



# OenoGuide

2023/2024

English



Geisenheim company Erbslöh can look back on 125 years of success. We are global leaders in research, development, advice and technical service. Our customers benefit from our cutting-edge beverage processing know-how, which we are constantly increasing through very close cooperation with experts and select institutions researching in the field of beverage technology.

Our range of innovative products and technologies is available to you for sustainable production of quality wines with origin character. Even if it is sometimes difficult to keep pace with all the latest oenological developments, one thing is certain – if it is produced with passion and respect, a good wine never goes out of fashion.



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# An exquisite touch

## Oenoferm® Finesse

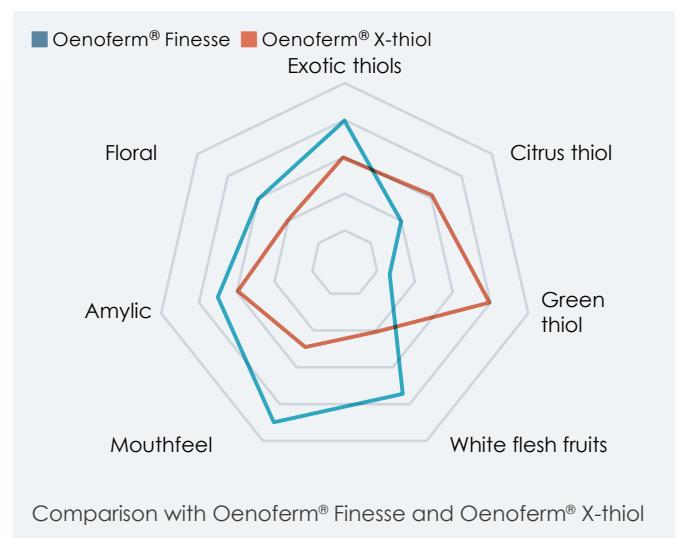
New Oenoferm® Finesse creates luscious, elegant white and rosé wines with rich bouquets.

The outstanding fermentation behaviour introduces lots of fruit and a precise aroma profile to white and rosé wines. At the same time the yeast forms very little sulphur or volatile acids. Oenoferm® Finesse reveals a very wide range of aromas and causes both thiols and terpenes to shine elegantly. The mouthfeel is characterised by striking amount of fullness and length.

This new Erbslöh strain is the perfect partner for producing balanced and fruity, yet soft wines.

### Tip

Use VitaDrive® ProArom during rehydration. The wines' freshness and expression are perfectly supported.



### At a glance

- Recommended for White and rosé wines
- Alcohol tolerance 16% ABV
- Temperature range 10 – 20 °C
- Fermentation behaviour Fast
- Nitrogen requirement Moderate
- SO<sub>2</sub> production Very little
- Volatile acid production Very little

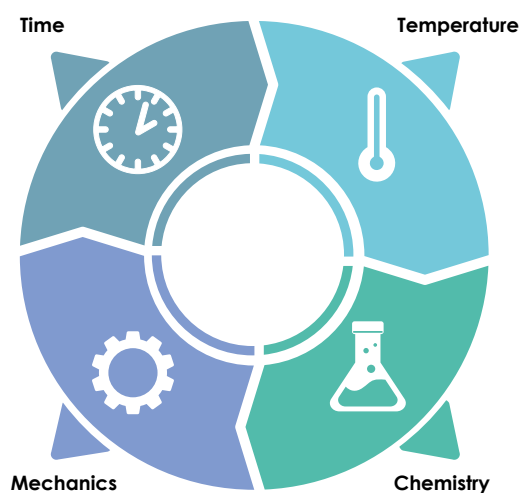




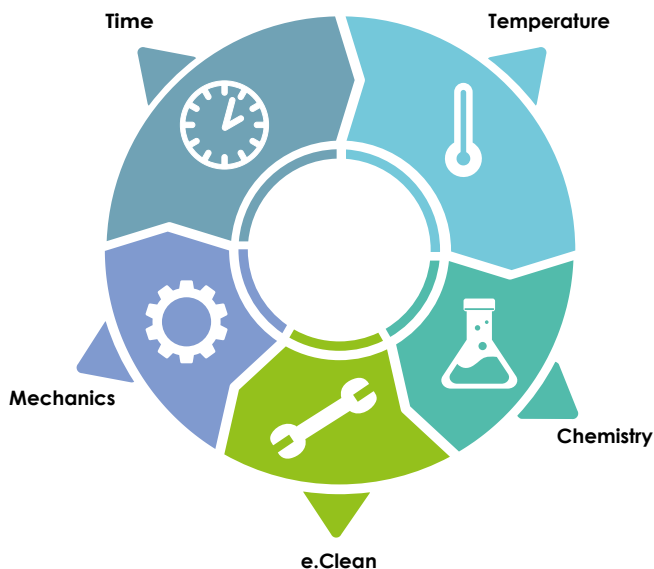
# e.Clean – a different kind of enzyme

Effective and resource-conserving cleaning in the cellar.

The e.Clean range of enzyme cleaners increases filter performance and effectively cleans equipment. Organic processing residues are generally roughly rinsed with potable water and then dissolved with chemicals. Pectin and starch, in particular, are capable of bonding with water and increasing the amount of water and mechanical cleaning required before chemical cleaning agents such as alkaline lye and acids can clean the equipment effectively.



Sinner's wash cycle theory (Sinner's Circle) shows that if time and temperature are reduced, other parameters such as concentration of chemicals and mechanical effort have to be significantly increased.



Time required, chemical aggressiveness and mechanical strain do not meet modern requirements for occupational safety and small numbers of staff during the harvest.

## e.Clean Tools

e.Clean tools can effectively remove pectin and cellulose from press cloths and winery equipment, whilst the surface dirt layer's ability to bind water is reduced. This shortens the subsequent washing stages and chemical cleaning and makes them more effective.

## Dosage

Spray a 2% solution onto the surface and leave to work for at least 20 minutes.

## e.Clean Membrane

As a result of saponification during alkaline cleaning, pectin, cellulose, beta-glucan and protein residues on membrane surfaces lead to stubborn contamination, which greatly inhibits filter performance. Often these can only be cleaned effectively again through the use of peroxide, which causes the membranes to age prematurely.

Occasional intensive enzymatic cleaning with e.Clean membrane gently regenerates crossflow filter membranes and filter cartridges. Stubborn blockages are removed and prevented from reforming.

## Dosage

0.5% at 40–55 °C: pH 5.0  
Duration depending on blockage



### UV protection

High UV levels reduce value and yields. Stress in the vineyard can lead to shrivel or suffer sunburn. The risk of off-notes such as UTA increases against UV radiation. Natural clay minerals are applied to the grapes to act as a sunscreen.



### Water

GrapeGuard® slows down transpiration and reduces water loss. The grapes are protected in hot, dry growing conditions.



### Vineyard

Even and high quality grape production is essential to ensure optimal yields.



### Development

Erbslöh specialises in the development of products that have been on the market for many years and partners in the development of new products for a variety of applications.



### Use

The product is applied to all the foliage when the grapes are in the flowering phase. The dosage of GrapeGuard® per hectare are primed overnight in five times the next day. A lower dosage and repeated applications help to protect the grapes. GrapeGuard® can be applied in conjunction with other products.



# The vineyard revolution

reduces grape quality. Berries  
 ase. GrapeGuard® reliably protects  
 foliage as a protective layer and

## GrapeGuard®

Clay mineral-based UV protection for vines - Erbslöh  
 introduces its first plant protection agent for the vineyard.

shades the leaf. This intentionally  
 ration, reducing water consumption.  
 clearly protected from stress during  
 g seasons.

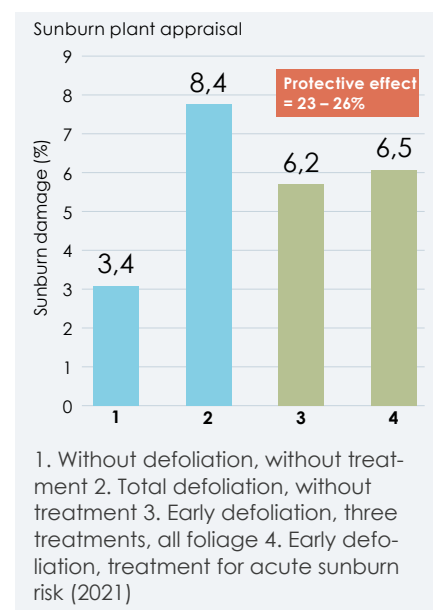
High radiation intensity, sunburn,  
 heat stress and their conse-  
 quences are increasing due to  
 climate change. The grapes'  
 growth and maturation are  
 shifting to earlier, warmer peri-  
 ods, the risk from droughts and  
 heatwaves in the precarious  
 maturation stage is increasing.

the whole plant and facilitates  
 leisurely, even, metabolic  
 exchange. Stress reactions in  
 the vine that are detrimental  
 to quantity and quality can be  
 avoided early on.

## Vineyard

Every year makes different demands  
 and GrapeGuard® fulfils them all. The  
 quantity, time and frequency of appli-  
 cation can all be individually adapted  
 every situation.

Immediate damage from more  
 than just sunburn is considerable.  
 Yield losses of 10-20% are com-  
 mon. This is where GrapeGuard®  
 provides natural protection.  
 Foliage transpiration is reduced  
 and the vine's water supplies are  
 conserved. Water is available for  
 longer and more sustainably. At  
 the same time harmful UV radi-  
 ation is deflected, so the grape  
 can deploy its own defences for  
 longer.



A reduction in grape quality,  
 which only becomes apparent  
 later, constitutes another risk.  
 The wine harvest is taking place  
 earlier and earlier. Potential  
 aromas and acidity are reduced.  
 Tannin contents and the risk of  
 UTA increase. Untypical ageing  
 occurs particularly frequently in  
 years with high solar radiation  
 and low precipitation. In Ger-  
 many, one in five wines fails the  
 quality wine test due to UTA.

Protection can be adjusted  
 to climatic conditions through  
 dosage and frequency of  
 application. All location factors  
 can be accounted for perfectly  
 by either a single, high-dose or  
 multiple low-dose applications.  
 GrapeGuard® can be applied  
 in conjunction with other plant  
 protection agents. Additional  
 treatment runs are not required.

es in argillaceous earth. This know-  
 combined with European institutes  
 order to develop practical protec-  
 of conditions.

These risks can be drastically  
 reduced. GrapeGuard® is based  
 on various clay minerals. It is  
 designed to be a plant protec-  
 tion agent, with the aim of coun-  
 teracting UV damage.

This reduces the amount of work  
 required, conserves the soil and  
 protects the environment.

pea sized. Five to twenty kilograms  
 es the amount of water and applied  
 p to build up several protective lay-  
 agents without any problem.

GrapeGuard® is applied to all  
 the foliage, not just the grape  
 zone. In this way it protects

# Stops unwanted activity!

## MaloStop F

### Fumaric acid to control MLF and save SO<sub>2</sub>

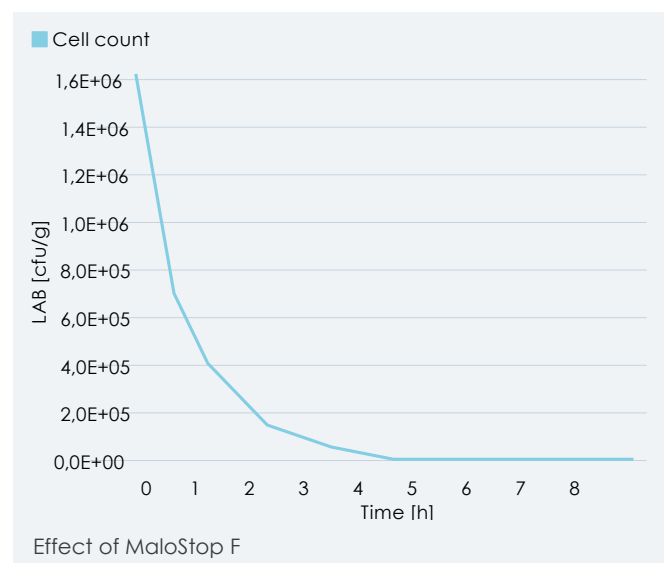
For a long time, reliable prevention of MLF activity has presented a major challenge – until now. Based on fumaric acid, MaloStop F offers effective protection against malolactic bacteria in wine and sparkling wine.

Proliferation of bacteria is prevented and existing MLF bacteria are deactivated. So in addition to preventing incipient malolactic fermentation, it is also possible to stop bacterial activity that is already in progress. It is possible to skip or reduce the use of sulphur.

An interesting side effect of MaloStop F is that it reduces the wine's pH value by up to 0.2. This also increases microbiological stability.

Often spontaneous malolactic fermentation develops in wines with high pH levels. Wines with already low acidity lose further acidity to MLF, which has negative consequences on sensory properties, stability and freshness.

MaloStop F should be used immediately after fermentation is complete. Active yeasts are capable of converting fumaric acid into malic acid. We therefore recommend using MaloStop F only after fermentation is complete, in order to protect the wine. If possible, addition shortly before bottling to protect against MLF activity in the bottle is ideal.



### At a glance

- MaloStop F prevents MLF
- MLF in progress can be stopped
- Can replace or supplement sulphurisation
- Protects wine and reduces the pH level



# One step to stability

## Trenolin® ProStab

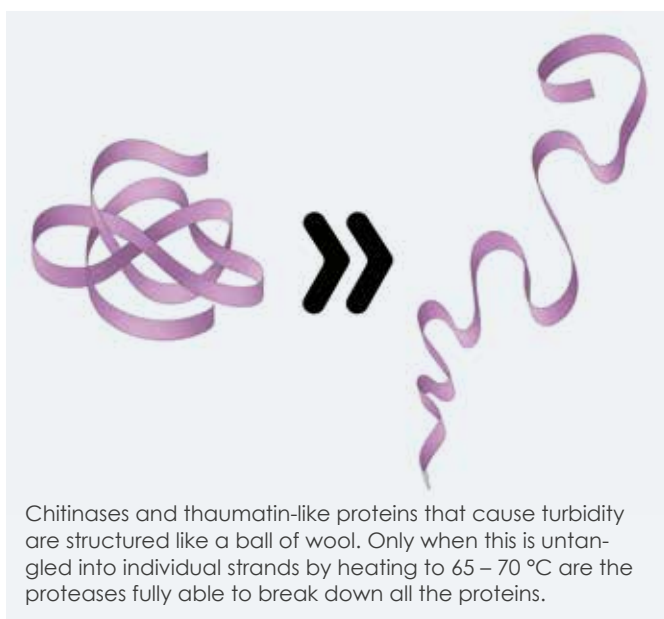
An enzyme to stabilise protein? It's possible with the new Trenolin® ProStab. This special protease can break down the proteins present in must.

Grapes on the vine form proteins as a defence against mould spores. The quantities formed vary depending on the grape variety and conditions during the year. If the grape proteins are not stabilised during vinification, it often causes turbidity in the bottle. Trenolin® ProStab can remove these proteins at the must stage. It can be used in white and rosé musts.

The structure of the turbidity-causing proteins resembles a ball of wool. Only when this ball has been untangled can the enzymes attack the proteins. This requires the must to be heat treated beforehand. Heating unpacks the complex protein structure, which can then be dissolved by Trenolin® ProStab.

Without heat treatment there is the possibility that the protease will not be sufficiently effective to completely remove thaumatin-like proteins that cause turbidity. The heat-sensitive proteins do not remain permanently untangled. The optimum effect is achieved only if the must is heated to 65–70 °C after the Trenolin® ProStab is added.

Numerous trials consistently proved that such heating does not in any way have a detrimental effect on the final wine's sensory characteristics.



Chitinases and thaumatin-like proteins that cause turbidity are structured like a ball of wool. Only when this is untangled into individual strands by heating to 65 – 70 °C are the proteases fully able to break down all the proteins.

### At a glance

- Early minimisation of the risk of protein turbidity in wine
- Reduction of time and process costs required
- No wine losses as a result of deposit formation

## NEW Discover other new products in Erbslöh's portfolio!

### Oenoferm® MProtect

- Metschnikowia pulcherrima yeast for bioprotection

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### Bentonite

- Sodium, calcium and blended products

➔ Page 40

### Activated carbon

- Gentle treatment of must and wine

➔ Page 44

### MaloStar®

- The new name for bacteria from ERBSLÖH

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### e.Bois® Macaron

- Our e.Bois® oak chips have been supplemented by a new toasting

➔ Page 48

### MixGum

- Liquid natural gum arabic

➔ Page 66

# Our products suitable for producing organic wine

There is a long tradition of organic products at Erbslöh. Oenoferm® Bio Selection Klingelberg was the first organically produced yeast on the market. Since July 2012, Regulation (EC) no. 203/2012 governs the processes and auxiliaries allowed when vinifying organic wine.

Erbslöh has consistently cultivated certified organic products since 2008. They meet the highest quality standards in terms of sustainability, quality, safety and purity. Visit [www.erbsloeh.com](http://www.erbsloeh.com) for further information and organic certification (DE-ÖKO-003).

Description	Bio-UE 203/2012	Organic certificate
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## Yeasts

Oenoferm® BeRed	Certified organic red wine yeast	•	•
Oenoferm® Bio	Certified organic dried cultured yeast	•	•
Oenoferm®-Hefen	Cultured yeasts	•	

## Nutrients

e.DAP	Diammonium phosphate	•	
OenoRed®	Pure yeast autolysate	•	
PuroCell®	Yeast cell wall preparation	•	
PuroCell® O	Certified organic yeast cell wall preparation	•	•
VitaDrive®	Yeast rehydration nutrient	•	
VitaDrive® ProArom	Organic nutrient	•	
VitaFerm® Base	Base nutrient with inactive yeast	•	
VitaFerm® Bio	Certified organic yeast nutrient	•	•
VitaFerm® Ultra	Multi-nutrient complex	•	
Vitamon® B, CE	Yeast nutrients	•	
Vitamon® Combi		•	
Vitamon® Liquid	Liquid yeast nutrient	•	

## Enzymes

Trenolin® 4000	Pectolytic enzyme preparation	•	
Trenolin® Color	Fine granulate	•	
Trenolin® FastFlow	Liquid special enzyme	•	
Trenolin® Flo <sup>PLUS</sup>	Liquid flotation enzyme	•	
Trenolin® Frio	Liquid, depectinase-free enzyme	•	
Trenolin® Opti	Pressing and fining enzyme		
Trenolin® Pexx	Liquid, pectolytic enzyme	•	
Trenolin® Rosé	Press enzyme for reduced colour extraction	•	
Trenolin® Rot	Liquid, pectolytic enzyme preparation	•	
Trenolin® Super <sup>PLUS</sup>	Highly active, liquid pectinase	•	
Trenolin® Xtract	Liquid red wine enzyme	•	

## Fining

CompactLees	Mineral-based treatment agent	•	
Degustin	Riddling aid	•	



	Description	Bio-UE 203/2012	Organic certificate
e.IsingClair	Organic edible gelatine	•	
ErbiGel® Bio	Combined treatment agent	•	•
Gerbinol® Super	Isinglass gel	•	
KalCasin	Casein fining agent	•	
KlarSol 30	Alkaline silica sol	•	
KlarSol Super	Acid silica sol	•	
LittoFresh® Impact	Vegan combined product	•	
LittoFresh® Liquid	Liquid plant protein	•	
LittoFresh® Origin	Pure phytoprotein	•	
LittoFresh® Sense	Plant-based organoleptic product	•	
VinPur® Special	Paracasein compound	•	

### Bentonite

Aktivit	High-quality calcium-sodium bentonite granulate	•	
BlancoBent UF	Sodium bentonite for ultrafiltration	•	
Ca Granulat	Granulated calcium bentonite	•	
FermoBent® PORE-TEC	Must bentonite	•	
GranuBent PORE-TEC	Sodium-bentonite with PORE-TEChnology	•	
NaCalif® PORE-TEC	Granulated sodium-calcium bentonite	•	
Seporit PORE-TEC	Granulated calcium bentonite	•	
SodiBent Supra	Sodium bentonite	•	
UltraBent PORE-TEC UF	High purity, granulated sodium-calcium bentonite	•	

### Oak alternatives

e.Bois®-Produkte	Oak chips	•	
e.Staves-Produkte	Oak staves	•	

### Tannins

Tannivin® EH	Oenological tannins	•	
Tannivin® Elevage		•	
Tannivin® Finesse		•	
Tannivin® Galléol		•	
Tannivin® Grape		•	
Tannivin® Multi		•	
Tannivin® Premium		•	
Tannivin® SR		•	
Tannivin® Superb		•	

### Activated carbon

Akticol FA	Powdered activated charcoal	•	
CarboTec GE	Powdered activated charcoal	•	
Ercarbon SH	Activated charcoal pellets	•	
Granucol®	Special adsorption granulate	•	

Description	Bio-UE 203/2012	Organic certificate
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### MLF

<b>MaloStar® Fresh SK55™</b>	Lactic acid bacteria	•	
<b>MaloStar® Fruit</b>		•	
<b>MaloStar® Terra</b>		•	
<b>MaloStar® Vitale SK11™</b>		•	

### Stabilisation

<b>HydroGum Bio</b>	Organic quality liquid gum arabic	•	•
<b>MannoComplexe</b>	Pure mannoprotein	•	
<b>MannoFine</b>	Liquid mannoprotein	•	
<b>MannoPure®</b>	Liquid mannoprotein	•	
<b>Metavin® 40</b>	Gentle esterified metatartaric acid	•	
<b>Metavin® Opti</b>	Optimum esterified metatartaric acid	•	
<b>KaliContact</b>	Specially prepared tartar crystal nuclei	•	
<b>Kupzit®</b>	Copper citrate preparation	•	

### Sulphur products

<b>Kadifit</b>	Pure potassium disulphite	•	
<b>Oenodose 5</b>	Effervescent sulphur tablets	•	
<b>Solution sulfureuse P15</b>	Potassium bisulphite solution	•	
<b>VinProtect</b>	Special product composed of potassium disulphite, vitamin C and tannin	•	

### Acidity Management

<b>Boerovin</b>	Liquid lactic acid	•	
<b>e.Ascorbic</b>	Vitamin C	•	
<b>Erbslöh Kalk</b>	Calcium carbonate	•	
<b>e.Tartaric</b>	Natural tartaric acid	•	
<b>Kalinat</b>	Potassium bicarbonate	•	
<b>Neoantacid</b>	Special calcium carbonate	•	

### Filtration

<b>CelluFluxx® products</b>	Pure cellulose-based filtration aid	•	
<b>Dicalite Perlite</b>	Filtration aid	•	
<b>Dicalite Kieselgur</b>	Filtration aid	•	
<b>TrubEx</b>	Special cellulose	•	
<b>VarioFluxx® P/F</b>	Filtration aid - mixed product	•	

# Protects before it's too late!

*Metschnikowia pulcherrima* is an innovative organic protector against undesirable microorganisms. Early use of Oenoferm® MProtect effectively suppresses proliferation of native yeasts, moulds and bacteria. Its use during the wine harvest also makes it possible to replace sulphurisation, consequently reducing the total volume of SO<sub>2</sub> used in the wine production process. Possible subsequent wine faults due to *Brettanomyces*, high production of volatile acids or ethyl acetate are therefore avoided at the harvest stage.

- Perfect for cold maceration of grapes or must at 5–15 °C
- Most effective when used early, ideally in the transport container at the harvest.
- Supports a great variety of aroma profiles.
- For use with grapes and machinery of all kinds.



Oenoferm® MProtect has been significantly improved again as a result of our continuous development. This permits less to be used for successful bioprotection. Just 2–7 g/hL of this improved yeast strain are sufficient to protect the harvest effectively against microorganisms during transport and standing times. Even faster colonisation with *Metschnikowia pulcherrima* is possible as a result of a particularly high reproduction rate. Harmful organisms don't stand a chance!



## Bioprotection

### Oenoferm® MProtect

*Metschnikowia pulcherrima* yeast for bioprotection

#### Product and effect

- Bioprotection for grapes and must.
- Effectively suppresses propagation of wild yeasts and mould.
- Saves SO<sub>2</sub>.
- Prevents off notes in finished wine even during the harvest.

Recommended fermentation temperature:

5–15 °C

Alcohol tolerance:

6% ABV

#### Dosage

2–7 g/100 kg

 0,5 kg



# Cultured yeast

## Oenoferm® Bio

Certified organic production of wine and sparkling wine

### Product and effect

- First certified organic dry cultured yeast.
- Retains the grape variety's typical aromas and promotes the terroir's characteristics.
- Suitable for producing white, rosé and red wines.
- Excellent alcohol tolerance.

Recommended fermentation temperature: 16–22 °C (white and rosé wine)

22–28 °C (red wine)

14–20 °C (sparkling wine)

Alcohol tolerance:

16% ABV

### Dosage

20–40 g/100 L

 0,5 kg



DE-ÖKO-003

## Oenoferm® Bouquet

White wine yeast for rich, fruity aromas

### Product and effect

- Uniform, aroma-preserving fermentation.
- Reinforces the aromas of exotic fruits, blackcurrants and produces floral notes.
- Produces full-bodied, dense wines.

Recommended fermentation temperature: 16–20 °C

Alcohol tolerance:

15% ABV

### Dosage

20–40 g/100 L

 0,5 kg | 10 kg



## NEW Oenoferm® C2

Fermentation of distilling mash, must and cider

### Product and effect

- Rapid onset of fermentation.
- Low formation of fermentation aromas.
- Moderate nutrient requirement.

Recommended fermentation temperature: 14–38 °C

Alcohol tolerance:

16% ABV

### Dosage

20–40 g/100 L

 0,5 | 10 kg



## Oenoferm® Champ

0,5 kg | 10 kg



Secondary fermentation and difficult fermentation conditions

### Product and effect

- Selected in the province of Champagne.
- Delicate, fruity components, with subtle notes of yeast and a nutty aroma.
- Short lag phase, rapid onset of first phase of fermentation.
- Rapid, uniform fermentation speed.
- Very low formation of secondary fermentation products.
- Glycerol formation: 5–7 g/L

Recommended fermentation temperature: 14–26 °C

Alcohol tolerance: 16% ABV

### Dosage

20–40 g/100 L

## Oenoferm® Color

0,5 kg | 10 kg



Full-bodied red wine with notes of cherry

### Product and effect

- Production of deep red wines with good ageing potential.
- Creation of a perfect balance between fruit and tannin.
- For maturation in oak barrels.
- Reinforces dark fruit aromas.

Recommended fermentation temperature: 18–28 °C

Alcohol tolerance: 15% ABV

### Dosage

20–40 g/100 L



## NEW Oenoferm® Finesse

0,5 kg



Luscious white and rosé wines with elegant fruit

### Product and effect

- Selected strain of *Saccharomyces cerevisiae* for producing white and rosé wines with a refined, elegant profile.
- Greater volume and length on the palate.
- Emphatic fermentation esters and varietal aromas (thiols and terpenes).
- Produces very little SO<sub>2</sub> and volatile acids.
- Straight-line fermentation speed and good alcohol tolerance.

Recommended fermentation temperature: 10–20 °C

Alcohol tolerance: 16% ABV

### Dosage

20–40 g/100 L



## Oenoferm® Freddo

0,1 kg | 0,5 kg | 10 kg



Particularly fresh and fruity wines as a result of cold fermentation

### Product and effect

- Isolated as a pure culture in cold fermentation media.
- Emphasises citrus and grapefruit notes, plus apple and peach aromas.
- Perfect for low fermentation temperatures.
- Inhibits malolactic fermentation (MLF).

Recommended fermentation temperature:

13–17 °C (possible from 10 °C)

Alcohol tolerance:

15% ABV

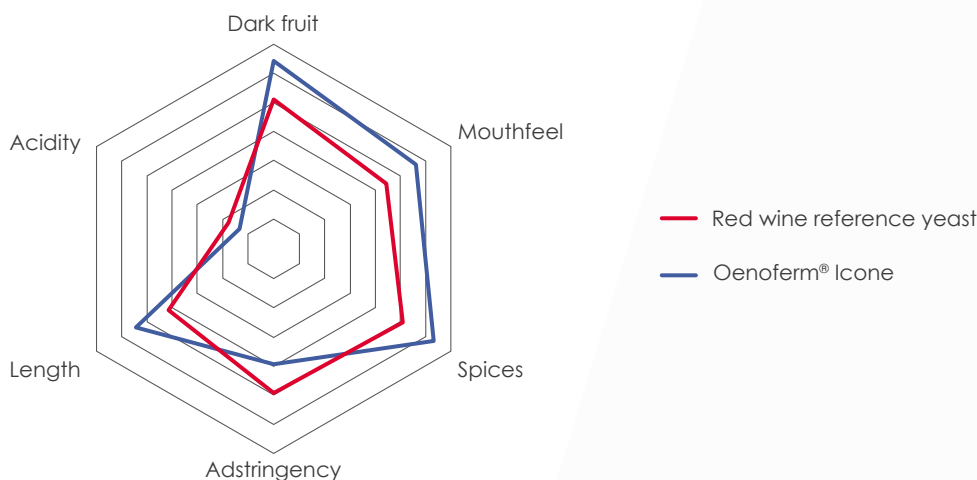
### Dosage

20–40 g/100 L

# Less is more!

Oenoferm® Icone is characterised by guaranteed fermentation, even under difficult conditions. Low SO<sub>2</sub> production and increased release of polysaccharides are characteristic of this yeast.

Oenoferm® Icone produces well-structured, rounded wines with very pure flavours.



## Oenoferm® Icone

0,5 kg



Low SO<sub>2</sub> formation, for premium red wines suitable for ageing

### Product and effect

- For producing premium red wines.
- Ideal for barrel maturation as a result of low SO<sub>2</sub> production during fermentation.
- Emphasises the aromatic profile.
- Improves tannin integration.

Recommended fermentation temperature:

18–33 °C

Alcohol tolerance:

16,5% ABV

### Dosage

20–40 g/100 L



## Oenoferm® Klosterneuburg

Full-bodied wines with a spicy, peppery aroma

### Product and effect

- Selected at Klosterneuburg Technical College, Austria.
- Emphasises spicy and peppery aromas.
- Additional positive effect during sur-lies maturation.
- Pleasant creaminess on the palate as a result of release of mannoproteins.
- Also perfect for sweet wines.

Recommended fermentation temperature: 17–22 °C

Alcohol tolerance: 14% ABV

### Dosage

20–40 g/100 L

 0,5 kg | 1 kg



## Oenoferm® Pink

Modern, dry rosé wines with pronounced fruit

### Product and effect

- Trendy, pinkish-red colour with violet highlights.
- Subtle notes of raspberry and red fruits.
- Floral aroma and subtle spice.

Recommended fermentation temperature: 13–20 °C

Alcohol tolerance: 15% ABV

### Dosage

20–30 g/100 L

 0,5 kg



## Oenoferm® PinoType

Elegant, fruity wines from the Burgundy family

### Product and effect

- For fermentation of all Burgundy grape varieties.
- Increase in the fruit ester and glycerine content.
- Very well suited to sur-lies maturation.
- Good prerequisite for successful malolactic fermentation.

Recommended fermentation temperature: 18–22 °C (white wine)

20–28 °C (red wine)

Alcohol tolerance: 15% ABV

### Dosage

20–40 g/100 L

 0,5 kg



## Oenoferm® Riesling

For fruity Riesling wines typical of the variety

### Product and effect

- Selected in the Rheingau.
- Guaranteed complete fermentation.
- Harmonious, balanced Riesling wines.

Recommended fermentation temperature: 17–22 °C  
 Alcohol tolerance: 13,5% ABV

### Dosage

20–40 g/100 L

 0,5 kg



## Oenoferm® Rouge

Red wine with an aroma of red berries and cherries

### Product and effect

- Fruit-driven red wines.
- Reduced  $\beta$ -glucosidase activity for deeper colour.
- Very well suited to MLF.

Recommended fermentation temperature: 18–28 °C  
 Alcohol tolerance: 14,5% ABV

### Dosage

20–40 g/100 L

 0,5 | 10 kg



## Oenoferm® Structure

For powerful, deep-coloured red wines

### Product and effect

- Particularly suited to production of luscious red wines.
- Positive influence on the tannin structure of red wines.
- Emphasises the typical grape and toasted aromas.
- Good conditions for MLF.

Recommended fermentation temperature: 18–28 °C  
 Alcohol tolerance: 15% ABV

### Dosage

20–40 g/100 L

 0,5 | 10 kg



## Oenoferm® Terra

Pronounced terroir character in white and red wines

### Product and effect

- Emphasises the distinct character.
- For red wine and white wine.
- Fully develops the harmonious aroma components.
- Faster fermentation onset and guaranteed fermentation characteristics.

Recommended fermentation temperature: 17–28 °C  
 Alcohol tolerance: 15% ABV

### Dosage

20–40 g/100 L

 0,5 kg



## Oenoferm® Tipico

White wine yeast for promoting the varietal aroma profile

### Product and effect

- Suitable for elegant, highly nuanced wines.
- Supports ripe aromas of exotic fruits and apricot.
- Production of full-bodied wines with a creamy mouthfeel.

Recommended fermentation temperature: 18–22 °C

Alcohol tolerance: 14% ABV

### Dosage

20–40 g/100 L

 0,5 kg



## Oenoferm® Veltliner

For typical, peppery, spicy Grüner Veltliner

### Product and effect

- Alcohol-tolerant yeast strain.
- Very strongly fermenting.
- Complete fermentation even at low temperatures.

Recommended fermentation temperature: 14–17 °C

Alcohol tolerance: 15% ABV

### Dosage

20–40 g/100 L

 0,5 kg



## Oenoferm® X-thiol

Alcohol-tolerant hybrid yeast for exotic aromas

### Product and effect

- High fermentation speed and alcohol tolerance.
- Formation of complex fermentation aromas (pink grapefruit and blackcurrant).
- Increased production of tropical fruit aromas (passionfruit).

Recommended fermentation temperature: 15–22 °C

Alcohol tolerance: 16% ABV

### Dosage

20–40 g/100 L

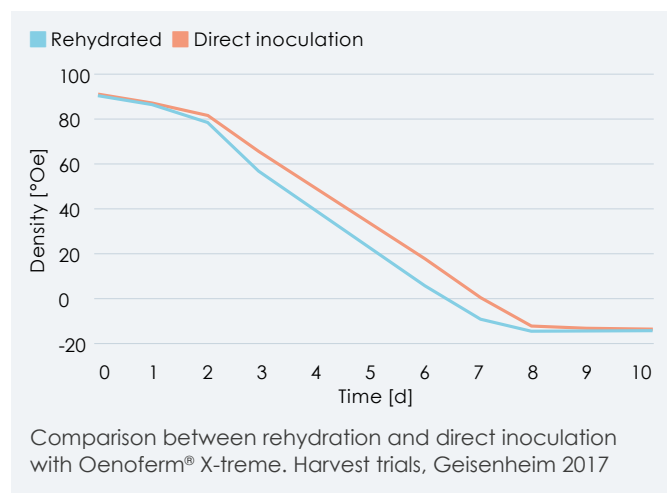
 0,5 | 10 kg



# Direct inoculation



New research results and practical trials show that specific yeast strains also exhibit excellent fermentation behaviour even without rehydration. Look out for our new DI-Ready stickers for this!



## Conditions for use

- Only use recommended yeast strains with a slightly higher dosage
- Good nutrient supply
- Even distribution
- Monitor temperature

## Nutritional advice

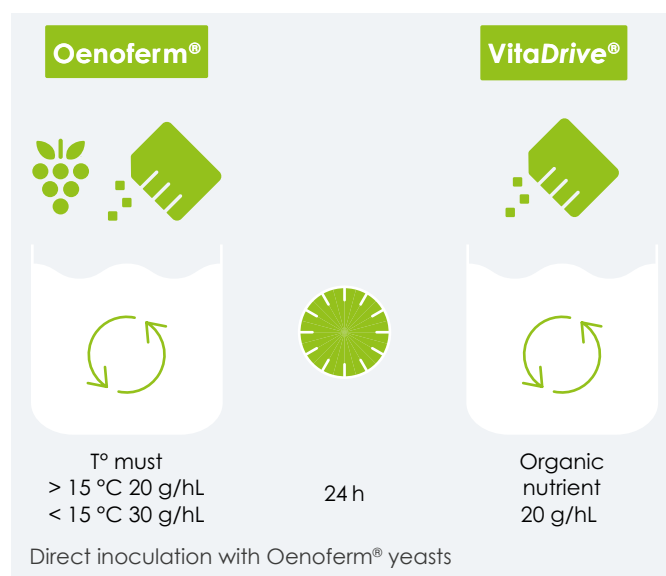
For optimal yeast nutrition, VitaDrive® should also be added as usual during direct inoculation. The use of VitaDrive® ProArom can effectively protect aromas, especially in stressed musts.

During the harvest the time-consuming work of yeast rehydration is a daily task that requires a great deal of care and attention. Correct rehydration of dried yeast is regarded as key to avoiding fermentation problems. Upon closer inspection, it can be established that there are many influencing parameters. Direct inoculation is possible in some cases.

But direct inoculation technique has its limitations. Only yeasts that are expressly recommended for this task should be used. These are usually strongly fermenting Bayanus strains, with low nutrient requirement and low inclination to form reductive off aromas.

## Oenoferm® X-treme

- Extraordinarily strong fermentation of a cold-tolerant Bayanus strain.
- Supports an individual, minerally aroma style, with well integrated fruity and spicy components.



## Oenoferm® X-treme

0,5 | 10 kg

Fast-fermenting hybrid yeast for spicy, fruity aromas

### Product and effect

- Perfect for Pinots, Chardonnay, Riesling and Sauvignon blanc.
- Extremely fast fermentation ability of a Bayanus strain at low temperatures.
- Combination of an aroma profile with mineral notes and flowery components.
- Ideal restart yeast.
- Can be used direct without rehydration.

Recommended fermentation temperature: 10–17 °C

Alcohol tolerance: 17% ABV

### Dosage

20–40 g/100 L



## Oenoferm® Zweigelt

0,5 kg

Yeast to promote the Zweigelt character

### Product and effect

- Promotes the aromas of fruity and substantial wines
- Variable vinification style, wines drinkable young or possibly suitable for maturation.
- Good conditions for MLF.

Recommended fermentation temperature: 25–32 °C

Alcohol tolerance: 15% ABV

### Dosage

20–40 g/100 L



# Non-saccharomyces

## Oenoferm® wild & pure

0,5 kg

“Wild” aroma profile with a guaranteed fermentation result

### Product and effect

- Positively changes the wine's style.
- Creamy texture and improved mouthfeel.
- Creation of a unique wine style.
- Low SO<sub>2</sub> formation.
- Suitable for red and white wines, also perfect as a cuvée partner.

Recommended fermentation temperature: 16–20 °C (white wine)

25–33 °C (red wine)


Alcohol tolerance: 14% ABV

### Dosage

20–40 g/100 L



# Our yeasts for white and rosé wines

	Direct inoculation	Alcohol tolerance [% ABV]	Nitrogen requirement	Temperature range [°C]	Fermentation progress	Killer factor	Influence on MLF	Sensory factors
White and rosé wines								
Oenoferm® Bio		16.5	Moderate	16–22	Moderate	•	Neutral	Ester, terpene
Oenoferm® Bouquet		15	High	16–20	Moderate	•	Neutral	Ester, terpene
Oenoferm® Champ		16	Moderate	14–26	Moderate	•	Inhibiting	Ester, terpene, mouthfeel
Oenoferm® Finesse		16	Moderate	10–20	Rapid	•	Promoting	Ester, thiols, mouthfeel
Oenoferm® Freddo		15	Low	13–17	Rapid	•	Inhibiting	Ester, terpene
Oenoferm® Klosterneuburg		14	High	17–22	Moderate	•	Promoting	Ester, terpene, mouthfeel
Oenoferm® MProtect		6	Moderate	5–15	Moderate		Neutral	Aroma protection
Oenoferm® Pink		15	Low	13–20	Rapid	•	Inhibiting	Ester, mouthfeel
Oenoferm® PinoType		15	High	18–22	Slow	•	Promoting	Ester, terpene, mouthfeel
Oenoferm® Riesling		13.5	Moderate	17–22	Moderate	•	Neutral	Ester, terpene
Oenoferm® Terra		14	High	17–22	Moderate	•	Neutral	Ester, terpene
Oenoferm® Tipico		14	Moderate	18–22	Moderate		Neutral	Ester, terpene
Oenoferm® Veltliner		15	Moderate	14–17	Rapid	•	Inhibiting	Ester, terpene
Oenoferm® wild & pure		14	Low	16–20	Moderate		Promoting	Ester, terpene, mouthfeel
Oenoferm® X-thiol		16	Moderate	15–22	Moderate	•	Neutral	Thiols, terpenes
Oenoferm® X-treme		17	Low	10–17	Rapid	•	Inhibiting	Ester, terpene



# Our yeasts for red wines

	Direct inoculation	Alcohol tolerance [% ABV]	Nitrogen requirement	Temperature range [°C]	Fermentation progress	Killer factor	Influence on MLF	Sensory factors
Red wines								
Oenoferm® BeRed		15,5	Moderate	22–32	Moderate	●	Promoting	Colour, neutral
Oenoferm® Bio		16,5	Moderate	22–28	Moderate	●	Neutral	Structure, typicality
Oenoferm® Color		16	Moderate	18–28	Moderate	●	Neutral	Colour, neutral
Oenoferm® Icone		16,5	Moderate	18–33	Moderate	●	Promoting	Ester, structure, mouthfeel
Oenoferm® MProtect		6	Moderate	5–15	Moderate		Neutral	Aroma protection
Oenoferm® PinoType		16	High	18–28	Slow	●	Promoting	Ester, mouthfeel
Oenoferm® Rouge		14,5	Moderate	18–28	Moderate	●	Promoting	Ester, mouthfeel
Oenoferm® Structure		15	Moderate	18–28	Moderate	●	Promoting	Structure, mouthfeel
Oenoferm® Terra		14	High	22–28	Rapid	●	Inhibiting	Neutral
Oenoferm® wild & pure		14	Moderate	25–33	Moderate		Promoting	Ester, terpene, mouthfeel
Oenoferm® X-treme		17	Low	10–17	Rapid	●	Neutral	Fruity, universal
Oenoferm® Zweigelt		15	Moderate	25–32	Moderate		Promoting	Ester, structure

# Rehydration

## VitaDrive®

Yeast activator for optimised rehydration

1 kg | 10 kg



### Product and effect

- Mobilises yeast when added during rehydration.
- Resistance to stress factors, such as a continuous increase in alcohol, low temperatures, yeast toxins and vineyard residues.
- Guaranteed final fermentation.

### Dosage

Add 1 kg VitaDrive® in the rehydration batch per 1 kg yeast

## The winning couple for thiol profiles

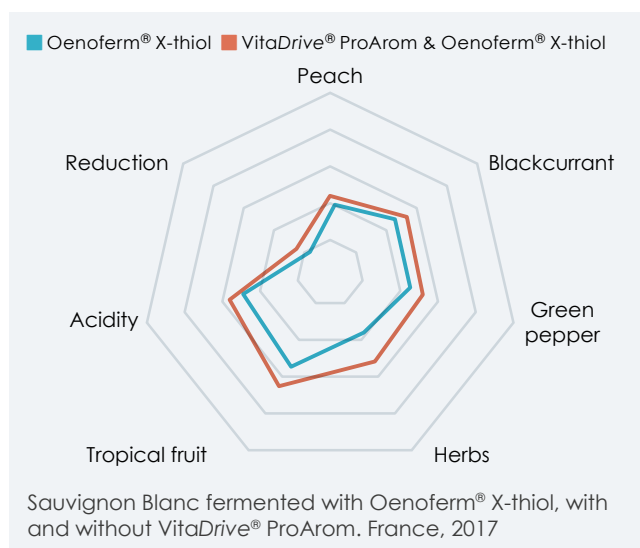
### Oenoferm® X-thiol & VitaDrive® ProArom

Oenoferm® X-thiol is a GMO-free hybrid yeast which combines the favourable properties of two *Saccharomyces cerevisiae* strains. This strongly fermenting yeast with high alcohol tolerance emphasises fruity thiols and exotic aromas. It needs little nitrogen, forms low quantities of SO<sub>2</sub> and is not inclined to form hydrogen sulphide. Oenoferm®

X-thiol has proved to be particularly suitable for further development of fruity thiol aromas at temperatures of 18-22 °C.



VitaDrive® ProArom's innovative formulation from glutathion-rich yeast has been selected due to its high natural concentration of peptides and mannoproteins, essential nutrients, minerals, vitamins and



amino acids. It has a high glutathion content in its active reduced form, GSH, and is responsible for protecting the yeast from stress and preventing premature oxidation of the varietal aromas during winemaking.

## VitaDrive® ProArom

Biological nutrient for vitality and stable aromas

1 kg



### Product and effect

- Preparation from inactive yeast and yeast cell walls with a natural peptide and glutathion content.
- Source of essential nutrients such as minerals and amino acids.
- Redox buffer in the event of oxidative stress.
- Maintains and stabilises cell structure (in the event of stress caused by temperature and ethanol).
- Promotes typical varietal aromas and stability for storage.
- Prevents premature sensorial aging.

### Dosage

20-30 g/100 L (addition during rehydration)

# Fermentation

## NEU e.DAP

Organically available nutrient supply for fermentation yeasts

### Product and effect

- Pure diammonium phosphate.
- Increases the ammonium and phosphate content in must.
- For improved yeast nutrition and propagation.

### Dosage

3 x 30 g/100L

 25 kg



## OenoRed®

Nutrient from yeast autolysate nutrient for premium red wines

### Product and effect

- High proportion of complex cell wall polysaccharides, predominantly consisting of mannose and glucose.
- Stabilisation of anthocyanins and tannins.
- Bonding of astringent tannins by polyphenol-reactive mannoprotein.

### Dosage

30–40 g /100 L or kg

 1 kg



## NEU PuroCell® / PuroCell® O

Yeast cell wall preparation for adsorption of fermentation-inhibiting substances

### Product and effect

- Adsorption of fermentation-inhibiting substances, in particular medium-chain fatty acids.
- Adsorption of pesticide residues.
- Reduction of phenolic compounds.
- Reactivation of stuck fermentation.
- Produced by a natural, innovative process.

PuroCell® O is certified organic according to EU ECO Regulation 834/2007 and EU Regulation 203/2012 for organic wine.

### Dosage

20–40 g/100 L

 0,5 | 5 kg



DE-ÖKO-003

## VitaFerm® Base

Yeast nutrient for enhanced yeast supply

### Product and effect

- Compensates for defects in must and ensures complete fermentation.
- Increases nitrogen content.
- Adsorbs fermentation-inhibiting substances.
- Reduces SO<sub>2</sub> bonding partners (SO<sub>2</sub> reduction).
- In addition to diammonium hydrogen phosphate and thiamine hydrochloride (vitamin B1), it also supplies other valuable ingredients from the inactive yeast.

### Dosage

3 x 30 g/100 L

 5 kg | 10 kg



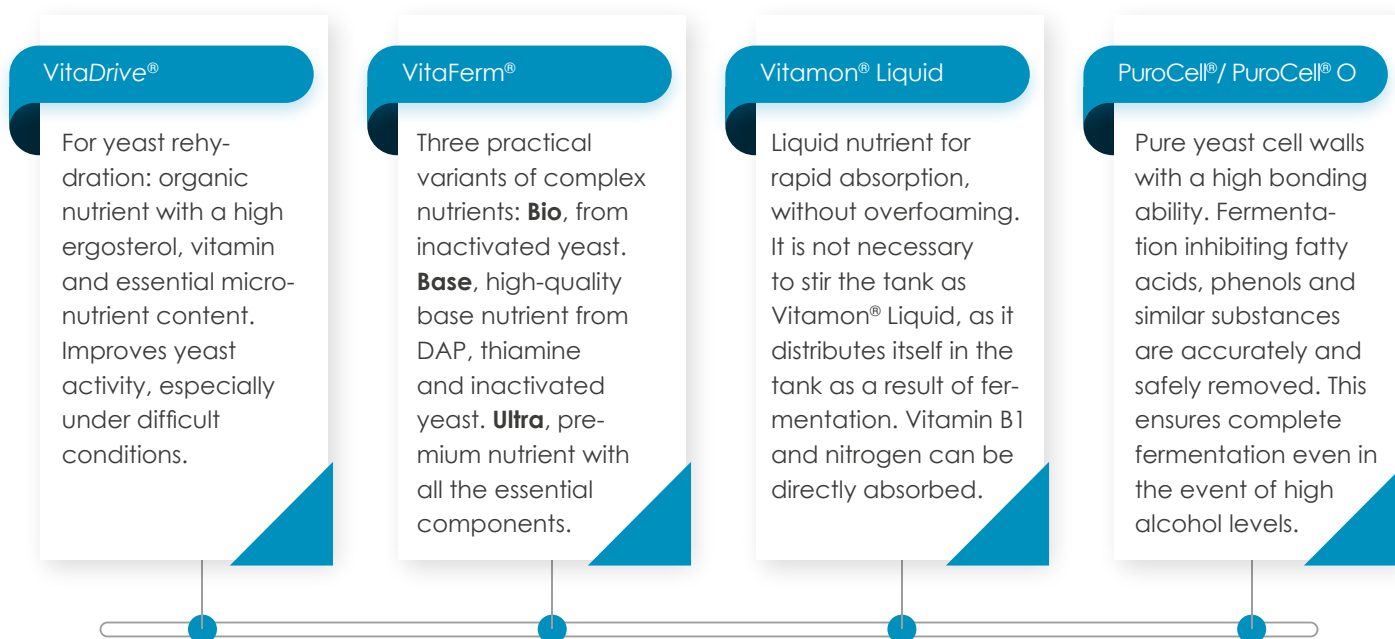
# New nutrient management

Nutrients are key to complete fermentation and development of the full aromatic potential. The point at which the nutrient is added, and the type, are decisive.

During rehydration an activator supplies the yeast with organic amino nitrogen. At the onset of fermentation a balanced, comprehensive supply is ensured by a complex nutrient from the Vitaferm® range. During alcoholic fermentation the absorption of amino acids is inhibited by the rising alcohol content, which is why inorganic ammonium plays a decisive role. Additional nutrients should not be introduced during the final third of fermentation.

In the event of stuck fermentation, the use of yeast cell wall preparations can help to reactivate fermentation.

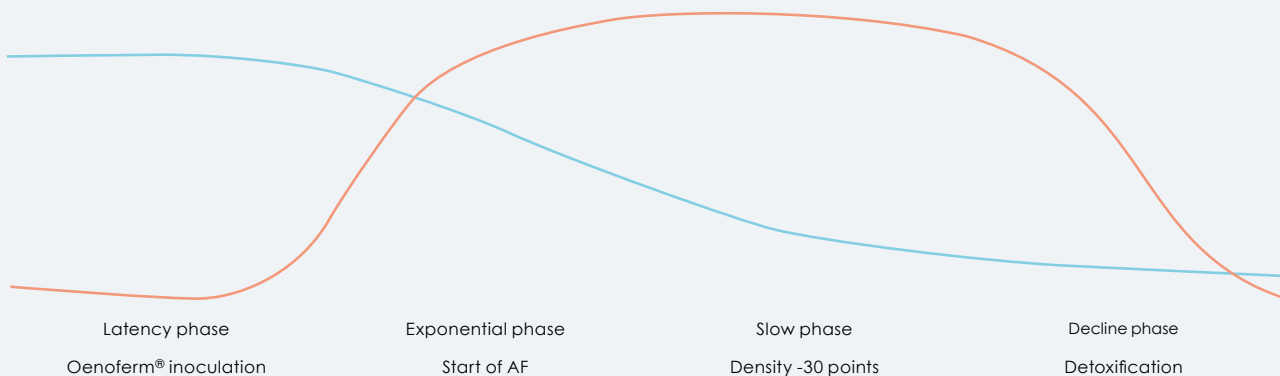
The new concept offers a way to supply the yeast with the ideal nutrient at every stage of alcoholic fermentation. It can be intentionally customised at any time.



## Yeast nutrition during alcoholic fermentation

Nutrient addition to the must will depend on initial YAN, amount of sugar, initial clarification and fungal contamination (*Botrytis*)

■ Density during AF ■ Yeast population



VitaDrive® or VitaDrive® ProArom in the same quantity as yeast dosage (20–40 g/hL)	VitaFerm® Bio 30–40 g/hL	Vitamon® Liquid 200 mL/hL Continuous dosage recommended	PuroCell® / PuroCell® O 10–20 g/hL
	VitaFerm® Base 30 g/hL		
	VitaFerm® Ultra 30 g/hL		

## VitaFerm® Bio

Certified organic yeast nutrients

### Product and effect

- Balanced nutrient supply to the end of fermentation.
- Rapid onset of fermentation and lengthy support for fermentation.
- Avoids temperature spikes after nutrient addition.
- Increased resistance to stress factors.
- Free from ammonium salts and certified by Lacon GmbH (DE-ÖKO-003).

### Dosage

30–40 g/100 L

 1 kg | 10 kg



DE-ÖKO-003

## VitaFerm® Ultra

Complex nutrient for premium wines

### Product and effect

- Efficient yeast propagation and improved metabolic activity.
- Faster fermentation onset and guaranteed complete fermentation.
- Attractive aroma profile with low SO<sub>2</sub> requirement.

### Dosage

3 x 30 g/100 L

 1 kg | 10 kg



## Vitamon® Combi

Nutrient combination for guaranteed fermentation

### Product and effect

- Yeast propagation stimulation through fast fermentation onset.
- Constant and complete fermentation.
- Production of fermentation aromas.
- Prevents emergence of reductive aromas.

### Dosage

30–50 g/100 L

 1 kg | 5 kg



## Vitamon® Liquid

Liquid nutrient combination for guaranteed fermentation

### Product and effect

- Liquid nutrient based on diammonium phosphate and thiamine (vitamin B1).
- No CO<sub>2</sub> release as a result of liquid formula and consequently no tank overfoaming.
- Ease of use and continuous addition during fermentation.
- Even distribution through natural must movement.
- Rapid absorption of Vitamin B1 and nitrogen.

### Dosage

200 mL/100 L

 10 kg | 600 kg | 1.000 kg



# Overview of our nutrients

	Deactivated yeast	Yeast cell walls	Yeast autolysate	Cellulose	DAP	Thiamin	Application
<b>VitaDrive®</b>	•	•					Yeast rehydration
<b>VitaDrive® ProArom</b>	•	•					Yeast rehydration, aroma protection through increased GSH content
<b>e.DAP</b>					•		Basic nitrogen supply
<b>Vitamon® B-Sticks</b>						•	Targeted thiamin dosage in case of botrytis
<b>Vitamon® Combi</b>					•	•	Enhanced basic supply (especially in case of botrytis)
<b>Vitamon® CE</b>	•			•	•	•	Significantly preclarified musts
<b>VitaFerm® Base</b>	•				•	•	Basic yeast supply
<b>VitaFerm® Ultra</b>	•	•			•	•	Complex nutrient for optimum fermentation
<b>VitaFerm® Bio</b>	•	•					Pure organic nutrient for optimum fermentation
<b>PuroCell®</b>		•					Pure yeast cell walls for adsorption of fermentation-inhibiting substances
<b>PuroCell® O</b>		•					General promotion of fermentation, reactivation of stuck fermentation Certified organic
<b>OenoRed®</b>			•				Pure yeast autolysate to support fermentation, balancing and colour stabilisation of red wines
<b>Vitamon® Liquid</b>					•	•	Continuous dosage during fermentation, without release of CO <sub>2</sub>
<b>MaloStar® Nutri</b>	•	•					Promotes MLF



# PIWIs in Germany – a practical report

Hybrid varieties, known as PIWIs in Germany, offer numerous advantages, but are also still viewed cautiously by many businesses. Erbslöh has been keeping an eye on the topic for years, with research projects and cooperation agreements. Here, we give you a brief overview of some of what we have learnt.



Cultivating the new varieties oneself is increasingly important for winegrowers in Germany.

The grape's ability to resist drought, heat, frost and diseases is extremely high. The labour required for management is reduced. Yields stabilise, often at a comparatively higher level. New names and varieties enhance the product offering and arouse customers' curiosity.

But there are major differences between PIWIs and traditional varieties. PIWIs are hybrid grapes, a combination of the established *vitis vinifera* vine and a "wild" species of *vitis*. As a result they differ fundamentally from traditional grape varieties. This fact alone is an indication that it is not enough to force the new varieties through the same production process as before. The basic conditions are, quite simply, different. PIWIs have a completely different pectin and phenol structure, often have a different aroma spectrum and therefore need winemaking procedures specific to them. With the right know-how the new varieties have outstanding potential to win customers' hearts.

One of the biggest differences is the tannin structure and, as a result, the phenolic potential, which affect colour and colour stability. White

wines can be quite highly coloured (deep yellow to gold-coloured, or even brownish), red PIWIs provide satisfactory dark red wines almost consistently, which quickly leads to problems during rosé production.

Light, appealing rosé wines are in great demand right now. In our trials we were able to show that our Trenolin® Rosé special enzyme is particularly suited for preparing appealing rosés from PIWI varieties. Classic pressing enzymes remove large quantities of colour and tannins from the thick-skinned grapes, resulting in dark, colour-stable wines. Trenolin® Rosé, on the other hand, clearly reduces the transfer of tannins from grapes into the must. The quantity of free-run, pale must is increased. Yield and pressability are improved. The later wine's colour is much paler and fresher.

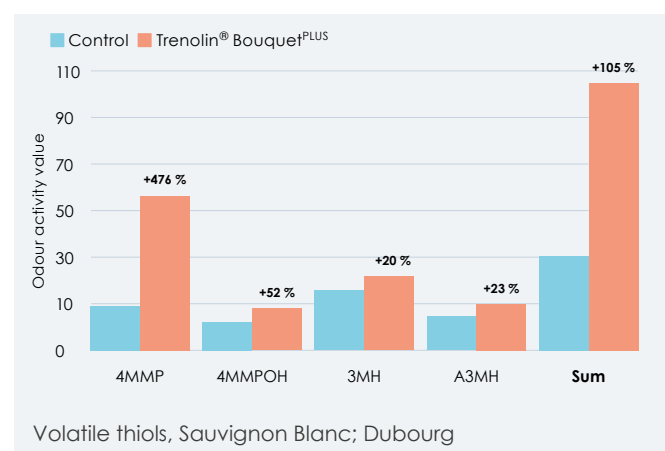
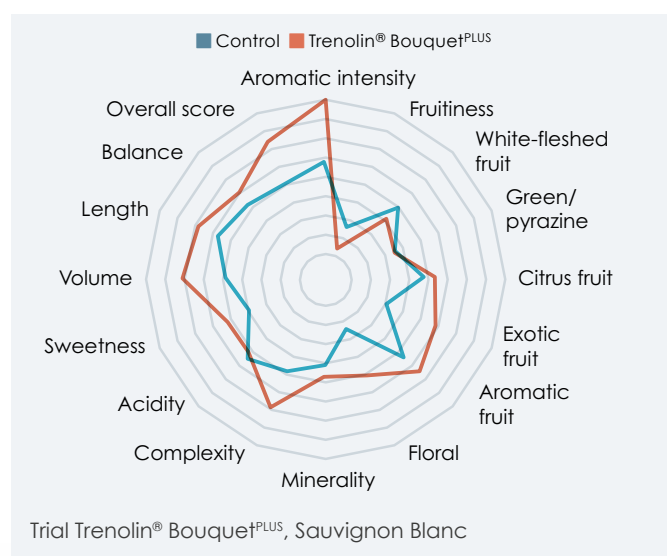


# Aromatic intensity and complexity

Enzymes have become indispensable modern oenological tools for production of wines with ever more intensive and complex aromas. As a result of the diversity and specificity of the various formulations, the Trenolin® range offers a variety of approaches to optimising the aroma profiles, from grape to finished wine.

Trenolin® Bouquet<sup>PLUS</sup> is an enzyme complex which combines activities with high maceration ability and a unique  $\beta$ -diglucosidase, that gives it remarkable potential for the aromatic expression of white, rosé and red wines.

release aroma precursors (terpenes, C13-norisoprenoid) bonded to sugars in a single step. They are not inhibited by the glucose present in the must. Trenolin® Bouquet<sup>PLUS</sup> can therefore be used early in mash, must and at the start of fermentation.



Unlike standard  $\beta$ -glucosidases, the  $\beta$ -diglucosidase activity makes it possible to cleave and

Although Trenolin® Bouquet<sup>PLUS</sup> does not possess any  $\beta$ -lyase activity, the high maceration effect optimises extraction of cysteine precursors in grape varieties characterised by thiols, and therefore considerably increases the thiol aroma content in





wines. Its effect on glycosidically bound precursors and release of terpene aromas enrich the diversity of aromas.

The results of the Sauvignon blanc harvest test showed that use of Trenolin® Bouquet<sup>PLUS</sup> during mash contact time significantly increases thiol yield thanks to its macerating effect.

On tasting, the wines treated with Trenolin® Bouquet<sup>PLUS</sup> were perceived to be more intense and aromatic, with greater complexity as a result of higher terpene contents.

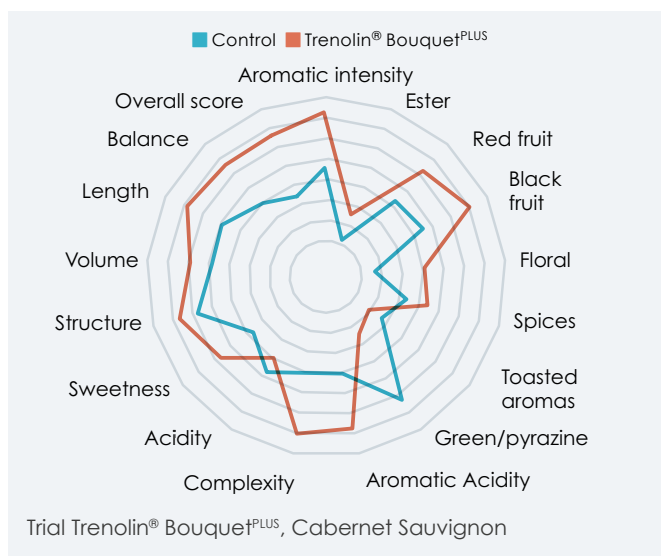
Trenolin® Bouquet<sup>PLUS</sup> also exploits the aromatic potential much better in red winemaking too. It promotes the extraction of aromatics bound to sugar ( $\beta$ -damascenone,  $\beta$ -ionone), intensifying the wines' fruity and floral aromas.

	Control	Trenolin® Bouquet <sup>PLUS</sup>
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### Cabernet Sauvignon

$\beta$ -damascenone	2900	3200
$\beta$ -ionone	0	61
TPI	77	77

Grapes exposed to smoke from burning vegetation often develop smoky aromas in the wine that mask the varietal aromas and make the wines unenjoyable. This happens as a result of the volatile phenols in smoke, which are present via a glycosidic bond to the sugar in must and wine.



These compounds can be broken down during fermentation by using Trenolin® Bouquet<sup>PLUS</sup>.



Scan & click here for a study by the Australian Wine Research Institute:

## Trenolin® Bouquet<sup>PLUS</sup>

0,1 kg | 1 kg

Glycosidase to release aromas in must and young wine

### Product and effect

- Greater definition of typical varietal bouquet.
- Release of aromatics associated with glycosidase during and after fermentation.
- No glucose-inhibiting  $\beta$ -glucosidase activity, so can already be used in mash and must.

### Dosage

5–15 mL/100 L or kg



## Trenolin® FastFlow

0,1 kg | 1 kg



High-performance enzyme for pressing, clarification and filtration

### Product and effect

- Stronger, faster pectin degradation.
- Improved pressability and yield, faster clarification.
- Improves filtration of must and wine.
- Increased filtration speeds at the wine stage.
- Also removes difficult to degrade side chains and pectin residues.

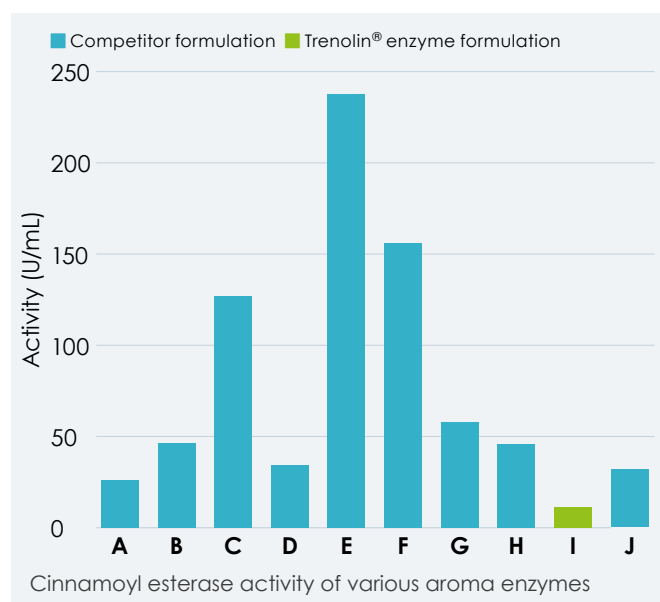
### Dosage

3–10 mL/100 L or kg

# Cinnamoyl esterase

Cinnamoyl esterase is an ester-cleaving activity that can occur as a natural side activity in enzyme preparations. The presence of cinnamoyl esterase promotes the formation of volatile phenol substrates responsible for off aromas. The formation of volatile phenols depends on the concentration of free phenolic acids, such as caffeic acid or cumaric acid.

During fermentation these acids can be converted into volatile phenol derivatives by the yeast. Depending on the concentration of volatile phenolic substances, such as 4-vinyl-guaiacol and 4-vinyl-phenol, they can cause an off flavour that is often described as medicinal. Unlike all the commercial wine enzymes tested, Trenolin® enzymes are free from cinnamoyl esterase activity.



## Trenolin® Filtro

1 kg



Powerful clarification and filtration enzyme

### Product and effect

- Avoids predictable filtration problems at the must stage and in wine.
- Enzymatic glucan degradation in must and young wine.
- Degradation of  $\beta$ -1,3-1,6-glucan from *Botrytis cinerea*.

### Dosage

10–20 mL/100 L

## Trenolin® Flo<sup>+</sup>PLUS

1 kg | 10 kg



Special enzyme for flotation

### Product and effect

- Rapid pectin degradation for an effective flotation process.
- Promotes very rapid flocculation.

### Dosage

1–8 mL/100 L

**Trenolin® Frio** 0,1 kg | 1 kg

Pectin degradation during cold maceration > 5 °C

**Product and effect**

- Superb performance at relatively short contact times and very low temperatures.
- Promotes release of aroma precursors during cold maceration of white and red grape must.
- Improved juice run-off at low pressing pressures.
- Improved clarification and efficient fining.

**Dosage**

2–10 mL/100 L or kg

**Trenolin® Mash** 0,1 kg | 1 kg

Shortening the maceration time for white grapes

**Product and effect**

- Accelerated maceration for grapes without liquifying the mash.
- Release of aroma precursors and consequent emphasis of typical varietal characteristics.
- Increased proportion of free-run juice on pressing.

**Dosage**

1–4 mL/100 L or kg

**Trenolin® Opti** 0,1 kg | 1 kg

Pressing and fining enzyme for white wine making

**Product and effect**

- Rapid, complete pectin degradation.
- Improved pressability, reduced pressing times, increased press capacity.
- Increased free juice run, less extraction of tannins and bitter substances through lower press pressures.
- Better fining effect in young wine and increased filter performance.

**Dosage**

1–3 g/100 L or kg

**Trenolin® Pexx** 10 kg

Universal pectinase for winemaking

**Product and effect**

- Drastic viscosity reduction in short time.
- Preparation for flotation, reverse osmosis, grape must concentration.
- More efficient pectin degradation for sedimentation.
- Rapid hydrolysis of troublesome pectin substances.
- Highly reactive at pH values around 3.0.

**Dosage**

0,5–1,5 mL/100 L

# Parlez-vous Rosé?

## Trenolin® Rosé

Rosé wines are in great demand. The worldwide trend is towards paler wines. In particular when producing Blanc de noir, increased colour extraction during pressing is a problem.

Trenolin Rosé facilitates reduction of the depth of colour when pressing rosé musts, during which two antagonistic goals must be achieved:

- Limiting the release of polyphenols, especially anthocyanans
- Optimisation of juice yield and extraction of aromatic precursors

With this unique enzyme formulation with a targeted effect on grape flesh, Erbslöh has developed a tool to promote the release and run of juice from grape must and to develop aromatic precursors, whilst being gentle on the grape skin and its polyphenol structure.

Without doubt Trenolin® Rosé has become an indispensable tool for developing pale and highly expressive rosé wines.

The formula, patented in France, ensures the release and run of juices without a macerating effect on the grape skin. It therefore allows a restriction on colour extraction, whilst at the same time optimising the quality of the pressing and thereby the juice yield. Trenolin® Rosé is also suitable for producing Blanc de noir and Blanc de gris wines.

### Use

- Dosage: 2–3 mL/100 kg grapes
- Dosage direct into the grape crusher or press

### Use and advantages

Reduction of colour extraction

Faster juice run and increased juice yield

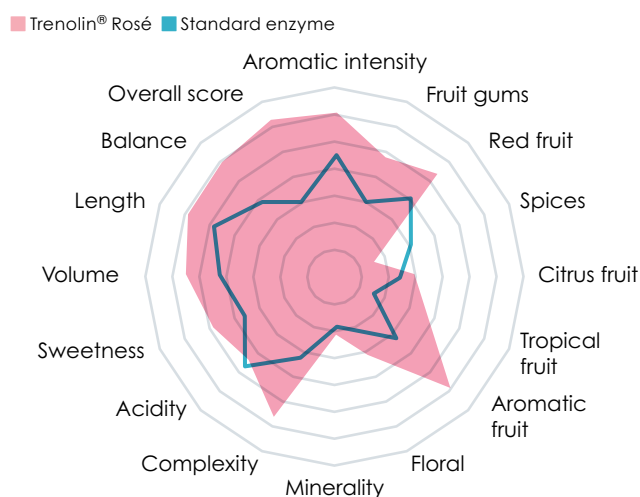
Reduced polyphenol extraction

Lower need for fining agents

Protection of the aroma

## Comparison test of Trenolin® Rosé

Shiraz Rosé 2019 – Languedoc



**Trenolin® Rosé**
 0,1 kg | 1 kg


Pressing enzyme for low colour extraction

**Product and effect**

- Very low maceration ability.
- Perfect choice for anthocyan-rich grapes, hot harvest conditions and high pH values.
- Increased proportion of free-run juice and increased yield at low pressing pressure.
- Reduced polyphenol extraction.

**Dosage**

2–3 mL/100 L or kg

**Trenolin® Rouge**
 0,1 kg | 1 kg


Production of deeply coloured, powerful red wines

**Product and effect**

- Optimises colour yield during fermentation on the skins.
- Yield increase around 5–8% as a result of enzyme use.
- Increased release of colour pigments during must extraction.
- Extraction of tannins that lend the finished wine its typical, full-bodied character.

**Dosage**

3–10 mL/100 L or kg

**Trenolin® Super<sup>PLUS</sup>**
 1 kg


Fast-acting pressing and pre-clarification enzyme

**Product and effect**

- Increased must free run.
- Reduced pressing time and increased press capacity.
- Improved filtration.
- Rapid, compact sedimentation of haze in juice.
- Retains freshness and grape's varietal character.

**Dosage**

3–10 mL/100 L

**Trenolin® SurLies**
 0,1 kg | 1 kg


For accelerated release of the yeast depot

**Product and effect**

- Degrades lees through cell wall perforation.
- Improved release of yeast's own mannoproteins.
- Release of yeast mannans and amino acids in the enzymation process.
- Rounded, balanced mouthfeel and greater length.
- Increased structure, density and improved filterability.

**Dosage**

2–5 mL/100 L

## Trenolin® ThermoStab

Heat-stable enzyme for all thermovinification methods

### Product and effect

- Improved pumpability, pressability and mash mash throughput in the heating unit.
- Accelerated tannin extraction.
- Improved filtration characteristics.
- Reduced foaming.

### Dosage

2–4 mL/100 L or kg

 1 kg



## Trenolin® Xtract

To break down mash during red wine making

### Product and effect

- Highly active, liquid enzyme to treat red wines during fermentation on the mash.
- Acts to stabilise maturation of deep red wines.

### Dosage

1–5 mL/100 L

 0,1 kg | 1 kg



# Overview of our enzymes

	Mash extraction	Press yield	Fining/sedimentation	Flotation	Aroma emphasis	Classic red wine making	Thermovinification	Filtration	Maturation on the lees
Trenolin® Bouquet <sup>PLUS</sup>					●●●				
Trenolin® FastFlow	●●●	●●●	●●●	●●		●		●●●	
Trenolin® Filtro								●●●	
Trenolin® Flot <sup>PLUS</sup>				●●					
Trenolin® Frio	●	●●●	●●●	●●		●			
Trenolin® Mash	●	●	●		●			●	
Trenolin® Opti		●●	●●					●●	
Trenolin® Pexx		●●●	●●●			●		●●●	
Trenolin® Rosé		●●	●●	●●					
Trenolin® Rouge	●	●	●			●	●		
Trenolin® Super <sup>PLUS</sup>		●●●	●●●			●		●●●	
Trenolin® Surlies									●●●
Trenolin® ThermoStab	●	●	●				●	●	
Trenolin® Xtract	●	●●	●●		●●	●			



# Climate change

The global climate crisis is also changing our craft, often in unpredictable ways. Drought, heat, changing vegetation periods, even the new opportunities present us with challenges. At Erbslöh Geisenheim we offer you a variety of solutions in our portfolio to creatively deal with this. Here are our most prolific options - many more are still under development.



## Tannins

Individual functions of sulphur can also be taken over by other substances. This extended protection is becoming increasingly important due to rising pH levels of the wines, in order to

be able to continue to work adequately with the permitted amounts of sulphur. Especially for the protection against oxidation, the sulphur alternative Tannivin® Galléol comes to mind. This specially selected gall nut tannin is capable of intercepting oxygen before an oxidative connection with aromas and other ingredients of the wine has formed. Our grape-skin tannin, Tannivin® Grape, protects wines from ageing too rapidly in the bottle.

## Enzymes

The right enzyme can significantly increase production capacity and sustainability. Pressing and pre-clarification volumes are the greatest challenge of every vintage.



However, rapidly changing weather extremes can make it necessary to harvest as quickly as possible. This is the only way to preserve the necessary quality of the grapes and minimise the threat of yield loss. Sufficient cooling, energy, water and labour are neither available at all times, nor is tank capacity. Speed drastically reduces costs, ensures quality and quantity and has a positive effect on the overall result. The wines are produced at lower costs, more environmentally friendly, sustainable and competitive.



## Staves



e.Staves are new to the Erbslöh portfolio. Made of French oak, they are required to meet the same high standards as a conventional barrel stave. e.Staves is the sustainable choice many points of view

compared to a barrel. e.Staves require less wood for a comparable amount of wine and the process uses only a fraction of the water and energy compared to cleaning and preserving a barrel.



## Vegan

The vegan treatment of must and wine is visibly developing into the state of the art technique and at the same time it is being demanded as a matter of course by more and more partners and consumers.

Our LittoFresh® products are based on highly effective pea proteins. Depending on the formulation and combination, options are available for clarification, flotation, phenol correction or gentle polishing.

Available in powder and liquid form, the handling leaves nothing to be desired. Pea protein consistently reduces the CO<sub>2</sub> footprint in cellar management and ensures the flawless quality of the wines.

## Bioprotection

The use of non-saccharomycetes in combination with classic wine yeasts is widespread in oenology. Now we also have the possibility to protect the grapes as well. The multifaceted properties of wild yeasts expand the spectrum of applications, for example by suppressing the



accompanying flora of the grapes. In this way, they make it possible to reduce the use of SO<sub>2</sub>, improve the aroma, lower the resulting alcohol content or stabilise the wine colour. Yeast species of the genus *Metschnikowia* have proved particularly suitable for this purpose. The aim here is not alcoholic fermentation, but the control of the existing microbiological flora. Oenoferm® MProtect makes it possible to dispense with the protection of the grapes by SO<sub>2</sub> and thus also protects the sulphur balance of the resulting wines. Under cool conditions, the grapes, the mash and the must can be effectively protected from negative microbiological activity. The formation of off-flavours is consistently prevented.

## Acidity Management

Harvest dates have become more unpredictable in every way. At the same time, acidity levels and pH levels develop very differently - even within an individual region. Each vintage brings with it a

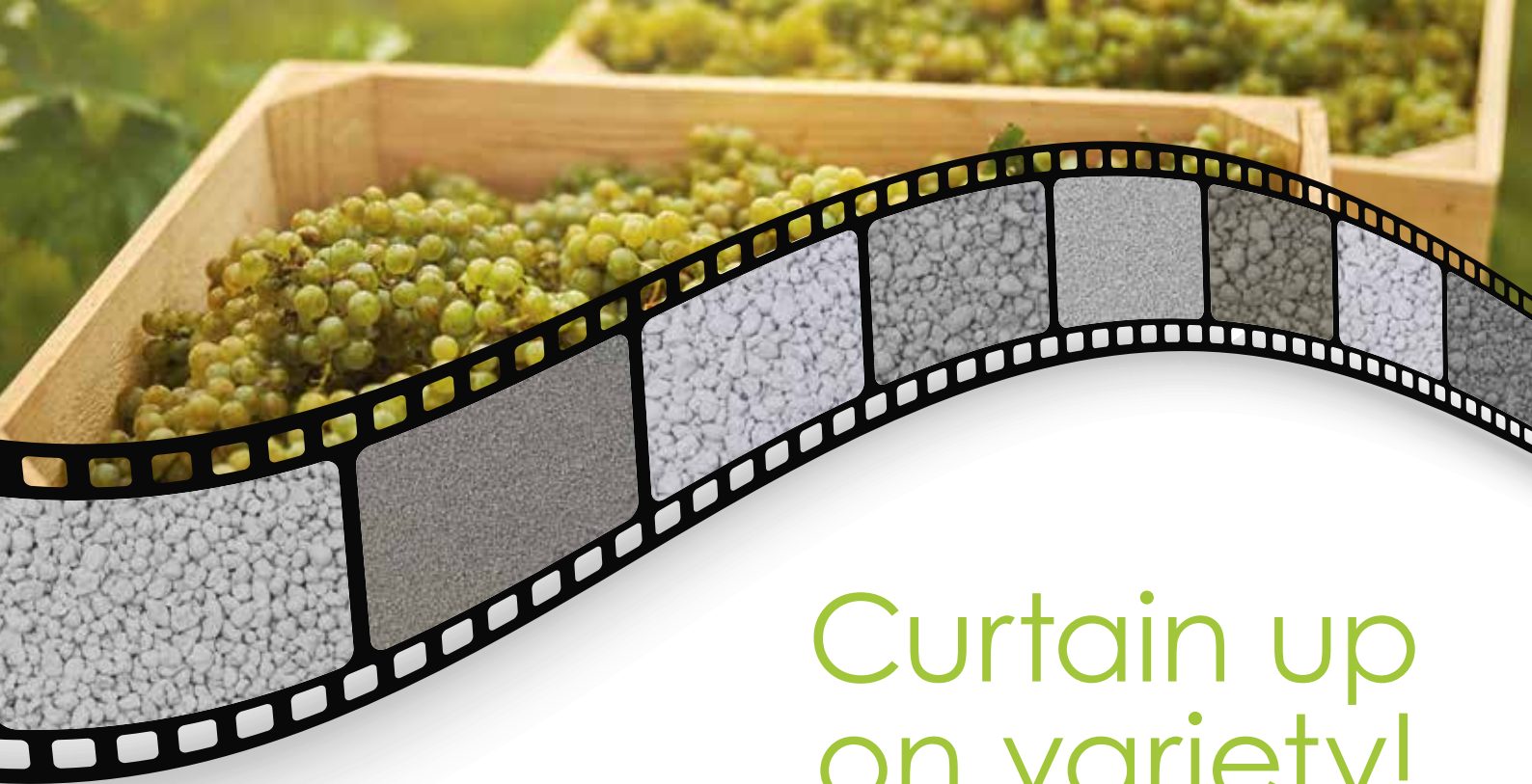


multitude of individual situations, acidification or de-acidification is no longer the only question. The precise handling of each vintage, each grape variety and each wine has more than ever become a necessity. With a wide

range of specific products, Erbslöh gives you all the necessary options for your individual challenges.

Traditionally carried out in red and rosé wines, malolactic fermentation as a subtle, style-enhancing variant of acid reduction has been established for white wines as well. We offer a wide range of specialised bacteria to cover all possibilities. Boerovin and Erbslöh Tartaric ensure the stability of must and wine by a quick correction of the pH value. For the reducing correction of acidity, Erbslöh Kalk, Kalinat and Neoantacid provide options in every step of winemaking.

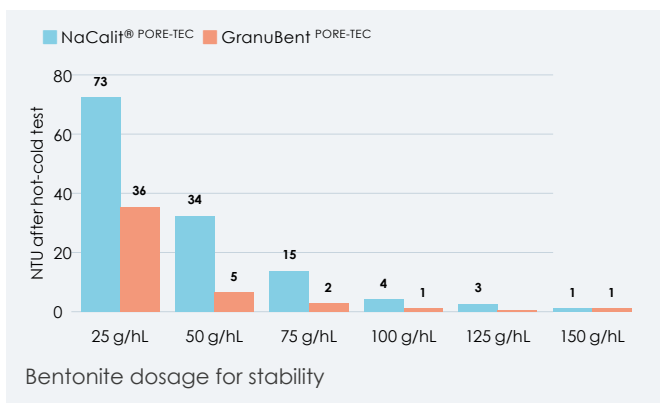
Meet the challenges of climate change today - with Erbslöh as a strong partner at your side!



# Curtain up on variety!

Bentonite, pure sodium, calcium or even mixed products? Every recipe has its own specific benefits.

The main difference between calcium and sodium bentonite lies in the strength of effect and sedimentation behaviour. Whilst calcium bentonite sediment is particularly compact, a comparatively high application rate is required.



Sodium bentonite, on the other hand, settles with a much bigger deposit volume due to its much stronger priming behaviour and the fact that it often exhibits a slightly hazy transition period to the clear supernatant. On the other hand it is generally twice as effective, so a much smaller dosage can be used.

This benefit in particular is popular for use to stabilise wines, with just small quantities of 20 g to 100 g of bentonite per hectolitre. Separation of the deposit is easy and quick using filtration; alternatively a longer sedimentation period can be used.

In practice, products composed of a mix of sodium calcium or calcium sodium are mostly used in order to combine the benefits of both components, as in our top bentonite NaCalit® PORE-TEC.

Compared to other bentonites, pure sodium bentonite produces complete stability with smaller dosages. But there is a clear difference between sedimentation behaviour and volume of turbidity.



Different priming behaviour of NaCalit® PORE-TEC (left) and GranuBent® PORE-TEC (right)

Our high-performance NaCalit® PORE-TEC bentonite has therefore established itself widely in practice, offering the best of both worlds – superb stabilisation and compact sediment layer in one.

**NEW Aktivit** 20 kg

High-quality calcium-sodium bentonite granulate

**Product and effect**

- Intensive, selective protein and colloid adsorption.
- Effective clarification even at high pH values.
- Compact sedimentation of haze deposit.

**Dosage**

50–250 g/100 L

**NEW BlancoBent UF**

Powdered bentonite for crossflow filter systems

**Product and effect**

- Clarification and stabilization in one process stage.
- No abrasion of crossflow membranes.
- Maximum particle size < 100 µm.
- Direct dosing into crossflow filtration systems due to defined particle size.

**Dosage**

20–200 g/100 L

**FermoBent<sup>®</sup> PORE-TEC** 5 kg | 20 kg

PORE-TEC special bentonite for fermentation

**Product and effect**

- Time-saving co-fermentation.
- Direct dosage possible.
- Can remain in must due to extremely low iron content.
- Improved CO<sub>2</sub> release during fermentation.
- Can be racked off together with yeast depot.

**Dosage**

100–200 g/100 L Most

**NEW GranuBent<sup>®</sup> PORE-TEC** 20 kg

Sodium-bentonite with PORE-TEChnology

**Product and effect**

- Pure sodium bentonite.
- High swellability.
- Excellent clarification of must and wine.
- High protein adsorption.
- Lower quantities used compared to calcium bentonite.

**Dosage**

20–120 g/100 L



**NaCalit® PORE-TEC**
 1 kg | 5 kg | 20 kg

Sodium-calcium-bentonite with PORE-TEchnology

**Product and effect**

- Easy wettability and suspension as a result of PORE-TEchnology
- Intensive, selective protein and colloid adsorption.
- Very effective clarification even at high pH values.
- Light colour and low sediment volumes through choice of minerals.
- Very effective in problematic cases.

**Dosage**

50–200 g/100 L

**Seporit PORE-TEC**
 20 kg

Calcium-sodium-bentonite granulated with PORE-TEchnology

**Product and effect**

- Early removal of fermentation-inhibiting components.
- Intensive, selective protein adsorption, easy wettability due to specific porous surface structure.
- Efficient must clarification, decisive for a clean wine aroma.
- High purity, short deposition time.

**Dosage**

50–250 g/100 L Most

**NEW SodiBent Supra**
 25 kg

Sodium bentonite for stabilisation and clarification

**Product and effect**

- Finely milled, pure sodium bentonite.
- Intensive flocculation as a result of high swelling capacity.
- High protein adsorption capacity.
- Improved filterability.

**Dosage**

40–120 g/100 L

**UltraBent PORE-TEC UF**
 20 kg

Granulated bentonite for crossflow filter systems

**Product and effect**

- Clarification and stabilisation in one process stage.
- Particularly fine, no particle < 100 µm.
- No abrasion of filtration membranes.
- No prefiltration required.
- Reduced use of bentonite through high purity and adsorption ability.

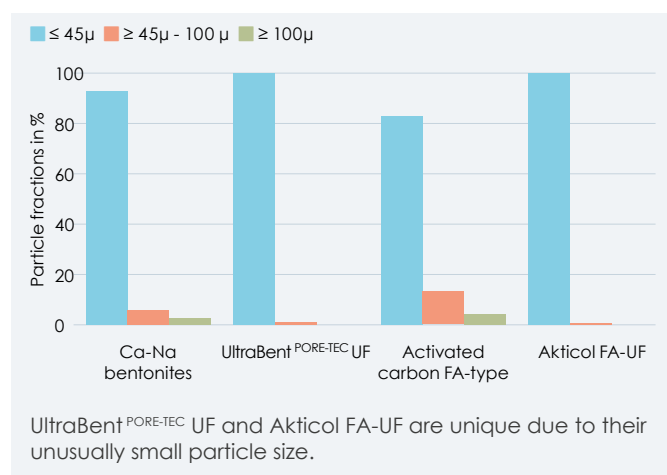
**Dosage**

25–200 g/100 L

# Inline stabilisation

Modern crossflow technology makes it possible to add bentonite and activated carbon immediately before filtration, allowing stabilisation and clarification in a single, simultaneous step. As a result, wineries can not only reduce bentonite/activated carbon consumption, eliminate deposition time after fining, reduce wine losses and turbidity quantities, but also save time, energy and water at the same time.

ERBSLÖH UF products are applied using an inline dosing system, controlled by a flow meter. They can be used in conjunction with the PALL Oenofine XL and Bucher Flavy Tandem crossflow filters. Please contact the system manufacturer in advance before using directly in dynamic crossflow filters or other makes of system.



This special bentonite is used to drastically reduce the cost of protein stabilisation and filtration. The wine is applied to the crossflow system without prior racking or pre-filtration. UltraBent PORE TEC UF's purity and high adsorption capacity also reduce dosing by up to 30% compared to conventional bentonites.

## UltraBent PORE-TEC UF

This special bentonite is used to drastically reduce the cost of protein stabilisation and filtration. The wine is applied to the crossflow system without prior

racking or pre-filtration. UltraBent PORE TEC UF's purity and high adsorption capacity also reduce dosing by up to 30% compared to conventional bentonites.

## Akticol FA-UF

Purely vegetable origin acid-activated, highly efficient powdered carbon. Akticol FA-UF's high phenol adsorption makes lower dosages possible, whilst simultaneously achieving a significant effect on colour. This carbon's composition and purity make it very gentle when used in combination with crossflow filtration systems, with minimal abrasion.

The combination of several steps means that scheduling of bottling is markedly simplified and much more flexible. The time required for preparation and cleaning is drastically reduced. Existing tank space is used to the full, increasing the winery's profitability. Not only do the wines' CO<sub>2</sub> footprint fall, water consumption is consistently minimised too. In this way wines can be marketed punctually and sustainably at the same time.

## At a glance

- Reduces time and labour required
- Saves energy and water
- Greater and more flexible production capacity
- Reduced use of bentonite
- Extremely fine granulation to protect filter membranes
- No disposal of filtration aids

Inline stabilisation is the resource-conserving and cost-cutting alternative to conventional procedures.

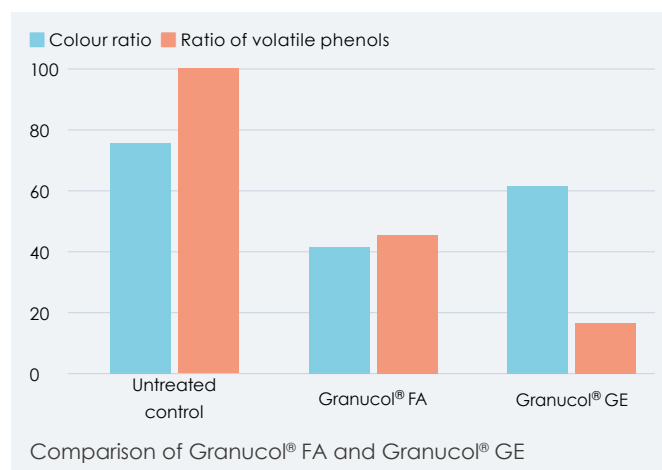
# Pure fining. Activated carbon.

Must and wine can be treated in a uniquely gentle manner with our activated carbon. Highly selective granulates and powdered charcoals are available depending on the application sought and process technology.

Just now have we been able to once again decisively improve the effectiveness of Granuacol® products during in-depth research work. These granulated carbons either specialise in removing brownish colour pigments or counteract sensory problems particularly efficiently. There is a clear distinction in the respective effects of colour and odour charcoals. Aroma or colour can be deliberately treated by choosing the right product. An appropriate low dosage helps to retain valuable ingredients.

Our Akticol powdered carbons are even available in UF quality and so can be integrated seamlessly into filtration processes.

Ercabon SH is a special active carbon. It is produced from coconut shells and activated solely by steam. This means it has only a minimal ability to bond with colour pigments. At the same time it has an excellent effect on undesirable aromas and flavours. Problematic substances are therefore purposefully removed and colour is retained.



Activated carbons represent an interesting and natural alternative for winemaking. They have a gentle, precise effect thanks to their specialised ability to bond with tannins and pigments.

Its purely vegetable origin is a perfect fit with the concept of sustainable wine production.

## NEW Akticol FA / Akticol FA-UF

Plant-derived activated carbon for colour adsorption

### Product and effect

- Efficient adsorption of oxidised polyphenols.
- Removal of Maillard reactions.
- Protection from darkening.
- Optimised colour stability during storage.

### Dosage

20–100 g/100 L

 10 kg



## CarboTec GE

Granulate for sensory optimisation in must

### Product and effect

- Retains aromas.
- Removal of impurities such as pesticide residues or off-notes caused by rot.
- Acceleration of must clarification.
- Faster separation of some proteins and colloids that cause haze.
- Secure, clean fermentation.

### Dosage

50–200 g/100 L

 20 kg





**NEW Ercarbon SH**
 20 kg


Selectively acting powdered activated carbon powder

**Product and effect**

- Obtained from coconut shells.
- Activated by steam.
- Minimal adsorption of colour pigments.
- Maximum adsorption of undesirable flavours or aromas.

**Dosage**

10–100 g/100 L

**Granucol® FA**
 1 kg | 10 kg


Granulated activated carbon for colour treatment

**Product and effect**

- Reduction of tannins and polyphenols.
- Removal of excessive colour as a result of Maillard reactions.
- Easy soluble as a result of special production process.
- Rapid, good sedimentation in the tank.

**Dosage**

10–40 g/100 L

**Granucol® GE**
 1 kg | 5 kg | 10 kg


Granulated activated carbon for sensory treatment

**Product and effect**

- Selective adsorption of undesirable flavour and aroma substances.
- Excellent distribution through special production method.
- Rapid, good sedimentation in the tank.

Guidance for processing grapes: dose 1 g/100 L Granucol® GE in the deposition tank for every percent of rot-afflicted grapes.

**Dosage**

10–40 g/100 L



MLF



# MaloStar®

**The new name for bacteria from Erbslöh**

The new MaloStar® product range offers a comprehensive choice of powerful bacteria strains, and a suitable nutrient. We support modern acidity management that respects the nature of the wine.



## Biological malolactic fermentation

Much more than just acidity removal: MaloStar® bacteria are the perfect tool for shaping the wines' structure, fruit and complexity.

Malolactic fermentation offers an elegant and safe option for developing a wine's expression. Every MaloStar culture offers unique properties, so the needs of the individual wine can be addressed specifically.

There are also options from a technical viewpoint. It is possible to take account of all the conditions for use when selecting the bacteria strain, depending on the pH value and alcohol content, and whether MLF after fermentation or in parallel is required.

White wines to be bottled early attain the required acidity and full-bodied wines are perfectly prepared for subsequent maturation. The resulting wines are microbiologically more stable, require less SO<sub>2</sub> and exhibit lower quantities of undesirable by-products, such as histamine.

The bacteria strains promote harmony, balance and expression. And before we forget all about it in our enthusiasm - of course acidity is reduced too.

## Our portfolio of bacterias



**MaloStar® Vitale SK11™**  
Structure and mouthfeel in powerful white and red wines

**MaloStar® Fresh SK55™**  
Supports fresh, fruity notes in white and rosé wines

**MaloStar® Fruit**  
Clean aromas, varietal fruit without buttery notes

**MaloStar® Terra**  
Supports fruit and natural aroma profile in red wines

## At a glance

	Required pH value	Alcohol tolerance % ABV	Diacetyl formation	Co-inoculation recommended
<b>MaloStar® Fresh SK55™</b>	> 3.1	< 15.5	Negligible	Yes
<b>MaloStar® Vitale SK11™</b>	> 3.1	< 15.5	High	Yes
<b>MaloStar® Fruit</b>	> 3.2	< 16.0	Very low, very late	Yes
<b>MaloStar® Terra</b>	> 3.3	< 15.0	Slight	Yes





# e.Bois®

Chêne pour l'œnologie

Our e.Bois® oak chips have been supplemented by a new toasting. Produced from naturally dried French oak and then gently toasted, **e.Bois® Macaron** has been specially developed to work on the roundness, sweetness and length of wines, without introducing woody or roasted notes.

e.Bois Macaron chips are suitable for all types of wine and perfect for maceration during alcoholic fermentation.

Their presence supports the intensity of fruit and introduces fine, fresh notes on the palate, improving the volume and length in the mouth.

The new e.Bois® Macaron toast can also be used during wine maturation to improve the finished wines' balance where mouthfeel is concerned and simultaneously to retain their aromatic profile.

What are you waiting for? Why not try it!

e.Bois® oak chips are available with the following toasts:

**e.Bois® Reglissa – AROMAS OF LIQUORICE AND SMOKE**

**e.Bois® Opéra – CARAMEL AND ROASTED NOTES**

**e.Bois® Muffins – AMERICAN MEDIUM**

**e.Bois® Vanilla – VANILLA AND TOAST NOTES**

**e.Bois® Fondant – SPICY AND SWEET**

**e.Bois® Macaron – SWEETNESS AND MOUTHFEEL**

**e.Bois® Sorbet – FRESHNESS AND VOLUME**

**e.Bois® Fraîcheur – FRESHNESS AND VOLUMEN, GRANULATED**



In recent years, use of oak in winemaking has become much more diverse and complex. e.Staves is an ideal new addition to Erbslöh's portfolio.

Made from French oak, they must meet the same high standards as a conventional barrel stave. Unlike barrel staves, there is no need for the numerous production stages, such as shaping, bending and banding.

Wood, as a raw material, is very heterogeneous. Oak from the Vosges, for example, contains more vanilla, whilst wood from Limousin is richer in tannin. The composition of the natural compounds varies greatly depending on the type and origin.



## Drying

The wood is dried outdoors for 24 months. This gentle process ensures stability and lets slow physical and chemical reactions expire and the full potential aroma develop. It is not possible to achieve a comparable result with artificial drying.

## Toasting

Toasting is performed using the convection method, which is particularly gentle on aromas and achieves very even degrees of toasting. Seamless traceability from wood to the finished e.Stave ensures homogeneity of the batches and a consistent product profile.

## Effect in wine

In sensory terms, e.Staves stabilise colour and play a fundamental role in balancing tannins. They offer a diverse range of volatile and non-volatile compounds that greatly influence the wines' structure, colour and complexity.

- During fermentation: emphasises fruitiness, integrates wood better
- During maturation: greater aromatic influence, integration of wood not so good

The various degrees of toasting can be combined, even in a single tank. This facilitates a very distinctive vinification according to wine, style and vintage.

Use of e.Staves is much more sustainable than a barrel. It requires less wood as a raw material and only a fraction of the water and energy for cleaning and preservation.

e.Staves is suitable for white, rosé and red wines. It is possible to achieve a clear differentiation in the portfolio easily, with increased added value overall. Application is much slower compared to chips, resulting in more complex wines.

## At a glance

- Antioxidant effect, protects aroma
- Structure strengthened by tannins
- Balance of phenolic compounds: intensity and balance
- Development of the aroma profile
- Supports fruitiness



# Overview of our oak alternatives

Description	Dosage	Pack size
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## e.Staves

e.Staves	Light toasting: Acidity, fruit, structure, volume	0.5 – 3 Staves/100 L	10 Staves
e.Staves 70 %	Medium toasting: Caramel, vanilla and toasted notes	0.5 – 3 Staves/100 L	10 Staves
e.Staves 80 %	Heavy toasting: Coffee, intense wood, roasted notes	0.5 – 3 Staves/100 L	10 Staves

## e.Bois®

e.Bois® Reglissa	French oak chips with medium+ toasting	0.5 – 5 g/L	2 x 5 kg infusion bag
e.Bois® Opéra	French oak chips with medium toasting	0.5 – 5 g/L	2 x 5 kg infusion bag
e.Bois® Muffins	American oak chips with medium toasting	0.5 – 5 g/L	2 x 5 kg infusion bag
e.Bois® Vanilla	French oak chips with medium toasting	0.5 – 5 g/L	2 x 5 kg infusion bag
e.Bois® Fondant	French oak chips with light toasting	0.5 – 5 g/L	2 x 5 kg infusion bag
e.Bois® Macaron <b>NEW</b>	French oak, sweetness and fullness, light toasting	0.5 – 5 g/L	2 x 5 kg infusion bag
e.Bois® Sorbet	French oak chips, untoasted, for infusion	0.5 – 5 g/L	2 x 5 kg infusion bag
e.Bois® Fraîcheur	French oak chips, untoasted, pumpable	0.5 – 5 g/L	10 kg bag for direct addition to the mash



# Tannivin® Tannins

## Perfect partners for wine maturation

Our oak tannins from the Tannivin® family are ideal wine maturation companions. Once used, wooden barrels quickly lose their original high tannin content, in particular ellagitannins.

Tannivin® reclaims the protective atmosphere of new barrels and achieves a particularly balanced wine maturation.

### Use of tannins

- Protects wines against oxidation
- Possibility of guiding the redox milieu when maturing in barrel
- Optimum partner to micro-oxygenation
- Reduction of astringency
- Assists with clarification

The raw materials are gently extracted from the best oak heartwood. Depending on the product, European, mainly French oak, or American oak are used. The wood quality undergoes continuous strict monitoring and meets the highest expectations of barrel staves. Some Tannivin® products are made from gallnut, or quebracho wood. They are all suitable for maturing white, rosé and red wines, depending on the intended application. The raw wood is ideally prepared by careful drying and toasting. The tannins are solely extracted with water.

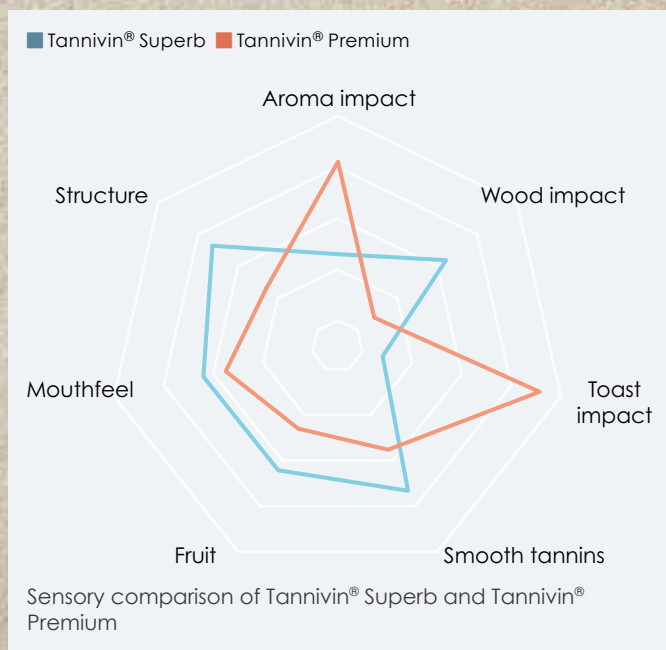
The ideal dosage quantity depends on the nature of the specific wines, and should be determined individually by preliminary tests. Additional oxygen supply management, such as by the choice of receptacle, allows the wine to develop optimally along the desired profile.

### Tannivin® Premium

Tannivin® Premium is a pure oak tannin with a specially high ellagitannin content and is the ideal partner for great wines. The way it is toasted produces an extraordinarily soft, complex tannin. Notes of roasted coffee, caramel and cocoa in the wines are subtly supported; wood flavours are kept under control.

### Tannivin® Superb

A special process removes any tannic or astringent components. Tannivin® Superb promotes grape variety typicity and allows much finer, more structured wines without dominant tannins. Fruit and wood are emphasized equally, without exhibiting marked roasted notes.



# Overview of our tannins

	Description	Dosage [g/100 L]	Pack size (kg)
<b>Tannivin® EH</b>	Pure French oak tannin	1–20	1
<b>Tannivin® Elevage</b>	Harmonious maturation and structuring of red wine	2–20	1
<b>Tannivin® Finesse</b>	Supports the development of complex red and white wines	1–30	0.25
<b>Tannivin® Galléol</b>	High purity gallotannin for beverage treatment	1–20	1 25
<b>Tannivin® Grape</b>	Pure grape tannin from French grapes	1–15	0.25
<b>Tannivin® Multi</b>	Combined tannin for mash, must and fining	1–20	0.5 25
<b>Tannivin® Premium</b>	Dark toasted oak tannin for complex wines	2–10	0.25
<b>Tannivin® SR <span style="background-color: red; color: white; padding: 2px;">NEW</span></b>	Retains and protects colour during red winemaking	2–30	5 25
<b>Tannivin® Superb</b>	Oak tannin without astringent components	1–20	0.1





# VEGAN

Consumer expectations are continually moving in the direction of sustainable and natural processes at all levels. At the same time, retailers are seeking products that meet these expectations. This leads to growing demand for alternative fining agents for wine, vinegar and fruit juices.

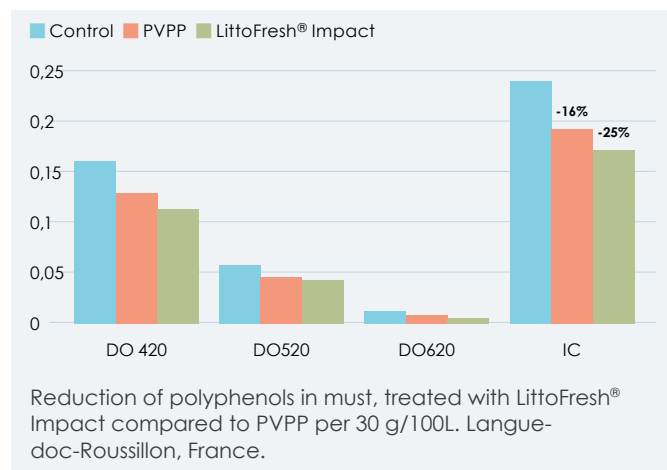
## LittoFresh® Impact

LittoFresh® Impact is a combined vegan product as a sustainable alternative to phenol fining. Its high reactivity to oxidised polyphenols facilitates targeted sensory improvement and a reduction in the colour of must and white and rosé wines. It consists of a mixture of high-quality plant proteins,

selectively acting activated carbon and silicates. Together, these components facilitate a far-reaching, easily manageable effect in must and wine.

## LittoFresh® ChitoFlot

LittoFresh® ChitoFlot is a liquid formulation of pea protein and chitin glucan. This allows rapid, strong clarification during flotation and sedimentation. The flotation cake rapidly swims to the surface and can be separated easily from the clear must. Rapid flocculation reduces the sedimentation time and increases the degree of clarification.



## New solutions, new opportunities

The new vegan product line LittoFresh® offers various treatment options, guaranteed not to contain animal components. The products cover all wine-making applications with the same, or even better results..

## Advantages of LittoFresh® Impact

- High affinity for oxidisable and oxidised compounds
- Reduction of off aromas, such as fungal notes
- Reduction in depth of colour
- Retains the freshness of white and rosé wines
- Simultaneously suitable for organic and vegan

**LittoFresh® Impact is the sustainable alternative for phenol fining in must and wine.**

# Vegan

## CompactLees

 1 kg | 10 kg



Riddling aid for bottle fermentation of sparkling wine

### Product and effect

- Silicate suspension for safe, homogeneous dosage.
- Rapid, complete yeast deposition.
- Rapid yeast agglomeration.
- Yeast does not adhere to bottle walls as a result of accelerated sedimentation.
- Several riddling stages possible per day.

### Dosage

50–70 mL/100 L

## NEW e.PVPP

 1 kg | 10 kg



Removal of oxidised and phenolic substances

### Product and effect

- Harmonisation of aromas.
- Removal of excess phenols.
- Reduction of signs of Maillard reactions.
- Treatment of oxidation.
- Can be added direct to must or wine.

### Dosage

10–80 g/100 L

## KlarSol 30

 10 kg | 1.200 kg



Alkaline silica sol clarification and fining

### Product and effect

- Transparent silica sol.
- Rapid precipitation, formation of a compact fining deposit.
- Flocculation during fining as a result of reaction of negatively charged silica sol particles with positively charged protein particles.

### Dosage

20–250 mL/100 L

## KlarSol Super

 1 kg | 10 kg | 1.000 kg



Acidic special silica sol for clarifying and fining

### Product and effect

- Very rapid reaction when combined with protein-containing treatment agents.
- Especially suitable for wines and musts with low pH values.
- Provision of a surface structure with an extremely high intensity of charge.
- Very rapid flocculation and compacting of the sediment deposit.

### Dosage

20–250 mL/100 L

**LittoFresh® ChitoFlot** 10 kg | 1.000 kg

Combined vegan product especially for flotation

**Product and effect**

- Reliable flotation, even under difficult conditions, especially at high pH values.
- Rapid flocculation and formation of a compact flotation cake.
- Also used for sedimentation of must and for young wine clarification.
- Suitable for vegan wine production.

**Dosage**

50–200 mL /100 L

**LittoFresh® Impact** 10 kg

Preventative treatment of white and rosé musts

**Product and effect**

- Removal of aroma-masking ingredients.
- Colour optimisation through adsorption of oxidisable phenol compounds.
- Improvement in the fermentation properties as a result of the decontaminant effect.

**Dosage**

40–100 g/100 L

**LittoFresh® Liquid** 10 kg

Liquid and vegan, for clarification and harmonisation

**Product and effect**

- Vegetable-based, allergen-free protein.
- Very good clarifying properties.
- Obtained by natural extraction.
- Adsorption of oxidised polyphenols in white or rosé must.

**Dosage**

50–500 mL/100 L

**LittoFresh® Most** 5 kg

Vegan prevention of oxidative notes and bitterness

**Product and effect**

- Combined product consisting of plant proteins, cellulose, PVPP and silicates.
- Preventative must treatment.
- Prevents oxidation and bitterness.
- Retains wine's freshness and fruit.
- Increased purity of fermentation aromas and improved sensory characteristics.
- Suitable for vegan wine production.

**Dosage**

30–80 g/100 L or kg



**LittoFresh® Origin**

Pea protein for clarification and fining

**Product and effect**

- Purified phytoprotein.
- Perfect alternative to products of animal origin.
- Must flotation.
- Clarification of must and wine.
- Reduction of tannins and oxidised brown colour pigments.

**Dosage**

5–50 g/100 L

 1 kg | 15 kg

**LittoFresh® Rosé**

Combined phytoproduct for rosé winemaking

**Product and effect**

- Based on plant proteins and PVPP.
- Highly reactive pea protein to remove easily oxydisable phenols in grape must.
- Retains the wine's fresh aroma and attractive colour.
- Reduces bitterness and green notes.
- Optimises the fruity character.
- Suitable for vegan wine production.

**Dosage**

10–80 g/100 L

 1 kg

**LittoFresh® Sense**

Removes off odours and flavours in wine, vegan

**Product and effect**

- Improves sensory properties through adsorption of masking components.
- Selective removal of slight off-flavours and odours.
- Protects the aroma.
- Suitable for vegan wine production.

**Dosage**

5–30 g/100 L

 1 kg



## Animal origin

**ErbGel®**

Acid-processed gelatine for clarification

**Product and effect**

- Food-quality gelatine.
- Perfect bloom value between 80 and 100 for beverage treatment.
- Positive charge in typical beverage media due to acid processing.
- Highly reactive with polyphenols or silica sol.

**Dosage**

5–40 g/100 L

 1 kg | 25 kg



**Erbigel® Bio**

Certified organic gelatine for flotation and clarification

**Product and effect**

- Organic food-quality gelatine.
- Suitable for grape must, juice, wine and other beverages.
- Perfect when combined with Klar-Sol silica sol.
- Highly reactive.

**Dosage**

5–20 g/100 L

 1 kg | 25 kg



DE-ÖKO-003

**Erbigel® Flot**

Acid-processed gelatine for flotation

**Product and effect**

- Easily soluble.
- Rapid bonding with phenols as a result of high bloom value.
- Immediate flocculation.

**Dosage**

5–15 g/100 L

 5 kg | 25 kg

**Erbigel® Liquid**

Liquid acid-processed gelatine

**Product and effect**

- 20% food-quality gelatine solution.
- Specifically developed to treat beverages.
- Combines perfectly with Klar-Sol silica sol to prevent precipitation of residual proteins.
- Use is optimised by combined fining and clarification is more effective.

**Dosage**

20–50 mL/100 L

 5 kg | 10 kg | 25 kg

**Erbslöh Mostgelatine**

Combined product for treating must, casein-free

**Product and effect**

- Liquid gelatine combined with isinglass and PVPP.
- Reduces a broad spectrum of undesirable bitter substances without removing the useful ingredients in must, even at low temperatures.
- Early removal of unbalanced polyphenols and catechins avoids treatment in wine.
- Improved aromatic ageing potential.
- Casein-free.

**Dosage**

50–200 mL/100 kg

 1 kg | 10 kg | 20 kg | 600 kg | 1.100 kg



**e.IsingClair**
 1 kg | 10 kg


Clarification under tough conditions, works < 10 °C

**Product and effect**

- Extremely efficient in all beverages with a high proportion of colloids in the haze, such as wines from heated or pasteurised must and wines particularly rich in extracts.
- Rapid flocculation of sediment particles after distribution.
- Easy removal of precipitate due to compactness.
- Effective even at low temperatures.
- Brilliant colour in red wines.

**Dosage**

25–100 mL/100 L

**KalCasin**
 1 kg


Specifically acting milk protein reduces bitter substances

**Product and effect**

- Based on pure milk protein.
- Dissolves easily due to the production granulation process.
- Elimination of odours and off aromas as a result of high polyphenol contents.
- Reduction of oxidised brown colour pigments.

**Dosage**

2–40 g/100 L

**LiquiGel Flot**
 10 kg | 600 kg | 1.100 kg


High-bloom special gelatine for flotation

**Product and effect**

- Liquid gelatine product.
- Different structures and molecule sizes.
- Rapid bonding with phenols as a result of large reactive surface.
- Immediate perceptible flocculation on flotation.
- Can be combined with Granucol® GE for harvests contaminated with botrytis.

**Dosage**

20–100 mL/100 L

**OenoPur®**
 5 kg | 10 kg


Casein-free must fining of surplus tannins

**Product and effect**

- High purity cellulose, PVPP, gelatine and a mineral adsorption agent.
- Early removal of surplus polyphenols that have a negative effect on wine.
- Improved must quality subsequently leading to better integrated wines.
- Easily dispersible.
- Prevents bitter taste and astringency.
- Easy separation of sediments as a result of sediments that agglomerate well.

**Dosage**

30–100 g/100 L/kg

## VinoGel®

 1 kg | 10 kg



Clarification and tannin reduction, casein-free

### Product and effect

- Liquid clarifying agent.
- Great affinity for tannins, which reduces green and bitter notes.
- Based on special gelatines combined with macromolecular collagens from isinglass.
- Direct dosage possible.

### Dosage

30–150 mL/100 L

# Overview of our treatment agents

	Preclarification	Flotation	Clarification of wine	Removal of off odours	Removal of astringency	Suitable for vegan wines
Degustin					●●●	●●●
Erbigel®	●●●		●●●		●●●	
Erbigel® Bio	●●●	●●●	●●●		●●●	
Erbigel® Flot	●●●	●●●	●●●		●●●	
Erbigel® Liquid	●●●	●●●	●●●		●●●	
CompactLees						●●●
e.PVPP				●●●	●●●	●●●
Gerbinol® CF				●●●	●●●	
e.IsingClair			●●●		●●●	
KalCasin				●●●	●●●	
KlarSol 30	●●●		●●●			●●●
KlarSol Super	●●●		●●●			●●●
LiquiGel Flot	●●●	●●●			●●●	
LittoFresh® ChitoFlot	●●●	●●●	●●●		●●●	●●●
LittoFresh® Liquid	●●●	●●●	●●●		●●●	●●●
LittoFresh® Most	●●●	●●●		●●●	●●●	●●●
LittoFresh® Origin	●●●	●●●	●●●		●●●	●●●
LittoFresh® Rosé	●	●	●		●	●
LittoFresh® Sense					●●●	●●●
OenoPur®	●●●	●●●		●●●	●●●	



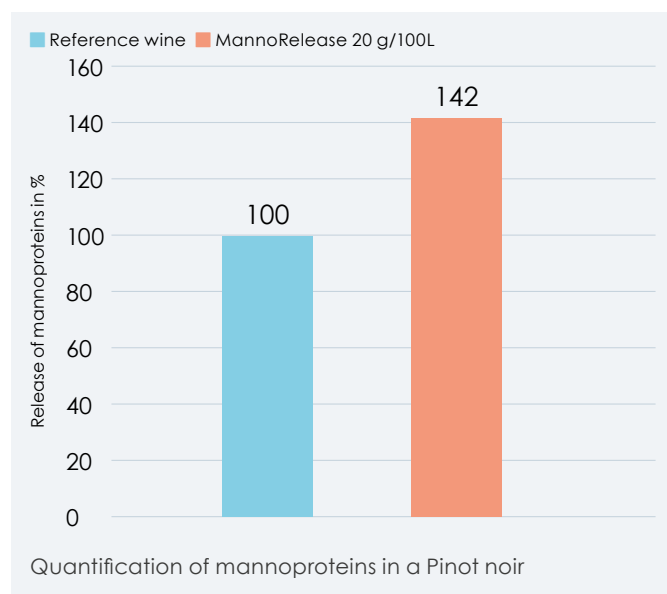
# Turn up the volume!

## MannoRelease

The glucanase releases efficient mannoproteins from the yeast cell wall in solution during alcoholic fermentation. In this way a sur-lies effect is achieved in a much shorter time to the end of fermentation compared to conventional methods.

MannoRelease facilitates the release of mannoproteins during fermentation, without lengthy storage. The desired sensory effect can therefore be achieved in a much shorter time. The  $\beta$ -glucanase dissolves mannoprotein from the yeast substrate during fermentation without damaging the living yeast cells.

The cell wall lyse can be clearly identified by the increase in the turbid supernatant. It can be ascribed to the mannoproteins and other components being dissolved.



The above diagram shows the result of using MannoRelease in a Pinot noir wine. The product is added to the must at the start of fermentation. The finished wine's mannoprotein content is determined by HPLC quantification of the resulting mannose sugar. Compared to the untreated reference sample, MannoRelease increased the mannoprotein content by 42%.

The reagent glasses depicted show enzymatic solubilisation of MannoRelease after 48 hours.



Solubilisation of MannoRelease. The combined product has been prepared in a tartrate buffer (pH 3.5) and incubated for 48 h at 25 °C

MannoRelease is suitable for white, rosé and red wines. The colour of red and rosé wines is not negatively affected because no anthocyanase side activity ( $\beta$ -1,4-glucosidase) is present.

### At a glance

- Improved mouthfeel, body, structure and aroma complexity
- Reduced astringency
- Improved crystal and protein stabilisation in wine

# Treatment agents

## Clarvinyl

Treatment of bitter compounds and off flavours

### Product and effect

- PVPP and milk casein combined with silicates and cellulose.
- Removal of various undesirable flavouring and aromatic substances, phenolic components and oxydised compounds.
- Effect intensified by synergy of the individual ingredients.
- Gentle fining without risk of overfining.
- Superb deposition in tank.

### Dosage

20 – 100 g/100 L (white and rosé wine)  
10 – 20 g/100 L (red wine)



## Degustin

Mineral-based sensory harmonisation

### Product and effect

- Selective adsorption agent for tannins and slight deviations in aroma.
- Releases freshness and fruitiness.
- Improved ageing ability as a result of reduction of oxydisable compounds.

### Dosage

5 – 50 g/100 L



## Ercofid PureLiquid

Liquid combined preparation to combat stubborn off flavours

### Product and effect

- Treatment agent with copper compounds.
- Fining of off flavours from sulphurous compounds, such as hydrogen sulphide, disulphide, mercaptan and thioacetate.
- Very good distribution and short reaction time as a result of liquid formulation.
- Extremely effective for persistent off flavours.

### Dosage

10–150 mL/100 L



## Gerbinol® CF

Casein-free fining of surplus tannins in wine

### Product and effect

- Based on multiple gelatines, silicates and isinglass.
- Powdered tannin adsorption agent.
- Balances out irregularities and problematic components.
- Casein-free.

### Dosage

5 – 50 g/100 L



## Gerbinol® Super

 1 kg

Tannin reduction using caseinate, silicate and isinglass

### Product and effect

- Immediate flocculation after addition to the wine.
- Even distribution of voluminous floccules as a result of intensive stirring in must.
- Adsorptive properties of the resulting fine floccules with superb results, including after short contact times.
- Easy separation by filtration or racking.

### Dosage

3 – 20 g/100 L

## HarmoVin®

 1 kg | 10 kg

Gentle, casein-free harmonisation of wine

### Product and effect

- Gelatines, PVPP and silicate-based powder.
- Protects colour and aroma.
- Balanced, effective, non-aggressive PVPP part.

### Dosage

10 – 80 g/100 L

## Kupzit®

 1 kg | 10 kg

Copper citrate preparation to treat off flavours

### Product and effect

- Suitable for organic wine production.
- Rapid, specific reaction with sulphurous, unpleasant smelling compounds, such as hydrogen sulphide and mercaptans.
- Compounds precipitated as black copper sulphide, which does not increase the beverage's copper content.
- Mineral carrier – a particularly pure, granulated, high-quality bentonite for easy dosage and use.

### Dosage

5 – 20 g/100 L

## MannoRelease

 1 kg

Maximises release of mannoproteins from yeast

### Product and effect

- Sur-lies effect in a much shorter time to the end of fermentation compared to conventional methods.
- Extracts stabilising, sensory mannoproteins.
- Composed of specific yeast cell walls combined with a  $\beta$ -glucanase enzyme.
- Releases mannoproteins from yeast cell wall in solution during alcoholic fermentation.

### Dosage

10 – 30 g/100 L

**SensoVin®**
 1 kg | 10 kg


Rounds and balances wines before bottling

**Product and effect**

- Active components include casein, PVPP, gelatine and various silicates.
- Reliable removable of undesirable sensory properties.
- Optimum dosage depends on type and severity of the off flavour or discolouration.

**Dosage**

5 – 60 mL/100 L

**Vinpur® Special**
 1 kg | 10 kg


Casein and cellulose for gentle tannin removal

**Product and effect**

- No additional filtration aid required.
- Superb filterability after deposition.
- Extremely hygienic as a result of direct addition to wine without prior suspension.

**Dosage**

5 – 60 g/100 L

## Mannoproteins

**MannoComplexe**
 0,1 kg | 0,5 kg


Pure mannoprotein to stabilise and round

**Product and effect**

- High-quality mannoprotein.
- Improved tartar and protein stability in wine.
- Improved sensory integration of alcohol into the wine.
- For smoothing off hard edges in order to give the wine a clean finish.

**Dosage**

5 – 30 g/100 L

**MannoFine**
 1 kg


Liquid mannoprotein for colloid stabilisation

**Product and effect**

- Improves mouthfeel.
- Protects aroma and prevents premature ageing.
- Assists wine's crystal stability.
- Outstanding filterability.
- Easy to use and immediate effect.

**Dosage**

25–125 mL/100 L

# Mannoproteins

Mannoproteins are natural components of the yeast cell wall which are released by the active yeast in the wine during fermentation. Maturation on the lees makes possible further release of mannoproteins by autolysis of the now inactive yeast cells. These natural processes can be further intensified by using specifically chosen protein fractions with very specific properties.

## Natural components

Erbslöh uses a production process based on enzymatic extraction of the yeast cell walls. The desired mannoprotein fraction can be intentionally separated by a subsequent fine filtration process. As substances inherent in wines, mannoproteins can effectively help to achieve crystal stability and improve mouthfeel. They also contribute to better integration of the alcohol.

## Specialised treatments

Special mannoprotein formulations assist with colloidal stability, improve mouthfeel and maintain the wines' aromatic profiles. Unlike technical application methods, such as electrodialysis or cold stabilisation, they do not interfere with the wine's integrity and facilitate adequate protection against tartar breakdown.

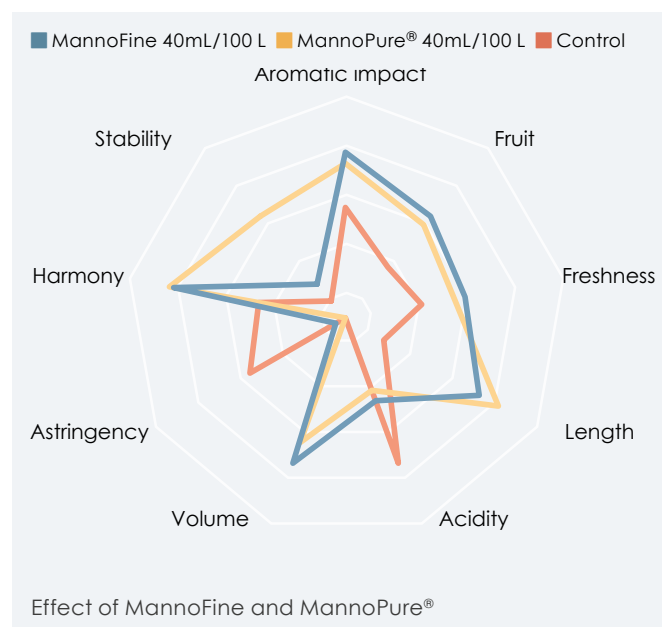


### MannoFine

Liquid mannoprotein formulation that supports colloidal stabilisation, improves mouthfeel and increases the wine's aromatic profile.

### MannoPure®

Liquid pure mannoprotein formulation that simplifies crystal stabilisation and improves the wine's colloidal matrix.



## At a glance:

- Improves mouthfeel
- Reduces astringency
- Improves aroma and reduce oxidation of aromas
- Lasting crystal stability
- Can be microfiltered with little impact on the filtration speed
- Suitable for organic wine production
- Easy to use



**MannoPure®**

Liquid mannoprotein for tartar stabilisation

**Product and effect**

- Extracted by enzyme treatment of the yeast cell wall.
- Sensory optimisation of the wine and prevention of formation of tartar.
- Liquid formulation is easy to use.
- Suitable for all types of wine, approved for organic wines.

**Dosage**

50–150 mL/100 L

 1 kg
**MannoSoft**

Mannoprotein product for stability and mouthfeel

**Product and effect**

- Prepared from mannoprotein and polysaccharides.
- Improved tartar and protein stability in wine.
- Improved mouthfeel and sensory properties as a result of high proportion of free mannoproteins.

**Dosage**

5–30 g/100 L

 0,5 kg


## Gum arabic

**NEW MixGum**

Liquid natural gum arabic

**Product and effect**

- Colour and colloid stabilisation.
- Integrates astringent tannins.
- Very good filtration properties.
- Direct injection possible by dosing pump.

**Dosage**

200 – 400 mL/100 L

 20 kg | 1000 kg


# Gum arabic

Gum arabic is obtained as a resin from the Seyal and Senegalese acacia trees. It mainly consists of hydrophilic arabinogalactan and hydrophobic proteins.

As a natural product, gum arabic is used in many foods and drinks. In wine it is used for stabilisation and offers colloidal protection. Gum arabic has the ability to prevent the formation of compounds from colour pigments, tannins or metal ions.

## MixGum

Liquid natural gum arabic

As a result rough, green and unripe tannins are excluded from the sensory properties. This prevents haze and allows maximum clarity in the bottle and glass.

## MetaGum®

Extended protection against breakdown of tartar

The tannins lose their astringency and are perceived as more balanced and softer. The wines' colour pigments remain stable. The wine's mouthfeel, body and density can reveal themselves in their full glory.

The astringency of a wine is a perceptible stimulus that strongly influences the sense of taste in the mouth and throat. This stimulus is based on a physico-chemical reaction of certain tannins with the mucous membranes of the mouth. These contract, adding to the astringent feeling. The reaction between tannins and proteins in the mouth can lead to the feeling of a dry, coated tongue.

Gum arabic prevents this reaction between the tannins and the proteins in saliva and the perception of astringency does not occur. As a result, the wine comes across as much gentler, softer and more balanced.

## Stabiverek

Liquid gum arabic from Acacia verek

Undesirable precipitation of pigment components in red wines in particular is effectively prevented by gum arabic. Gum arabic also helps with crystal stabilisation.

## SweetGum®

Easily filtered natural gum arabic

## The benefits at a glance

- Increases mouthfeel
- Natural original
- Prevents precipitation of pigment components
- Stabilises metal complexes
- The effects of metatartaric acid and CMC are intensified
- Rounds off the wine
- Tannins appear softer
- Good filtration properties



**Senso R**
 5 kg | 20 kg


Natural stabilisation and fruit retention

**Product and effect**

- Balances astringent polyphenols.
- Greater texture in wine.
- Retains the fruit character required for complexity and length on the palate.
- Little impact on filtration as a result of careful raw material selection.

**Dosage**

50 – 300 mL/100 L

**Senso Ü**
 5 kg | 20 kg | 1.000 kg


Combination of gum arabic and mannoprotein

**Product and effect**

- Reduces perception of bitterness and astringency.
- Balance of sensory properties.
- Little impact on filtration as a result of careful raw material selection.
- Improves colloid and tartar stabilisation.

**Dosage**

100–300 mL/100 L

**Stabiverek**
 1 kg | 10 kg | 21 kg | 1.000 kg


Liquid gum arabic from Acacia verek

**Product and effect**

- Reduces perception of bitterness and astringency.
- Balance of sensory properties.
- Little impact on filtration as a result of careful raw material selection.
- Improves colloid and tartar stabilisation.

**Dosage**

50 – 100 mL/100 L

**SweetGum®**
 1 kg | 10 kg | 20 kg | 1.000 kg


Easily filtered natural gum arabic

**Product and effect**

- Composed of a polysaccharide and a protein fraction.
- Stabilises unstable colloids that affect turbidity.
- Combats metal-induced turbidity and precipitation of colour pigments.
- Reduces the perception of astringency in the case of reactive tannins.
- Very good filtration performance.
- Improved mouthfeel.

**Dosage**

50 – 200 mL/100 L

**Sorbol**
 1 kg | 25 kg


Potassium sorbate to prevent secondary fermentation

**Product and effect**

- Food-quality potassium sorbate.
- Inhibits yeasts and moulds.
- No effect on bacteria, see BactiCare and MaloStop F for this.
- Free SO<sub>2</sub> should amount to at least 40 mg/L.

**Dosage**

Maximal 27 g/100 L

## Crystal stabilisation

**NEW KaliContact**
 25 kg


Contact crystals to stabilise tartar

**Product and effect**

- A specially prepared tartar crystal for tartar precipitation.
- Tartar stability by natural methods.
- Contact process ideally works at 4 °C to -4 °C.
- Ideal when combined with locally generated, sustainable energy.

**Dosage**

4 g/ L

**MetaGum®**
 1 kg | 10 kg


Extended protection against breakdown of tartar

**Product and effect**

- Highly esterified metatartaric acid and easily soluble gum arabic.
- Prevents tartar crystals forming in wine.
- Significantly extends the stabilising effect compared to using pure metatartaric acid.

**Dosage**

10 g/100 L

**Metavin® 40**
 1 kg | 15 kg


Pure metatartaric acid to protect against breakdown of tartar

**Product and effect**

- Delays crystallisation and precipitation of tartar.
- Suppresses the growth of the submicroscopic tartrate crystal nuclei.
- High stabilisation ability as a result of an average esterification of 40 %.

**Dosage**

10 g/100 L

**Metavin® Opti**
 1 kg | 15 kg


Optimum esterified metatartaric acid to combat breakdown of tartar

**Product and effect**

- Improved protective effect through extremely stable esterification compared to conventional tartaric acids.
- Prolonged stability as a result of larger macromolecules.
- Consistent quality as a result of special production process.

**Dosage**

10 g/ 100 L

**VinoStab®**
 1 kg | 5 kg | 20 kg | 1.000 kg


CMC as long-term protection against tartar breakdown in wine

**Product and effect**

- Prevents the growth of submicroscopic tartar crystal nuclei.
- Stabilising effect depending on oversaturation of wine to be treated.
- Precise assessment of stability with regard to tartar breakdown by determining the saturation temperature or the conductivity difference using the mini contact process (EasyKrista Test).

**Dosage**

75 – 130 mL/100 L

## Acid management

**Boerovin**
 10 kg | 1.200 kg


80% food quality L(+) lactic acid

**Product and effect**

- For acidification of must, mash and wine.
- Not degradable by bacteria.
- No risk of crystal precipitation and potassium loss.
- Particularly smooth in sensory terms.
- Liquid - no dissolving - no clumping - can be dosed directly.

**Dosage**

15 – 450 g/100 L

**NEU e.Ascorbic**
 25 kg | 1.000 kg


Pure ascorbic acid (vitamin C) as oxidation prevention

**Product and effect**

- Improves storage properties of wines and sparkling wines.
- Particularly advantageous for low acid wines.
- Prevention of UTA.

**Dosage**

Maximum 25 g/100 L



## Erbslöh Kalk

 25 kg | 1.000 kg



Pure calcium carbonate for deacidification

### Product and effect

- Raises the pH value for planned MLF.
- Precipitates insoluble calcium salts.
- Easy separation.
- Can be used from must to wine.
- Precise implementation of minor deacidifications possible.

### Dosage

67 g Erbslöh Kalk/100 L must or wine required for deacidification by 1 g/L.

## Kalinat

 1 kg | 25 kg



Potassium bicarbonate for fine deacidification

### Product and effect

- Fine deacidification of must, young wine and wine.
- Rapid crystal precipitation by cold treatment.
- Wine quickly ready for bottling.

### Dosage

67 g Kalinat/100 L must or wine required for deacidification by 1 g/L.

## Neoantacid

 5 kg | 25 kg



Special calcium carbonate for double salt deacidification

### Product and effect

- Calcium carbonate specifically produced for double salt deacidification.
- Chemically pure precipitated calcium carbonate.
- Simultaneous reduction of malic and tartaric acid.
- Higher deacidification range.
- Can be used for regular deacidification.

### Dosage

67 g Neoantacid/100 L must or wine required for deacidification by 1 g/L.

# Overview of our SO<sub>2</sub> products

	Description	Dosage	Pack size (kg)
<b>Kadifit</b>	Potassium disulphite for sulphurisation of must and mash	5–15 g/100 L	0.01 1 25
<b>Oenodose 5</b>	Effervescent sulphur tablets with potassium disulphite	1 tablet in 225 L (barrique) = release of 22 mg SO <sub>2</sub>	Sheet of 42 tablets
<b>Solution sulfureuse P15</b>	Easy, safe, precise: Liquid sulphurisation, 15% SO <sub>2</sub>	6.7 mL/100 L = 10 mg/L SO <sub>2</sub>	10 20
<b>SulfoHubert 40</b>	Liquid yeast nutrition and as protection against oxidation	5–15 g/100 L	20
<b>VinProtect</b>	Comprehensive protection for grapes, must and mash	10–20 g/100 L	1

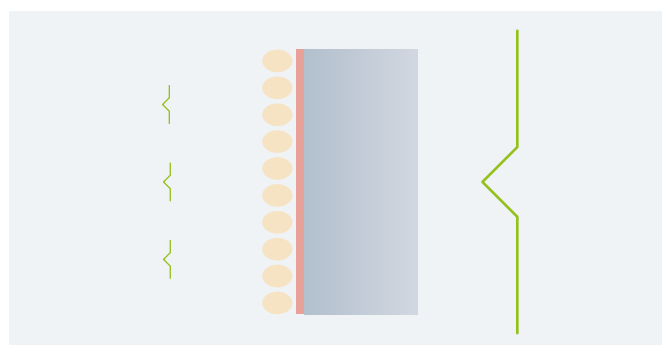
# The VarioSan process

The innovative VarioSan process facilitates the processing of must, wine and sediment. It is an efficient, ecological process that is gentle on the product.

The VarioSan process's success lies in efficient utilisation of the chamber filter. The outcome of faster processing and increased throughput is an economic advantage for the user. The VarioSan process is a user-friendly and reliable process for processing sedimentation, flotation and yeast sediment. Furthermore the process is suitable for filtration of the total volume of must in autumn and for pre-coat filtration of wine.

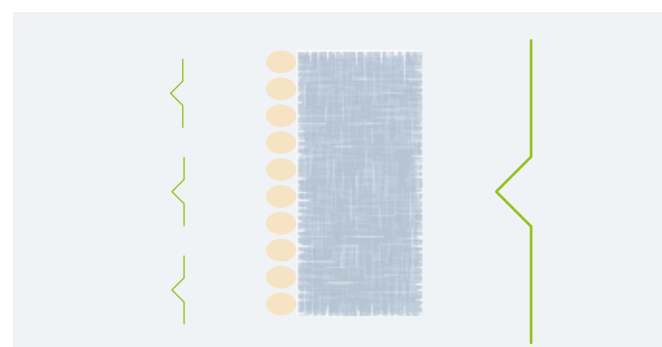


The process was developed to optimise the use of conventional chamber filters. The technology is based on the combination of VarioFluxx® P and e.San filter cloth made from monophilic tissue. The VarioFluxx® P filtration aid has a particularly good drainage effect and ensures rapid filter cake formation. The synergy of e.San filter cloth and VarioFluxx® P allows short filtration cycles and a significant increase in the volume processed per day. The proportion of solids or whether the must has already started to ferment is irrelevant.



## Conventional filter press filtration

- Formation of barrier layers in the filter cake
- Faster pressure increase
- Inhomogeneous filter cake
- Unnecessary product loss



## VarioSan process

- Even cake formation
- Optimum pressure development
- Solid filter cake
- Improved product yield

Product type	Plate size in mm (filtration volumen in litres/plate/cycle)			
	630*630	800*800	1000*1000	1200*1200
Flotation residues	77	108	148	300
Sedimentation sediments	133	193	256	519
Non-clarified must	378	548	727	1.475
Red wine sediments	67	97	129	261
Thermovinification Must	227	329	437	886

\* Approximate data, the volume of the filtrate depends very much on the amount of suspended solids in the product.

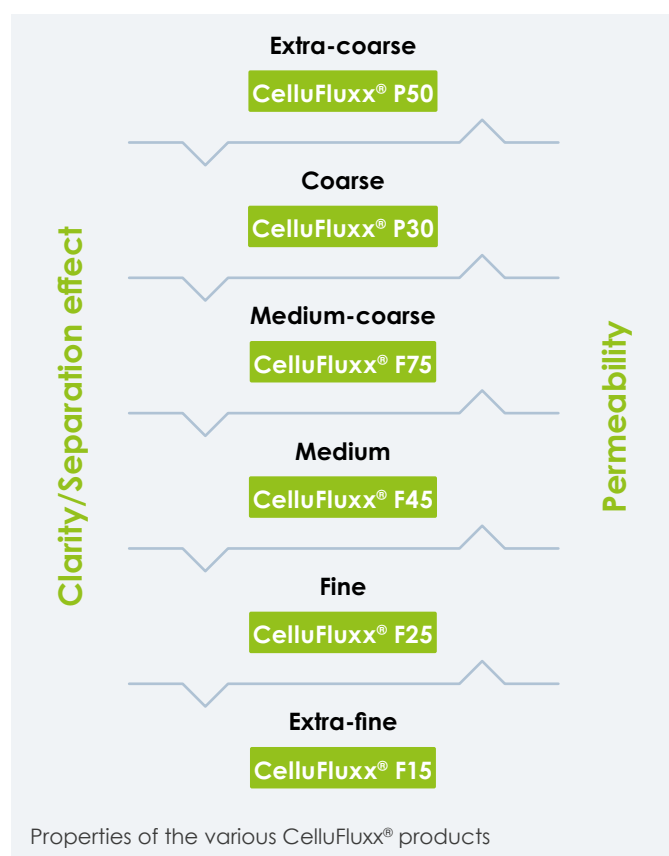
CelluFluxx®

# Filter cellulose for pre-coat filtration

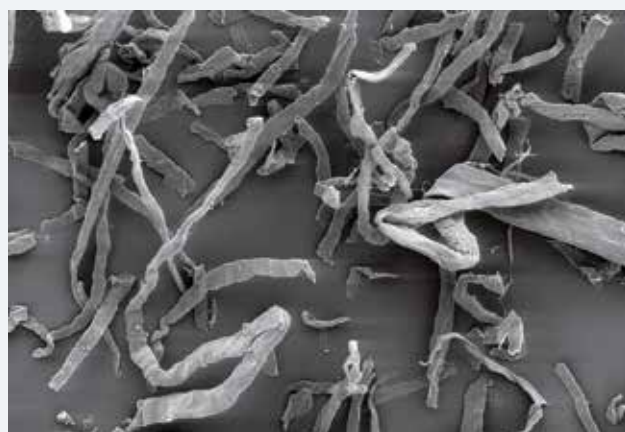
Ideally, CelluFluxx® can be used as an alternative filtration aid to kieselguhr or perlite. By mixing the different product types it is possible to intentionally adjust filter cake permeability.

CelluFluxx® filter cellulose consists of specially prepared cellulose fibres and possesses a high level of chemical and organoleptic purity. Fibres of varying degrees of fineness with an individually adjusted degree of fibrillation are created using special grinding techniques. It is possible to form an individual filter cake by mixing different types of fibres. Consequently, in practice the filtration accuracy can be adjusted to meet requirements, from filtration for clarification to fine filtration for sterilisation.

good for the environment - it also protects pumps, pipes and filters, as this CelluFluxx® is not abrasive. The plant's waste water system is protected as the cellulose fibres rinse away well and do not build up in the system.



Filter cellulose is made from deciduous and ever-green wood and comes 100% from biomass. The used filter cake from wine production can be applied to agricultural land throughout the year as biomass and does not have to be worked into the soil, like kieselguhr. Not only is filter cellulose



Cellulose fibres

## Conventional pre-coat filtration with kieselguhr

- Hazardous to health
- Faster pressure rise as a result of low filter cake permeability
- Laborious disposal
- Unnecessary product loss

## Filtration with CelluFluxx® filter cellulose

- Aroma retention as a result of product-conserving filtration
- Reduced product loss
- Environmentally friendly, compostable
- Longer contact times as a result of greater filter cake permeability

# Overview of our filtration products

Characteristics	Application
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## e.San

e.San Filtercloth	Monophilic tissue, high hourly output, very good cleaning properties	Sediment filtration, pre-coat filtration of wine
e.San Filterbag	Monophilic tissue, easy to use and clean	Processing small volumes of sediment

## Filtration aid – mixed product

VarioFluxx® P	Filtration aid with high drainage effect	For sediment filtration
VarioFluxx® F	Filtration aid with high clarifying effect	Targeted filter cake compaction during pre-coat filtration

## Pure cellulose-based filtration aid

CelluFluxx® P50	Pure cellulose fibres: extra long, for coarse filtration	Perfect for use in chamber filter press-es and rotary vacuum filters
CelluFluxx® P30	Pure cellulose fibres: long, for initial pre-coating	The fibres' smooth surface prevents catching on the backing fabric
CelluFluxx® F45	Pure cellulose fibres: medium, for fine filtration	Ensures a well-structured filter cake and maintains filtration performance
CelluFluxx® F25	Pure cellulose fibres: short, for sharp filtration	Perfect as an admixture in the regular dosage to adjust the degree of clarification
CelluFluxx® F15	Pure cellulose fibres: very short, for fine filtration	Targeted increase of acuity of clarification when combined with CelluFluxx® F25

## Erbslöh filter sheets

Erbslöh Filterschicht G5S <b>NEW</b>	0.6-0.4 µm	Sterilising filtration
Erbslöh Filterschicht G7S <b>NEW</b>	0.8-0.5 µm	Sterilising filtration
Erbslöh Filterschicht G9S <b>NEW</b>	1.2-0.6 µm	Sterilising filtration
Erbslöh Filterschicht G12 <b>NEW</b>	1.5-0.6 µm	Fine filtration
Erbslöh Filterschicht G16 <b>NEW</b>	3.0-1.5 µm	Fine filtration
Erbslöh Filterschicht G20 <b>NEW</b>	9.0-4.0 µm	Clarifying filtration

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The application recommendations given herein describe the intended use of the product as a processing aid or additive, as part of good manufacturing practice. The end product's food safety can only be achieved if used exclusively in this way. Please note: Our recommendations are based on our current knowledge and experience. They must be seen as general information about our products only. We cannot accept any liability for use on a case-by-case basis due to the imponderabilities of treating natural products and potential prior treatments. The user must always check for himself compliance with the laws and safety regulations which apply to use of our products. All data is therefore provided without any warranty. All information is subject to change without prior notice. Our General Terms and Conditions of Business also apply (downloadable from [www.erbsloeh.com](http://www.erbsloeh.com)).



