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ENARTIS NEWS

CLIMATE CHANGE: HOW TO PRESERVE WINE ACIDITY

Average temperatures are rising and, with them, the frequency and intensity of extreme weather events.

The importance of acidity in wines

High temperatures accelerate grape ripening, leading to an imbalance between acidity and pH. However, maintaining acidity is of paramount importance for multiple aspects as it helps wine retain its freshness and vibrancy.

Tartaric acid (along with tannins, other acids, and polysaccharides) **is an essential component** that contributes to overall balance.

Preserving acidity is therefore crucial to maintaining sensory qualities even during ageing.

By avoiding the loss of tartaric acid, pH remains stable, indirectly contributing to a positive effect on the final microbiological stability of wine.

In summary, **tartaric acid** plays a crucial role in maintaining quality characteristics over time, ensuring that the final product remains fresh and stable even after years of storage.

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Tartaric stabilization is an essential practice to ensure the quality and stability of wine over time and it can be achieved through various techniques.

Of these techniques, **cold stabilization** involves significant energy and water consumption as it requires cooling the wine to very low temperatures for prolonged periods. At the same time, **electrodialysis** also has limitations as it involves significant water consumption as well as labor.

In contrast, **ZENITH**, a range of products based on potassium polyaspartate, represents a **sustainable alternative** that can significantly reduce water and energy consumption as well as CO_2 emissions during the process.

Its use **ensures that tartaric stability is achieved**, preventing crystallization of potassium bitartrate and its precipitation.

The evaluation of stabilization methods carried out by the European **Stabiwine** project compared tartaric stabilization techniques and highlighted that cold stabilization and electrodialysis are poor choices within the process compared to the use of potassium polyaspartate.

For more information: A SUSTAINABLE APPROACH TO ACHIEVING STABILITY.

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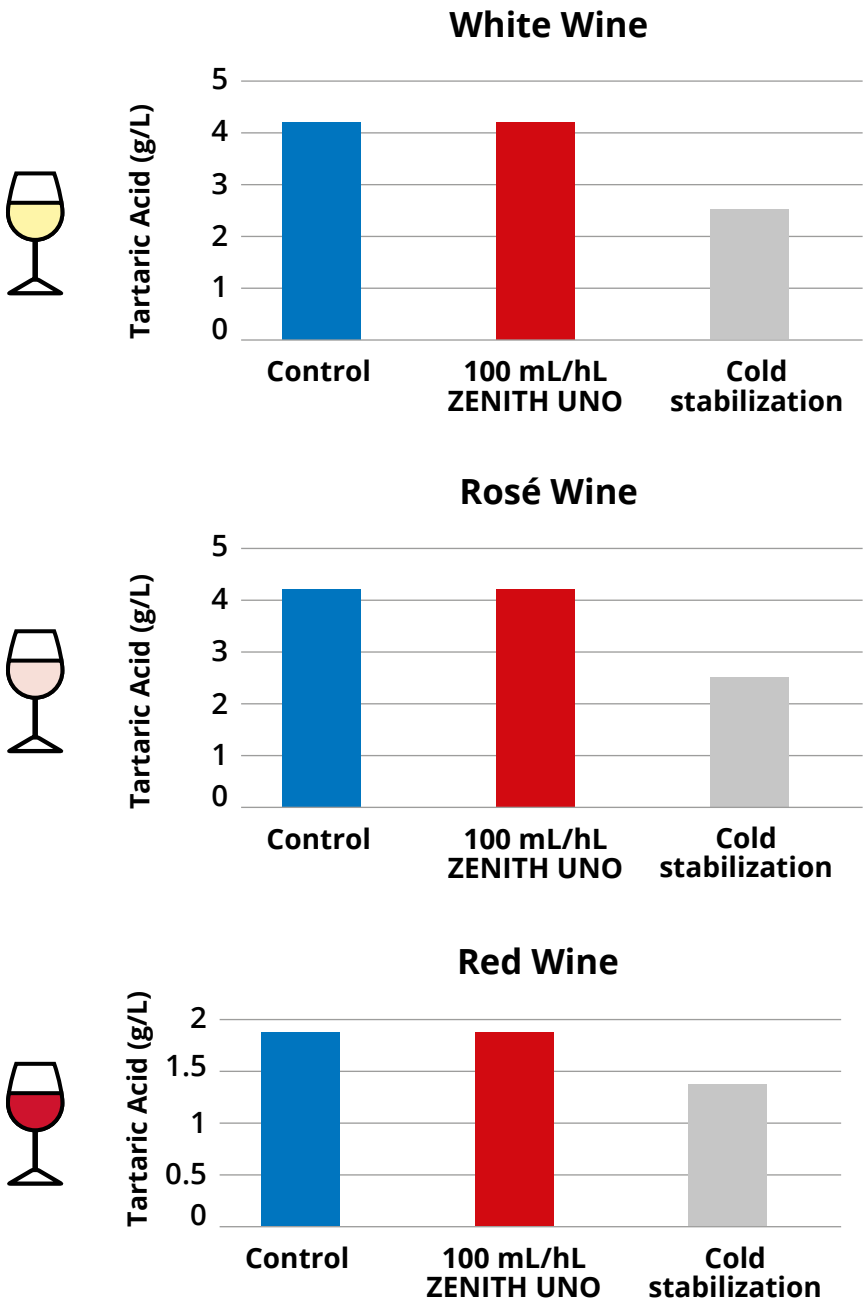
Enartis' R&D department has performed studies to show how the addition of ZENITH is effective in **preserving a wine's original acidity**.
From the experiments conducted, it was observed that cold stabilization results in a loss of acidity with an estimated average of about 1 g/L.



Comparison of cold stabilization and ZENITH UNO effects on tartaric acid loss (g/L) in different types of wine: white, red and rosé. It is observed that after the application of ZENITH UNO, all wines are unchanged. Stabilization with ZENITH preserves 45% more acid in white wine, 42% in rosé wine, and about 24% in red wine.

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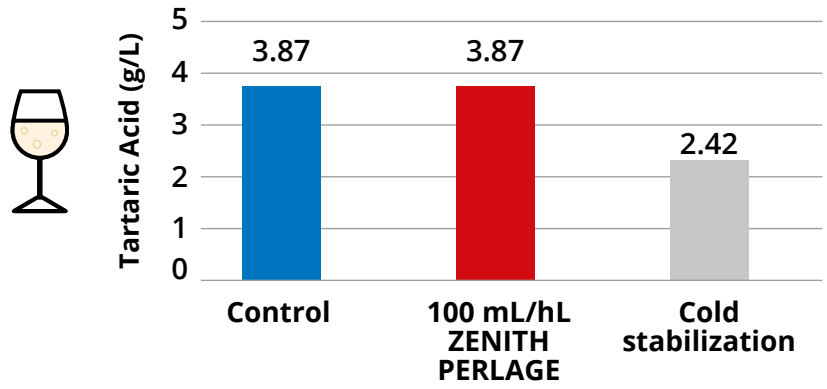
Sparkling Base Wine and Stabilization: The Importance of Maintaining Acidity

Acidity is a crucial element especially for sparkling base wines that need acidity to ensure their distinctive characteristics and quality over time, in addition to sensations of freshness and crispness supported by good balance.



Charmat sparkling wine base with an initial pH of 3.3 and a conductivity drop of 182 ΔS, maintains its acidity through stabilization with ZENITH PERLAGE, which prevents a loss of tartaric acid of about 40 percent.

With **ZENITH**, it is possible to attain a quality product which is both environmentally friendly and practical for the winemaker. Its ability to preserve acidity and grape characteristics is of particular value, not only to safeguard the bottling of young wines, but also for wines intended for long ageing.

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In-line Stabilization: Reliability and Safety

Using **ZENITH** is already a simple process, which can be made even simpler with **inline stabilization**.

ENARTIS ENGINEERING has developed **EE CDS01**, a bottling line-integrated dosing system that ensures a **continuous, safe, and accurate stabilization process**.

This system increases efficiency, reduces labor and production costs, and ensures accurate and verifiable dosing. EE CDS01 doses up to three products simultaneously, performs conformity checks and self-calibration, and **ensures microbiological security** with traceable cleaning cycles. It also offers a dosage traceability system, which is critical for food safety.

Our commitment is to ensure a precise, agile winemaking process fully satisfying the requirements of modern winemaking.

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