

- Specific pectinase activities contained in Vinoxym Process ensure the efficient release of valuable tannins, anthocyanins, and aroma precursors from the skin, increasing the quality of the resulting wine. "Vinoxym Process is helping both the process and the quality of the wine," says Rose-Marie Canal-Llaubères. "It's important for each winery to monitor the benefits – the increase in must yield and clarified juice volume generates rewarding economic gains."

Sustainability for the future

Not only does this extraction enzyme offer exceptional benefits while improving profits and cutting costs, it is also eco-friendly. In times of environmental concern, future sustainability is a hot topic. As Vinoxym Process enables wineries to maximize the efficiency of extraction equipment and techniques, it results in a reduction in energy consumption. The increase in yield experienced means that more wine is produced from the same quantity of grapes, indicating that these fruits can be used more effectively as a raw material in wine processing.

Experiencing excellence

Throughout 2007, Vinoxym Process was successfully tested by many wineries, with over 15,000 tons of grapes treated for the production of short-maturation wines, and they were pleased and excited by the results they experienced. In 2008, based on sales in the northern hemisphere, Vinoxym Process is forecasted to become Novozymes' second biggest granulated enzyme for the extraction step.

Working with the wine

This Novozymes bioinnovation effectively enhances the extraction process through increasing must yield and improving the effectiveness and capacity of the existing production equipment. The value of the final product also grows due to improvements in color, tannins, and flavor. Considering how effective and economical Vinoxym Process is, the choice to implement such an easy and innovative solution when producing short-maturation wines should be a simple one. ■

EXPERIENCE VINOZYM® PROCESS

If you are a winemaker and want to experience excellence, contact wineprocessing@novozymes.com to request a sample of Vinoxym Process.

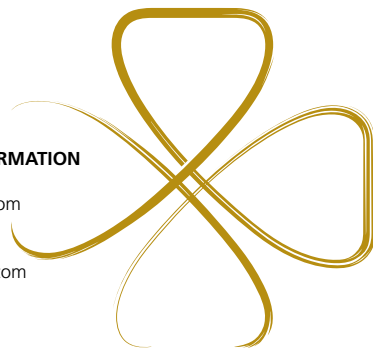
LEARN MORE

Visit the wine industry under Products & Solutions at Novozymes.com, and watch the new video to learn more about enzymes in winemaking.

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PUTTING A GREEN FOOT FORWARD IN THE PURSUIT OF SUSTAINABLE WASHING

The detergent industry is feeling the pain of increasing raw material prices as it tries to cope with the demand for high-performing and greener, more sustainable products at the same cost. Novozymes is leveraging its experience with bioinnovation to offer enzymatic solutions that not only help stabilize formulation costs but also add to the overall sustainability of detergents.

Today, the biggest chunk of detergent formulation cost is dedicated to surfactants and builders. These ingredients have over the past few years experienced some of the largest price increases among detergent raw materials. At the same time, enzymes have enjoyed a relatively stable cost development.

"The time has come for detergent manufacturers to decouple their cost base from ingredients that are affected by volatile energy prices and resource shortages, and ensure they offer their customers a superior and environmentally friendly product at an acceptable cost," says Anders Lund, Marketing Director for detergents at Novozymes.

Working toward a greener detergent

Detergent manufacturers around the world are seeking innovation that can make their products more sustainable.

One clear path to creating a more sustainable detergent is to use more sustainable feedstock, use compaction wherever possible, utilize low-volume materials like polymers, and increase the use of biobased ingredients like enzymes to replace surfactants, according to Charles Bragg of Procter & Gamble, who spoke about sustainable detergents at the 7th World Surfactants Congress in June 2008 in Paris*.

"At Novozymes, for years now, we have been figuring out how enzymes work with other ingredients in a formulation; and now we're using our knowledge to replace detergent ingredients with a multi-enzyme solution," says Sandra Friis-Jensen, Global Launch Manager for detergents at Novozymes. "We have extensive research in-house and from collaborations with partners that clearly show that a customized multi-enzyme solution can replace a percentage of surfactants and builders, or a percentage of the overall formulation – without loss in wash performance."

Detergent manufacturers are also looking for biobased alternatives to chemicals that are already banned, or risk being banned, in several countries.

One example of this is phosphate-based builders such as STP/STPP, which are banned in several countries because phosphorus



Part of the team working on optimizing detergent formulations with a multi-enzyme solution.

More and more consumers are getting on the sustainability bandwagon, looking for environmentally friendly labels on the products they purchase in the supermarket while not wanting to dip into their pocket books any deeper than they already are. However, the high price of oil and the pressure on natural resources are increasing the price of raw materials and thus the cost of end-consumer products.

causes eutrophication (depletion of oxygen in water bodies) of many fresh waters.

Dr Ulrich Pegelow from Henkel spoke at the Cleaning Products conference in September 2008 in London about the efforts made by Henkel to replace STP/STPP with solutions that have a better ecological profile.

Research conducted by Novozymes shows that a multi-enzyme solution optimized for a particular formulation can substitute STP/STPP and still maintain detergent performance. Since enzymes are readily biodegradable, they offer an environmentally friendly answer to phosphate-based ingredients.

"Sustainability has been the major theme in several recent detergent conferences in Europe and the United States. And all the stakeholders are very clear about sustainability being the way forward for our industry," says Michael Carlsson Lauesgaard, Marketing Manager for Europe at Novozymes. "Reformulating with enzymes is the low-hanging fruit that helps formulators improve detergent sustainability and performance without compromising costs."

Lower the temperature

One of the benefits of using detergent enzymes is that they are also efficient at low temperatures. This is important when looking at the life cycle of a laundry detergent. According to Charles Bragg, in Western Europe 75% of the energy consumed during the life of a laundry detergent is consumed during the in-use phase and is used specifically to heat water for washing*.

"It's now possible to use a detergent reformulated with enzymes and get the same result at temperatures of 30 °C or 40 °C for wash that before only showed good results at 60 °C," says Hanne Philbert Nielsen, R&D Science Manager at Novozymes. "Danlind's CARE product is a good example of how reformulation can ensure high performance at low temperatures. Danlind optimized their formula with four types of enzymes,

an altered surfactant system, and a bleach activator to achieve a high-performance cold-wash detergent."

Sustainability is the talk of the town

Besides making their products more environmentally friendly, detergent manufacturers are increasing the sustainability profile of their corporations by investing in carbon footprint reduction.

Large detergent producers like Procter & Gamble, Henkel, Unilever, and Reckitt Benckiser have all launched efforts to create environmentally friendly cleaning products. Reckitt Benckiser is taking this one step further, announcing its aim to reduce the company's carbon footprint by 20% by 2020; and P&G has announced that the company will reduce CO₂ emissions, energy and water consumption, and disposed waste by 40% by 2012.

Novozymes is underscoring its position as a leader in sustainability by entering a partnership with DONG Energy, a Danish energy company, to make site Novozymes Denmark carbon neutral for electricity as early as 2012.

"As a socially and environmentally responsible company, we constantly try to optimize the energy efficiency of our production. Now we are taking the next step to base our production on renewable energy," says Anders Lund. ■

FOR MORE INFORMATION

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* Source: Tom Branna, Troubling Times, *Happi*, August 2008.

WHAT ARE SURFACTANTS AND BUILDERS?

Surfactants and builders are traditional detergent ingredients. Surfactants are surface-active agents that help remove soil from fabric surfaces and keep the soil in suspension in the wash solution so that it does not redeposit on clothes. Builders function as service chemicals for the remaining detergent ingredients and constitute the chemical and physical backbone in a detergent. For example, builders reduce water hardness and therefore increase the efficiency of some surfactants.

