

It's almost a new year, and what better way to ring it in than popping some champagne and toasting to friends and family! But what causes that pop, the fizz, and the bubbles? And why are they important?

The fizz, also known as effervescence, is the main contributing factor to the experience of drinking sparkling wines and champagnes. When a champagne cork is popped, yeasts ferment sugars and form carbon dioxide gas—aka the bubbly.

Before we can get into the bubble though, we should take a look at how Champagne comes to be.

Champagne is a type of sparkling wine produced from the grapes from the Champagne region of France. After primary fermentation and bottling, a second alcoholic fermentation occurs in the bottle. This second fermentation is induced by adding several grams of yeast and rock sugar. However, each branch of Champagne and sparkling wine has their own secret recipe.

As the spirit matures for at least 3 years, the bottle is manipulated in a process called remuage. This allows for the lees—deposits of dead yeast or residual yeast—to settle in the neck of the bottle. Next the bottle is chilled to the point where the neck is frozen and the cap is removed. The pressure in the bottle forces out the ice containing the lees and the bottle is quickly corked to maintain the carbon dioxide. Some wines will add additional sugar to maintain the level within the bottle and to adjust the sweetness of the finished sparkling wine.

After all this, the bottle is finally in your hands by New Year's Eve and ready to be popped to celebrate at midnight!

Once it's time to pop the bottles, an initial burst of effervescence occurs once the sparkling wine makes contact with a dry glass, and bubbles begin to form, rising to the top.

However, only recently has an explanation as to why the drink's gas bubble train forms. The little tiny beads of rising air—that give champagne its magic and sparkle—that bubbles to the surface has been considered a mystery, until a recent study published in *The Journal of Physical Chemistry*.

Researchers at the University of Reims, France discovered that the tiny gas pockets and fibers that were stuck to the inside of the glass, which could have been left by a towel or dust, influence the timing of the trains of bubbles.

The fibers entrap a tiny air pocket when the champagne or sparkling wine is poured. Then the air pocket absorbs the dissolved carbon dioxide and floats to the top.

Lead physicist, Gerard Liger-Belair notes that effervescences doesn't just add to the sparkle of your drink, but also plays a crucial factor in the look, taste, aroma, and feel of sparkling wines. Before this study was published, it had been previously cited by wine enthusiasts and researchers that there was an average of 15 million bubbles fizzing in a single glass.

However, Liger-Belair points out that the formula leading to this estimated number of bubbles didn't account for the fact that some of the dissolved carbon dioxide can escape from the glass without forming bubbles. Another factor to consider is the changing size of the bubbles over time.

The study took in account the temperature, bubble dynamics, and the tilt of the flute, to create a new way to calculate the number of bubbles in a glass of sparkling wine. And what Liger-Belair and his team found, was that the number of bubbles was far lower than what

was thought before.

“One million bubbles seem to be a reasonable approximation for the whole number of bubbles likely to form if you resist drinking champagne from your flute.” He also discovered that if more fizz is preferred, try serving it warmer than you normally would and tilt the flute when pouring.

To ring in 2018 with a splash of extra fizz, try wiping your glass with some fibers and pour some warm champagne to watch the bubble train go crazy! Perfect way to ring in the New Year, if you ask me!

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Summary



Article Name

The Science of Champagne: What Causes the Fizz?

Description

Ever wonder what causes champagne to fizz? Find out how Champagne and sparkling wine is made and how to get the most out of your bubbly this New Years!