

Comparison of analytical techniques for ethanol content of no- and low-alcohol wines

AWRI

Laura Bey¹, Rachel West¹, Eric Wilkes¹

¹The Australian Wine Research Institute, PO Box 197, Glen Osmond (Adelaide) SA 5064, Australia

Corresponding author's email: laura.bey@awri.com.au

Why is it important?

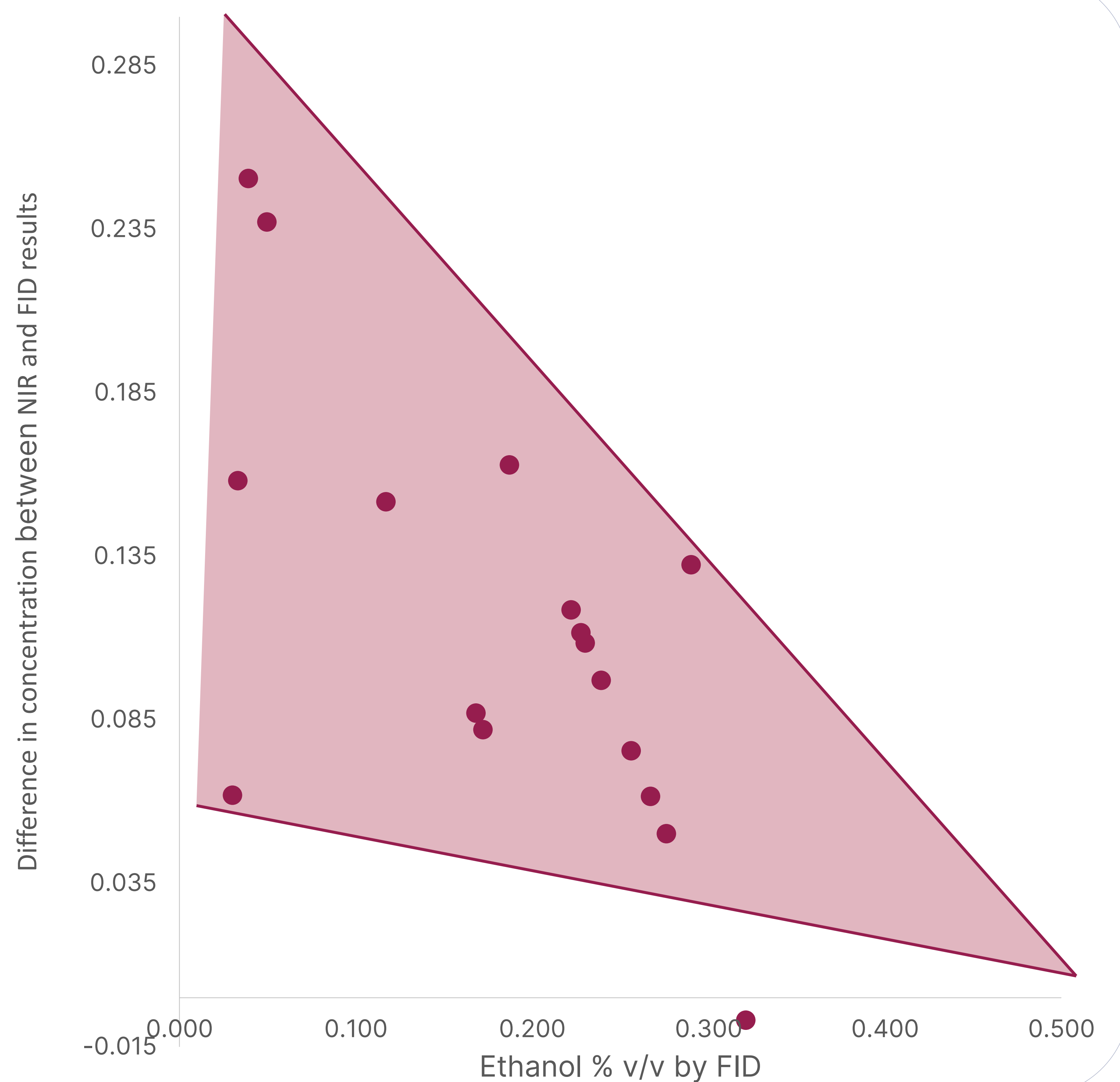
- The new market segment for no- and low-alcohol (NOLO) wines is expanding by 25% year on year¹
- More selective analysis is required to accurately quantify very low ethanol levels to meet international regulations
- At these very low levels, NIR may be subject to interference from other higher alcohols such as propanols and butanols

How did we do it?

- A recently validated method using gas chromatography flame ionisation detection (GC-FID) method was refined in-house at the AWRI to quantify very low ethanol levels
- 18 NOLO wines were analysed using both GC-FID and the more widely used NIR method
- The results were compared across the two methods

What did we find?

- Results using NIR were consistently higher than results using GC-FID for samples in the NOLO segment
- As the ethanol level increased, results from the two different techniques converged
 - This suggests that NIR may be overestimating ethanol results at very low levels, but the interference from higher alcohols is immaterial in table wines



What does it mean for you?

- GC-FID provides a more selective and accurate technique for quantifying ethanol in NOLO wines
- A newly validated GC-FID method for very low ethanol levels is now available through Affinity Labs
- With Food Standards Code requirements of <0.5% or <1.15% for certain labelling representations², you can label your NOLO products with confidence for local and export markets

1. Wine Australia. 2021. When less is more. <https://www.wineaustralia.com/news/market-bulletin/issue-247>
2. Wine Australia. Low alcohol wine. <https://www.wineaustralia.com/labelling/low-alcohol-wine>