

'Latest Advances in Cork Processing Technology' Workshop

12th Australian Wine Industry Technical Conference

Melbourne, 25 July 2004



Use of gas chromatography analysis in cork quality control



AMORIM

Stefan Dahl

Research & Development Department

Amorim & Irmãos





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TRANSITION FROM SENSORY TO CHEMICAL ANALYSIS



Pre 2001

Sensory analysis only



Since 2001

Standardised chemical analysis



COMPARISON BETWEEN SENSORY AND CHEMICAL ANALYSIS

Evaluation by Sensory Panel	Chemical Analysis: TCA
Intense TCA	(ng/L) 26.1
Moderate TCA	2.7
Slightly earthy	14.8
Mouldy	2.4
Nothing detected	5.8

Source: Amorim quality control department



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TCA ANALYSIS OF SAMPLE WINES

Wine A

Sample 1

2 ng/l

Sample 2

10 ng/l

Sample 3

0 ng/l

Wine B

Sample 1

0 ng/l

Sample 2

2 ng/l

Sample 3

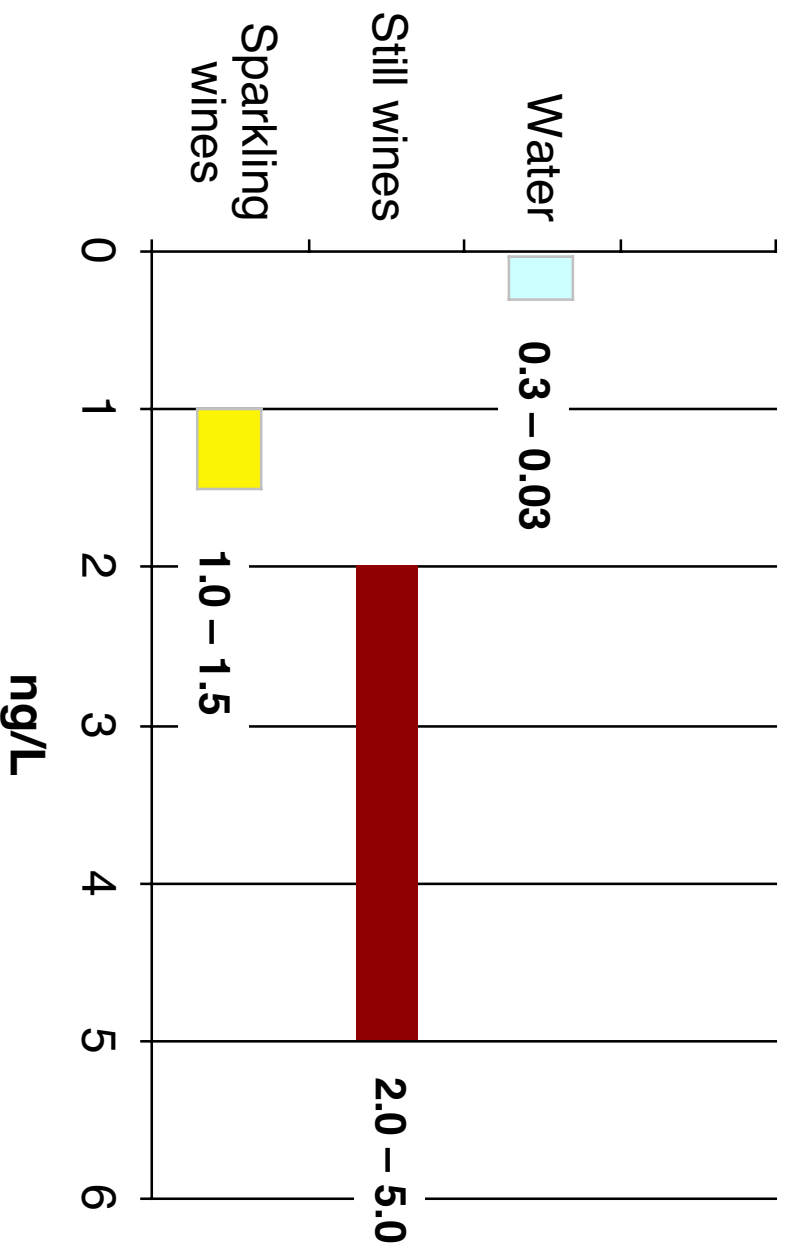
10 ng/l





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SENSORY THRESHOLD LEVELS FOR TCA IN DIFFERENT WINE STYLES



Source: Pascal Chatonnnet 'Haloanisoles in the wine world – origin, incidence and control mechanisms', paper presented to oenology seminar, Anisoles and Brettanomyces, causes effects and control mechanisms, Foundation for Wine Culture, Madrid, 15 January 2004.



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REQUIREMENTS FOR QUALITY CONTROL

- Sophisticated methods
 - SPME-GC/MS or SPME-GC/ECD
- Standardised procedures
 - ETS laboratories
- Validated methods
- Controls
- Ring-tests



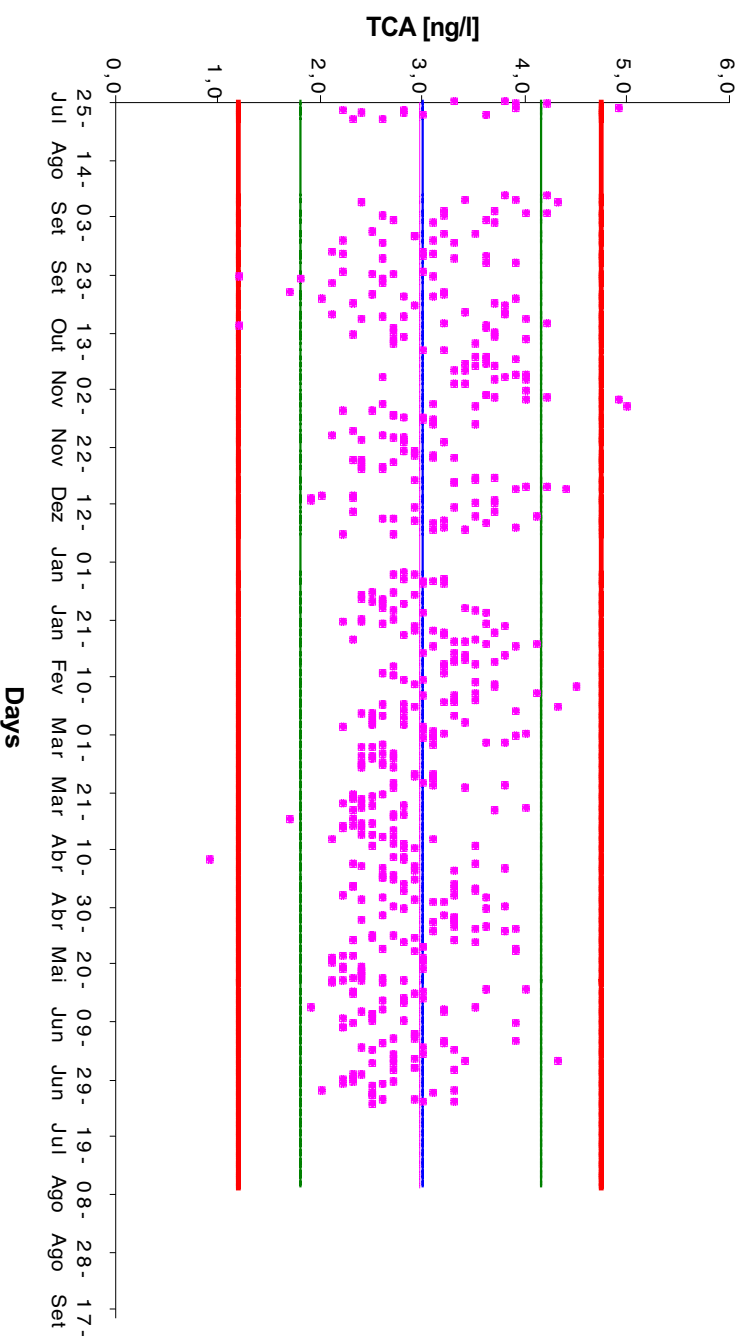




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CONTROL CHARTS—EXAMPLES

Control Chart ECD1 (3ng/l)

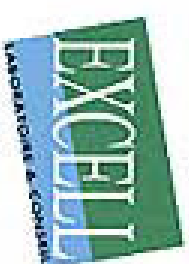




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INTER-LABORATORY TESTS

- Laboratoire Excell



- Laboratoire CEVAQOE



- CTCOR



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