



BOHEMIAN CRYSTAL TOP

Research results

Geisenheim Study – 36 month

Summary of the bottling trial performed by
Geisenheim University

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HIGHLIGHTS - GEISENHEIM 36 MONTH

White (dry Riesling, Qualitätswein, Rheingau, 2018) and red (dry Cuvee, Qualitätswein, Rheingau, 2018) wine trial started in June 2019.

Storage under cold (15°C) and warm (20-25°C) conditions, bottling with and without inerting the headspace with CO₂.

Comparison of Vinolok 18.2 and 18.5 with Saran-Tin screw cap for opening performance, colour evolution, free and total SO₂ and sensory profile.

Bottles with Vinolok compatible bottleneck profile.

24 month data showed similar ageing performance between the modalities.



GEISENHEIM - 36 MONTH DATA SUMMARY (1/3)

Opening, visual evaluation

No visual defect or leakage was observed, with the same opening performance for all Vinolok modalities (18.2 and 18.5).

Colour

White wine: very low color intensity as the wine has a very pale colour, but slight increase compared to 24M – the screwcap modality remains with the lowest intensity, but no optical differences can be detected by the human eye.

Red wine: higher intensity colour, but the results show the same trend – there are no visual differences detectable by the human eye between the modalities.

Wine evolution (Free and Total SO₂)

White wine: after 3 years, as expected, wines approach the 15 mg/L oxidation threshold, but all modalities remain above 14.5 mg/L. Screwcap keeps FSO₂ best (20.2 mg/L), since its OTR value is much lower. Vinolok 18.5 preserved slightly higher FSO₂ levels than 18.2.

Red wine: similar tendency to white wine, but with a lower oxidation threshold (10 mg/L) and all modalities remain above this. Screwcap modality and Vinolok 18.5 show the same ageing performance and are the highest in FSO₂ retention. Vinolok 18.5 kept slightly higher FSO₂ levels than 18.2.

GEISENHEIM - 36 MONTH DATA SUMMARY (2/3)

Sensory – white wine

Performed as a ranking check for parameters such as „freshness” and „clean” on different sets of wines:

- 1: without inerting
- 2: with CO₂ inerting
- 3: all Vinolok modalities

Screwcap with CO₂ inerting was significantly different and described as „slightly reduced” and „not clean”.

Vinolok modalities with or without inerting showed no significant differences.

The analytically higher FSO₂ was detected and confirmed by the sensory tasting.



GEISENHEIM - 36 MONTH DATA SUMMARY (3/3)

Sensory – red wine

Performed as a ranking check for parameters such as „freshness” and „clean” on different sets of wines:

- 1: without inerting
- 2: with CO₂ inerting
- 3: all Vinolok modalities

Screwcap modality without inerting was described as „fresher and cleaner” compared to others.

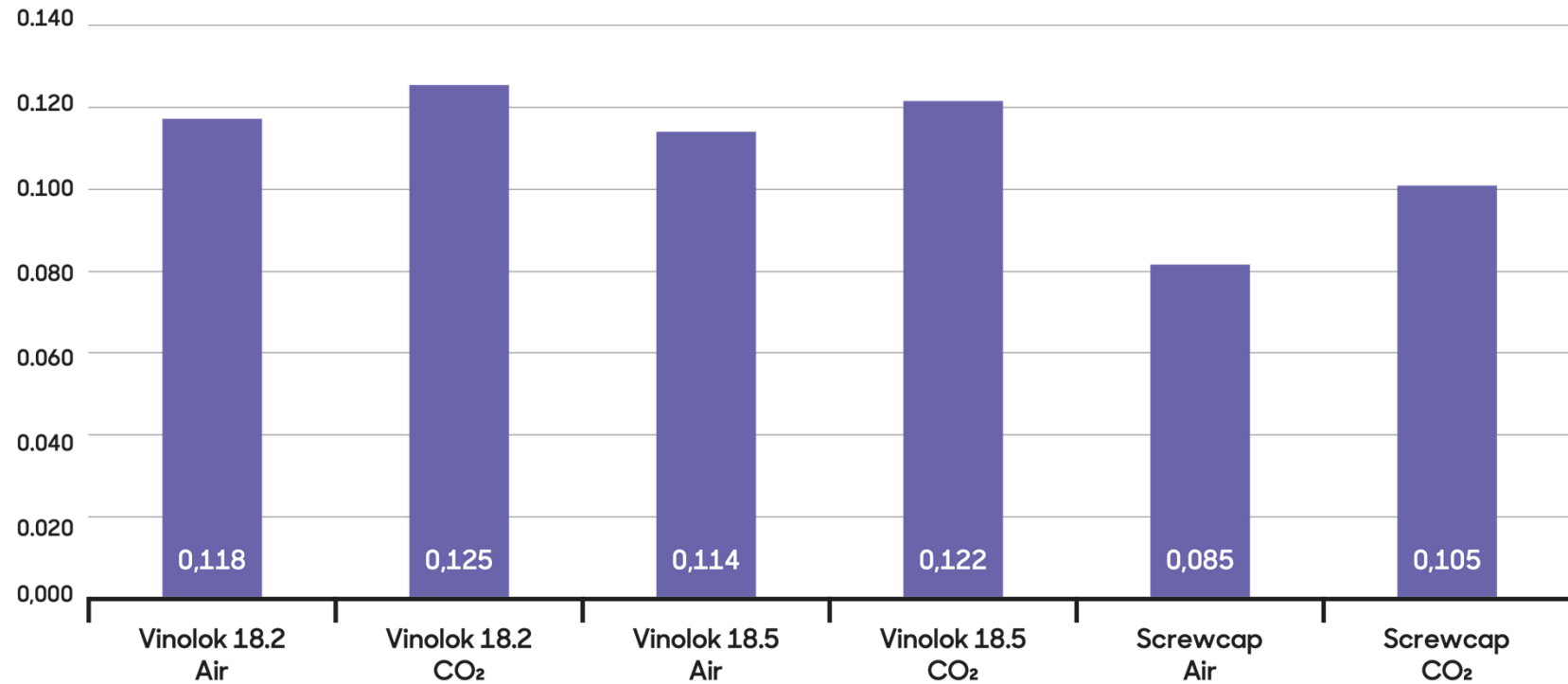
With CO₂ inerting both Vinolok and screwcap modalities were identified as more „reductive character/more closed”.



COLOUR INTENSITY - WHITE WINE

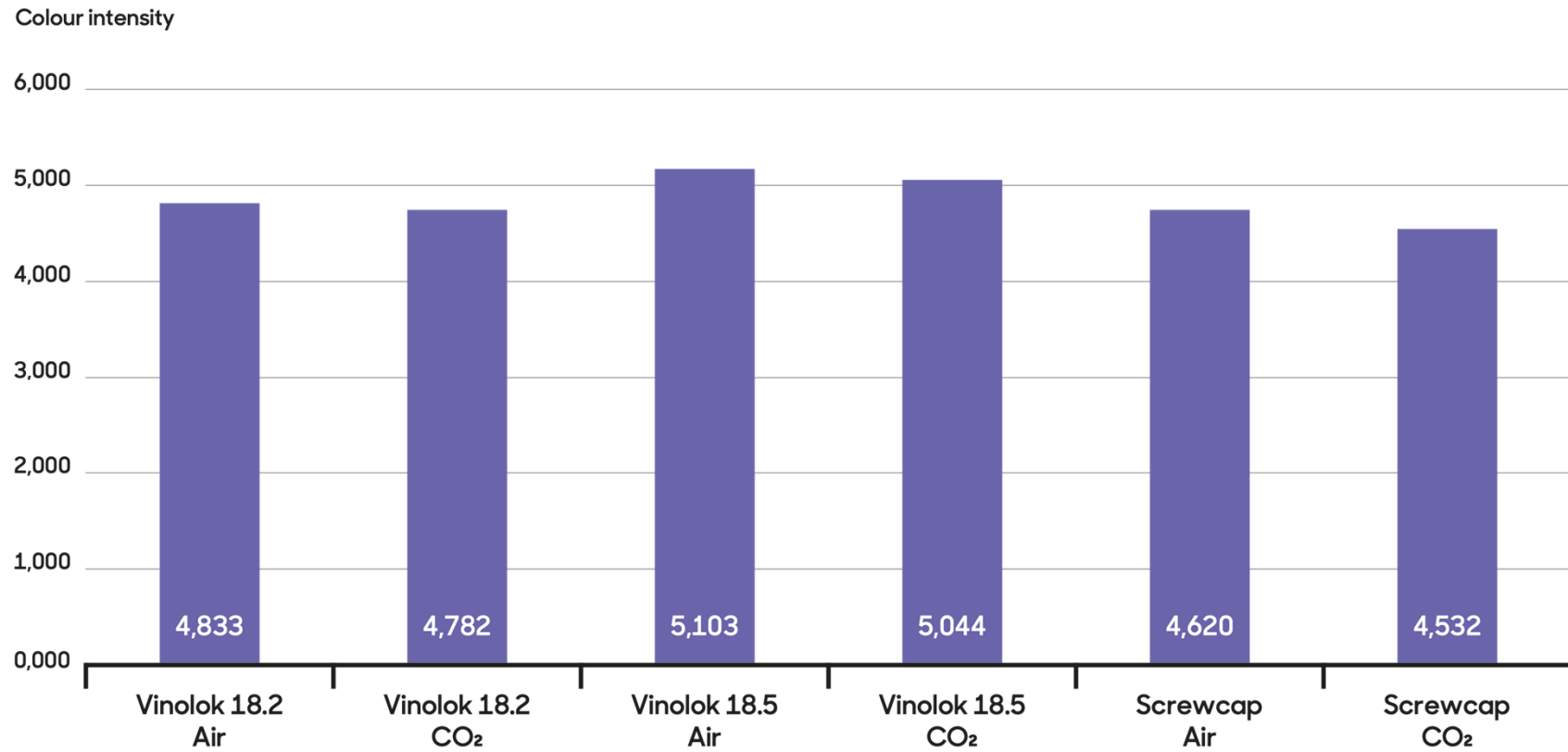
After 36 months, at 15°C storage – lower intensity with screwcaps indicates lower oxygen ingress

Colour intensity



COLOUR INTENSITY - RED WINE

After 36 months, at 15°C storage – differences are not significant



AGEING - WHITE WINE

Free SO₂ levels of white wine, after 36 months at 15°C storage show differences between Vinolok and screwcap.

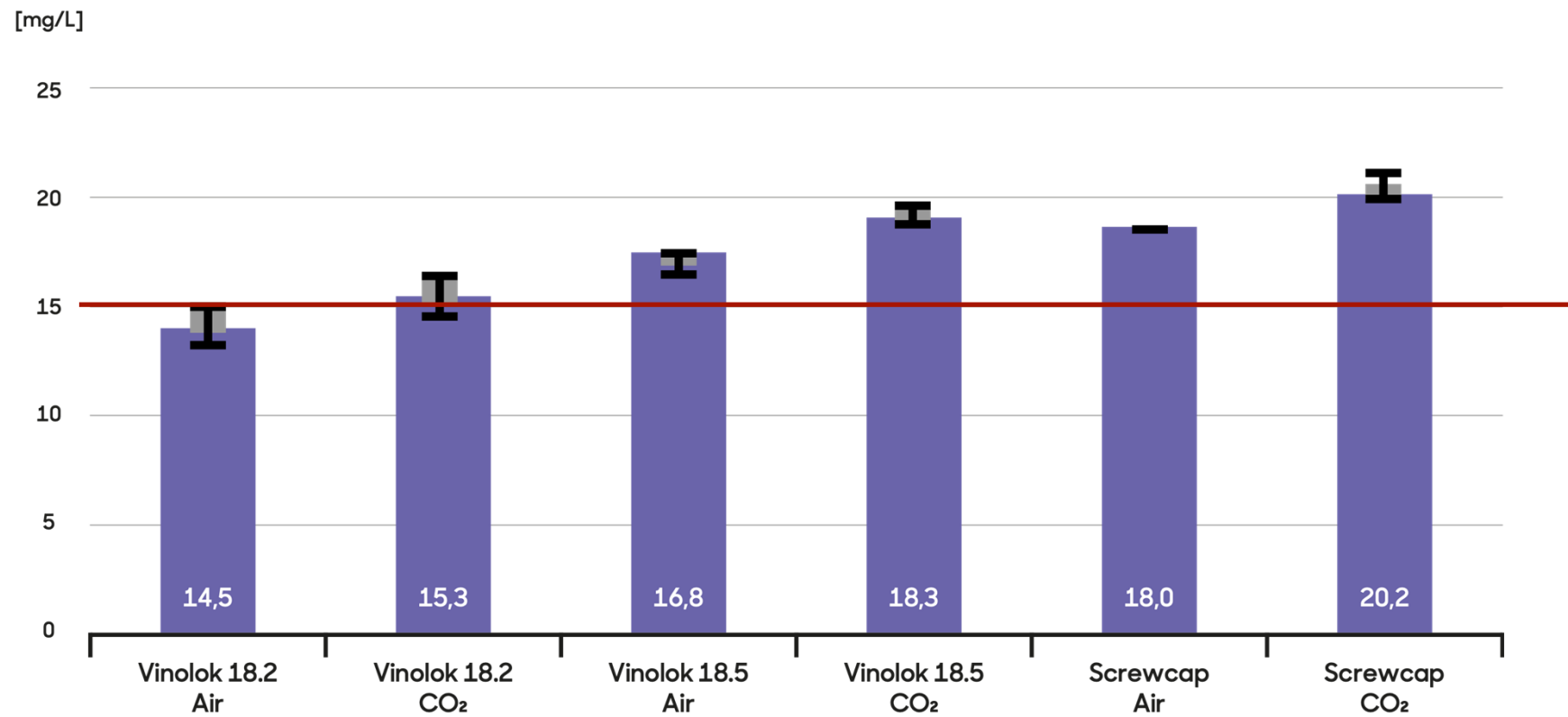
After 3 years, as expected, wines approach the 15 mg/L oxidation threshold, but all modalities remain above 14.5 mg/L.



AGEING - WHITE WINE

Free SO₂ levels of white wine, after 36 months at 15°C storage

Initial free SO₂ level at bottling was 40 mg/L in June 2019



AGEING - RED WINE

Screwcap modality and Vinolok 18.5 show the same ageing performance and are the highest in FSO₂ retention.

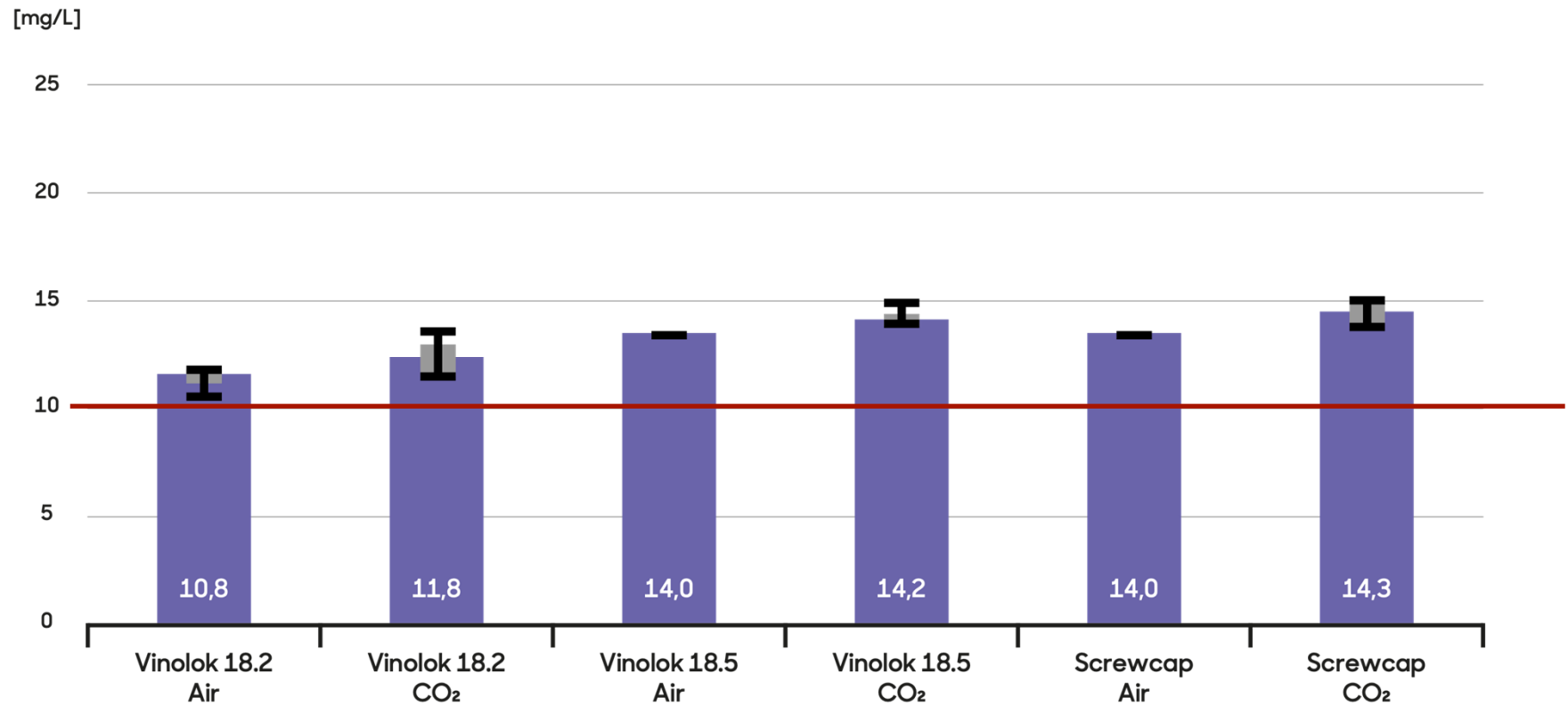
No sign of oxidation after 36 months of ageing.



AGEING - RED WINE

Free SO₂ levels of red wine, after 36 months at 15°C storage

Initial free SO₂ level at bottling was 41 mg/L in June 2019





KEY TAKEAWAYS

White wines show significant differences of FSO₂ retention after 36 months which was also confirmed by the sensory tasting.

Very similar ageing performance in case of red wine after 3 years when compared to screw caps.

The wines show no signs of oxidation after 36 months and the trial will be continued for another 24 months for long-term ageing demonstration.



Any further questions?

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