keep the richness. The only way was to change the flavor and style of the *liqueur* [*d’expédition*].” These aged *liqueurs*—or *confitures*, to adopt Drappier’s parlance—are strikingly different. Some are golden, some the color of blossom honey, some amber, but they are always limpid and highly viscous. A bright-colored *liqueur* based on the *première taille* of 2003 Pinot Noir smells and tastes of plump sultanas and Medjool dates, with 5.5% ABV and 550g/l of sugar. A pale *liqueur* based on 2010 Pinot Blanc (or Blanc Vrai as it is sometimes called in Champagne), with 7.5% ABV and 700g/l of sugar, is fragrant with moss, stone fruit, and flowers. The 2005 Chardonnay *confiture* displays full, ripe lemon with a touch of lime and a fine streak of acidity. The deep amber *liqueur* from 1986, based on Pinot Noir, is not very fragrant but gives a complex, complete notion of dried fig and raisins on the palate.

Drappier’s meticulousness starts with the completely refined sugar: “We like to buy from Martinique. We buy the best, and we’ve seen that it’s beautiful. Throughout the years, we have not made comparisons between different origins of sugarcane, but rather between beet and cane. Beet sugar almost tastes of beet, more aggressive, slightly bitter. Cane is spicier: You feel the sun and the rum. It’s pure, beautiful sugar without sulfur, so it can’t do any harm.” For the base wines destined to become *confitures*, there is no particular criterion apart from diversity: “The idea is to have *liqueurs d’expédition* that are as different as possible. We like to have a palette, a choice,” he explains. “That’s why we choose Blanc Vrai, because it’s unique.” Indeed, he is lyrical about his Pinot Blanc, saying that it tastes

“like fruit itself; it lends itself most of all to making *liqueur* and is reminiscent of white peaches. If we can have a very mature Pinot Meunier, why can we not have barely ripe Chardonnay for acidity. We can use old oak, new oak, stainless steel, glass—any kind of vessel that can add to the *liqueur*.” Base wine and sugar are simply mixed. “I put the wine into a *fondoir* with a propeller [a large vessel with mixing blades, like a giant blender],” says Drappier. “We just pour in the powdered sugar, and it takes 50 minutes to have 700 grams of sugar per liter dissolved. We take 700 grams of sugar, which has a volume of 0.66, so it’s just under half a liter of volume of sugar and just a bit over half a liter of wine, and the mixture of the two makes one liter of *liqueur*.” Anything above 714g/l will drop out of the solution and precipitate as crystallized sugar.

Then follows the most crucial part: the long maturation. Drappier will not use any *liqueurs* younger than a decade for *dosage*, because “young *liqueur* can be aggressive.” He prefers a minimum age of 15 years but says, “Sometimes it’s less, because sometimes we like to bring freshness.” While older confitures are kept under glass, says Drappier, “most of the *liqueur* today goes under oak, especially Limousin, because it grows two and a half times quicker than Allier. There is less density and more oxygen, which helps because the *liqueur* is so heavy, so thick, that the evolution is very slow compared to wine. Because it’s a preserve, oxidation of a *liqueur* is very, very slow. We chose that oak because of that process of oxygenation and concentration.” The entire process, naturally, is a huge investment. “My accountant said it was stupid,” confesses Drappier, “so I tried to heat the *liqueur* to make an inversion of the sugar to speed things up.” This caused caramel aromas that Drappier wants to avoid. Aging the *liqueurs* for a summer in the warm attic did not work either, because this caused Sherry-like flavors. “In the end, I found it

was only [a matter of] time. I decided to keep the *liqueur* for a long time in the coolest part of the cellar—and we just wait,” he says, thereby touching on his central belief. “Remember when we tasted? The *liqueurs* are still fresh: Citrus and grapefruit remain. It’s sweet, sticky, heavy, but fresh. After years, the sugar disappears and becomes like honey. The idea is to give noblesse to the sugar.” He expounds, “I don’t want to add sweetness to the Champagne, but mellowness, richness. I think Champagne should be dry. We are specialists of *brut nature*, and our classic Carte d’Or, which used to be 12–13g/l decades ago, is now 6g/l—it qualifies as extra-brut. We like the Carte d’Or to be round, rich, and dry, and to get that result, the *liqueur* that has matured for ten, 20, or more years no longer brings sugar but mellowness. The philosophy is to have the sugar ‘disappear,’ so that only the richness and the mellowness remain.”

The *liqueurs* are used in every Drappier Champagne (apart from his *brut nature*). He does not blend the *liqueurs*, either: “They do not mix very well. You have to stir so much that it would take another few years to settle,” Drappier explains. “So, I have decided not to mix the *liqueurs* anymore and to use just one. It’s a challenge, because you have to choose that one touch for a specific wine. The choice is which *liqueur* and the quantity. Even an old vintage will receive probably 2 grams, so it goes from 2g/l to almost 40g/l when we do a special demi-sec.” At disgorgement, between 1 percent and 5 percent of the wine is lost, and one precise drop of *liqueur* is injected into each bottle. “It’s so heavy and dense; it goes straight to the bottom of the bottle,” attests Drappier. “Then we top up the bottle with Champagne from the same cuvée, so nothing else apart from that drop is added.” Some 30–40 seconds after that, the bottle is corked and wired, then 20 seconds later it will go through a *remueur*, where it will be shaken six

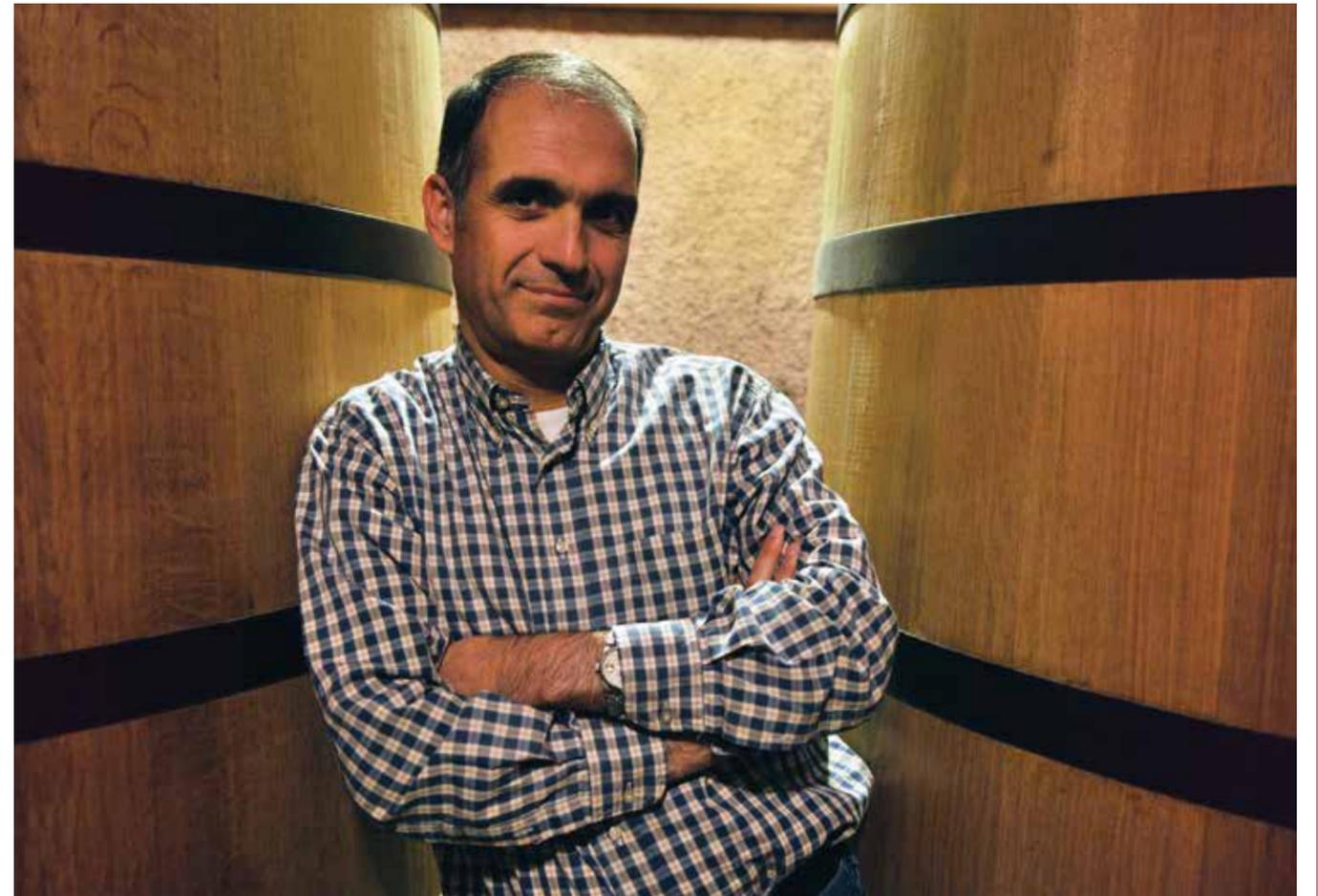
times. “There are millions of bubbles and a bit of the oxygen from the disgorgement, and all this will give a new life to the Champagne and a new maturation process will start,” says Drappier. “I think a minimum of six months is required to have a good integration. Very old *liqueur* integrates much more quickly, as does a low *dosage*. Because we use a low *dosage* of a *liqueur* that is on average 15–20 years old, the integration is really quick. This is something we have not only noticed but also confirmed in tastings.”

Zéro tolerance

As a producer also famous for his *brut nature*, Drappier could not be further from dogma, even though he states a clear preference: “*Dosage* is very important to Champagne; it helps produce the greatest Champagnes.” Experimentation for the sake of quality and demystification are close to this articulate winemaker’s heart. “A few years ago, talking sugar in Champagne was impolite,” smiles Drappier, “but for me there is no taboo in Champagne.”

Naturally, the vogue for *brut zéro* has posed new questions—whether *dosage* is really necessary and what role it plays today, when viticultural and enological understanding is better than ever and the climatic data different from 30 years ago. One thing is clear: *Dosage* levels have been reduced across the board, and there is ongoing experimentation with the kinds of sugars used. At Champagne Fleury in Courteron, Jean-Sébastien Fleury and his sister Morgane reduced the *dosage* for the NV Champagnes to 7–8g when they took over from their father. Vintage wines get just 4–5g/l. “We have made trials with cane and beet sugar, also with unrefined sugar,” says Fleury. As a result, they are now using partially refined cane sugar mixed with a blend of barrel-aged reserve wines.

While there may be a vogue for very austere *brut zéro* styles, achieving balance in non-dosed wines is about



Photography by Jon Wyand

“*Dosage* is very important to Champagne; it helps produce the greatest Champagnes. A few years ago, talking sugar was impolite, but for me there is no taboo in Champagne”
—Michel Drappier

Above: Michel Drappier, who has a distinctive approach to *dosage* and offers his Champagnes in styles ranging from *brut nature* to demi-sec

much more than just forgoing that final addition of sugar. Manu Fourny at Champagne Veuve Fourny & Fils in Vertus, who released his first *brut nature* in 2006, makes this very clear. “My dream is to make all my Champagne without *dosage*,” he avows. “Even though we use natural grape sugar, I prefer having natural roundness from vines and winemaking to adding sugar to my wine.” He wants to taste “the pure result” of his work. He thinks *dosage* was “a wonderful aspect” of the past. “Now we have enough knowledge of viticulture,” says Fourny, to offer “the maximum of mature aromas and roundness in the base wine, so there is no need for *dosage*.”

The goal is not to have no sugar, the goal is to be pure.” He goes to great lengths to achieve this: Site selection of parcels with greater roundness, mature vine age, naturally lower yields, and picking at phenolic ripeness are “the first steps for wines without *dosage*,” he asserts. “After that, you can add specificities of winemaking.” Every step is in pursuit of “roundness.” He thus ferments and ages 25–30 percent of the *brut zéro* base wines for six to eight months in used barrels bought in Burgundy to avoid wood flavors, matures all base wines on their gross lees, and stirs these for added richness. To avoid the attendant reduction, he ensures a very thorough

débourbage (settling) in a specially constructed, descriptively named cuve Camembert, which is 9ft 10in (3m) wide and 4ft 11in (1.5m) deep, where the juice settles over 24 hours to become very clean. All the oak-fermented base wines undergo malolactic fermentation, but a portion of the steel-fermented base wines do not. “I try to have wines from wood, from tank, with or without MLF, wine from different places and different years,” explains Fourny. “In *brut nature*, you taste a blend [of vintages], and each vintage gives you a certain something.”

Fourny also makes wine with *dosage*, however, and his sugar of choice is rectified concentrated grape must—roughly equal parts of glucose and fructose, and neutral in taste. “There are two schools of *dosage*,” he believes: an “old school,” which expects *dosage* to bring something to the wine, and a newer school, “where you want only a sweet note but without aroma, so we use grape sugar, because it brings sweetness without changing the wine.” Fourny’s

maximum *dosage* level is 6g/l in his NV, blended rosé, and blanc de blancs brut cuvées. Vintage wines and the superbly perfumed Rougemonts rosé receive just 4g/l. According to him, sugar “can support aromas and add a kind of balance between acidity and roundness, but my dream is to do everything without.” Austerity is to be avoided: “Austerity and Champagne? You cannot be austere and have a party,” he laughs. Indeed, his wines are far too vibrant, vital, and pure to evoke anything less than elation.

Purity and balance

Tasting the same wine with and without *dosage* is eye-opening. Gilles Lancelot of Champagne Lancelot-Pienne in Cramant demonstrates this with his Cuvée de la Table Ronde: Without *dosage* there is tautness, tension, and purity—one almost seems to taste the Cramant chalk itself. With 8g/l of sugar, there is more fruit and light-heartedness but somehow less significance, less precision, less typicity. The step from

zero to eight, however, is huge. His 2009 Marie Lancelot, with just 4g/l *dosage* is as graceful, soaring, and structured as pure Cramant grand cru sites would suggest, but there is a charming suspicion of delicious stone fruit, too.

Tiny doses of sugar are also crucial for Jean-Hervé Chiquet of Champagne Jacquesson in Dizy. His approach to viticulture is strikingly similar to Fourny’s: reduced yields, scrupulous fruit selection, 24 hours of settling, fermentation in oak, mostly with MLF and *élevage* of the base wines on gross lees, with *bâtonnage* in order “to get more creaminess, more unctuousness, more body,” says Chiquet, whose chief aim is balance.

Eschewing the time-honored Vintage and NV model, Jacquesson releases numbered cuvées that are predominantly based on one vintage, with the addition of some reserve wines, to accentuate vintage variation. Of his Cuvée No.736—predominantly based on 2008, with 34 percent reserve wine and



just 1.5g/l *dosage*, a marvel of crystalline poise and linearity with an almost purifying, invigorating briskness—Chiquet says “It’s a very, very low *dosage*, the lowest we have had for the cuvée, despite the fact that this cuvée is among the sharpest we have made. If I have learned something, it is that if you want the *dosage* to fight the natural tendency of the wine, it does not work. Of course we use low *dosages*, but you will see that a more opulent wine will need a bit more *dosage* than a harder wine, simply because of the interaction between body and finish.” Likewise, Cuvée No.737, based mainly on the ripe 2009 vintage, has 3.5g/l *dosage*. The wonderful Cuvée No.733 Late Disgorgement (2005-based), which is to be released later this year, has 2.5g/l *dosage*, which suits its solid,

Photography by Jon Wyand

Opposite: Monique Fourny with her sons Charles-Henri (left) and Emmanuel. Above: Brothers Jean-Hervé (left) and Laurent Chiquet at Jacquesson

super-clean, and muscular structure extremely well, illuminating the chalky, mineral background with hints of quince and oatmeal. So, if the Chiquets use a *dosage* as low as 1.5g/l, why do they even bother at all? His answer is pragmatic: “When we have to decide the *dosage* of a wine, we disgorge five bottles: one at zero, one at a *dosage* which is too high, and three in between. Three months later, we taste them blind and see which is the best. In the end, all we do is try to make the best with what we have. This is also why we never adapt the *dosage* to any given market.”

Fourny and Chiquet are not alone in their endeavors: Christophe Constant of Champagne JL Vergnon in Le Mesnil, who makes both *brut zéro* and very low-*dosage* wines, shares their approach but is not inclined to discuss the subject, which for him is very clear-cut, at any length. “We can make wine with low *dosage* because we make wine before

we make Champagne. *Dosage* is not an aim in itself, nor is to add a low *dosage*; the objective is to make wine with beautiful typicity, and that often means that there is low *dosage*. *Voilà!*” His 2008 Confidence Millésime Brut Nature, a blanc de blancs from Le Mesnil-sur-Oger, was fermented in barrel (10–20 percent new oak), has no MLF or *bâtonnage* or *dosage* but is beautifully rounded, with a rich, lemon-oil acidity that almost comes across as candied peel. It illustrates his point perfectly.

For these winemakers, the pursuit of purity and balance is everything. When it comes to that ultimate touch of sweetness, that sorcery of Champagne, there are as many ideas as there are winemakers. When it comes to sugar, a little goes a long way. *Dosage*, it becomes clear, is no place for dogma—just one of the thousand variables that make those bubbles so very alluring. ■