ORGANIC YEAST

THE NEW GOLD STANDARD FOR PREMIUM WINE PRODUCTION

Many leading wineries worldwide have opted to follow the organic route and their decision extends beyond ethical beliefs to a desire to produce a higher-quality product.

DEMAND FOR ORGANIC YEASTS

Organic products have become synonymous with quality production practices. Well-known international wineries from France, Italy, Germany and many across the New World are looking for organic solutions as they no longer want to use synthetic fungicides and herbicides in the vineyard.

The introduction of EU legislation for biological wine production in 2012 and the adoption of a similar legislation in New Zealand, has accelerated the development of these products. The European Organic Regulations No 834/2008 stipulate clearly how organic yeast products must be produced to comply with this legislation.

> Natural or organic wine production has increased along with increased consumer awareness and demand.

LOWDOWN ON ORGANIC YEASTS

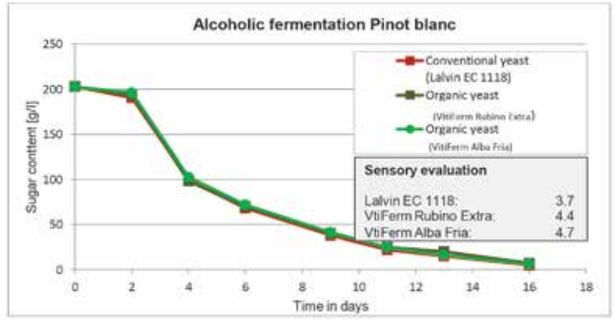
What is the difference between conventionally produced yeast and organically certified yeast? The difference can be found in the raw materials used to grow or ferment the yeast. Conventional yeasts are grown on sugar beet or sugar cane molasses with liquid ammonia derived from fossil fuels as the nitrogen source. Several additional substances, which are not from natural sources but of synthetic chemical origin, are also used. To facilitate the drying process of conventional yeast and to increase its shelf-life, synthetic emulsifiers and stabilisers are used. These substances, usually mono- and diglyceride (E471) or sorbitanmonostearate (E491), must appear on the product packaging.

Only raw materials derived from organic agriculture are permitted to be used for organically certified yeasts and yeast products in the production of organic wine. This means alternative sources of nitrogen, vitamins and trace elements had to be found. A new drying technique had to be developed to prevent damage to the yeasts and their capacity to conduct fermentation.

This method can also be used on yeast strains that were previously unsuitable for conventional drying methods, opening the door for certain wild strains of yeast. Due to the absence of emulsifiers and stabilisers, foam production during rehydration of the yeasts is significantly reduced. (See picture.)

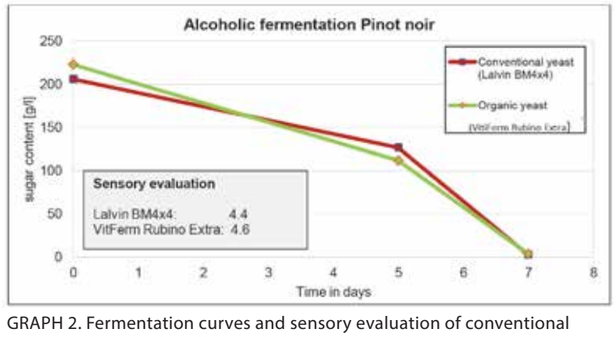
RESEARCH ADVANCE

In the past, organic products for wine production often had a negative reputation for not having the same functionality and reliability as conventional products. With improved production techniques and extensive practical trials comparing conventional versus and organic yeasts have shown that this is no longer the case. Research conducted at the University of Applied Sciences in Villingen-Schwenningen, Germany, in conjunction with Badischer Winzerkeller in Germany, supports this paradigm shift. Further trials where conducted in Germany and South Africa during vintage 2012/2013.



GRAPH 1. Fermentation curves and sensory evaluation of conventional and organic yeasts in a Pinot Blanc. Sensory evaluation was conducted in a blind tasting (1= unpleasant, 6= excellent).

Source: Thesis of R Federer, 2012, University of Applied Sciences, Villingen-Schwenningen, Germany.



GRAPH 2. Fermentation curves and sensory evaluation of conventional and organic yeasts in a Pinot Noir. Sensory evaluation was conducted in a blind tasting (1= unpleasant, 6= excellent).

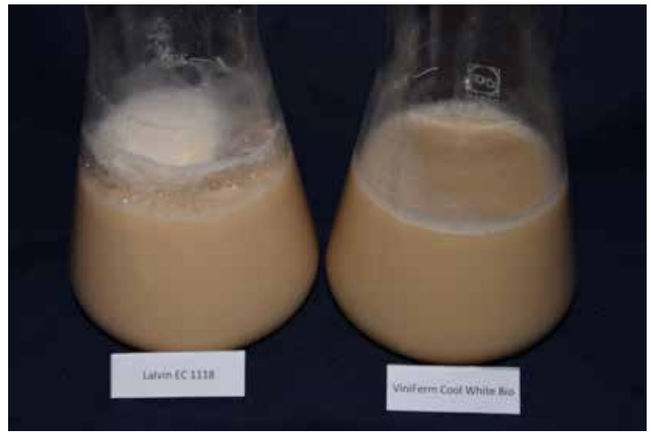
Source: Study at Badischer Winzerkeller, 2012, Germany.

Graph 1 shows the fermentation curves in a Pinot Blanc with 13.1% v/v. Both fermentation curves run parallel, indicating that the fermentation dynamics and reliability of both yeast strains (VitiFerm Alba Fria and Lalvin EC1118) are comparable. A similar result (Graph 2) was obtained for fermentation in a Pinot Noir at 13.8% v/v.

Six trained wine tasters conducted a sensory evaluation of these wines early in the following year. In blind tastings wines made with both organic yeast strains were rated better than those made with the standard yeast.

CONCLUSION

The current use of organic yeast shows no disadvantages for wine production. Organic and standard yeasts are equal when it comes to fermentation dynamics and the former is often rated better in sensory assessments. Organic yeast made in accordance with the



European Organic Regulations No 834/2008 provides winemakers with the following benefits when marketing and positioning of their premium wines:

- Organic yeast is free of petrochemical and synthetic chemical substances.
- All raw materials are derived from controlled organic certified agriculture.
- The wines are free from allergens and contain no hidden preservatives or emulsifiers.
- As a result the wines show a very natural and competitive sensorial character.

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