

PUBLICATIONS 2015

- ALEIXANDRE TUDO JL, NIEUWOUDT HH, ALEIXANDRE J-L, DU TOIT WJ.** Robust Ultraviolet-Visible (UV-Vis) Partial Least-Squares (PLS) models for tannin quantification in red wine. *Food Chemistry* 2015; **63**:1088-1098.
- ALEIXANDRE TUDO JL, WEIGHTMAN CJ, PANZERI V, NIEUWOUDT HH, DU TOIT WJ.** Effect of Skin Contact before and During Alcoholic Fermentation on the Chemical and Sensory Profile of South African Chenin Blanc White Wines. *South African Journal of Viticulture and Oenology* 2015; **36**(3):366-377. *South African Journal of Enology and Viticulture* 2015; **36**(3):366-377.
- BAGHERI B, BAUER FF, SETATI ME.** The diversity and dynamics of indigenous yeast communities in grape must from vineyards employing different agronomic practices and their influence on wine fermentation. *South African Journal of Enology and Viticulture* 2015; **36**:243-251.
- CHIDI BS, ROSSOUW D, BUICA AS, BAUER FF.** Determining the impact of industrial wine yeast strains on organic acid production under white and red wine-like fermentation conditions. *South African Journal of Enology and Viticulture* 2015; **36**:316-327.
- FRANKEN CJ, BURGER A, SWIEGERS JH, BAUER FF.** Reconstruction of the carnitine biosynthesis pathway from *Neurospora crassa* in the yeast *Saccharomyces cerevisiae*. *Applied Microbiology and Biotechnology* 2015; **99**:6377-6389.
- GAO Y, FANGAL JU, WILLATS WGT, VIVIER MA, MOORE JP.** Dissecting the polysaccharide-rich grape cell wall changes during winemaking using combined high-throughput and fractionation methods. *Carbohydrate Polymers* 2015; **133**:567-577.
- GHOSH S, BAGHERI B, MORGAN HH, DIVOL BT, SETATI ME.** Assessment of wine microbial diversity using ARISA and cultivation-based methods. *Annals of Microbiology* 2015; **65**:1833-1840.
- LASHBROOKE JG, ADATO A, LOTAN O, ALKAN N, TSIMBALIST T, REHAV K, FERNANDEZ-MORENO J-P, WIDEMANN E, GRAUSEM B, PINOT F, GRANELL A, COSTA F, AHARONI A.** The Tomato MIXTA-Like transcription factor coordinates fruit epidermis conical cell development and cuticular lipid biosynthesis and assembly. *Plant Physiology* 2015; **169**:2553-2571.
- LASHBROOKE JG, AHARONI A, COSTA F.** Genome investigation suggests MdSHN3, an APETALA2- domain transcription factor gene, to be a positive regulator of apple fruit cuticle formation and an inhibitor of russet development. *Journal of Experimental Botany* 2015; **66**(21):6579-6589.
- LOUW L, OELOFSE S, NAES T, LAMBRECHTS M, VAN RENSBURG P, NIEUWOUDT HH.** Optimisation of the partial napping approach for the successful capturing of mouthfeel differentiation between brandy products. *Food Quality and Preference* 2015; **41**:245-253.
- LOUW L, OELOFSE S, NAES T, LAMBRECHTS M, VAN RENSBURG P, NIEUWOUDT HH.** The effect of tasting sheet shape on product configurations and panellists' performance in sensory projective mapping of brandy products. *Food Quality and Preference* 2015; **40**:132-136.
- MOORE JP, FARRANT JM.** Editorial: Current advances and challenges in understanding plant desiccation tolerance. *Frontiers in Plant Science* 2015; **6**:1-3.
- MOORE JP, ZHANG S, NIEUWOUDT HH, DIVOL BT, TRYGG J, BAUER FF.** A multivariate approach using attenuated total reflectance mid-infrared spectroscopy to measure the surface mannoproteins and β -glucans of yeast cell walls during wine fermentations. *Journal of Agricultural and Food Chemistry* 2015; **63**:10054-10063.
- NDLOVU JB, HAMMAN H, FRANZ CMAP, DU TOIT M.** Screening, identification and characterization of bacteriocins produced by wine-isolated LAB strains. *Journal of Applied Microbiology* 2015; **118**:1007-1022.
- ROSSOUW D, BAGHERI B, SETATI ME, BAUER FF.** Co-Flocculation of yeast species, a new mechanism to govern population dynamics in microbial ecosystems. *LoS ONE* 2015; **10**:1-17.
- SETATI ME, JACOBSON D, BAUER FF.** Sequence-based analysis of *Vitis vinifera* L. cv Cabernet Sauvignon grape must mycobiome in three South African vineyards employing distinct agronomic systems. *Frontiers in Microbiology* 2015; **6**:1-11.
- TROLLOPE KM, VOLSCHEK H, GORGENS JF, BRO R, NIEUWOUDT HH.** Direct, simultaneous quantification of fructooligosaccharides by FT-MIR ATR spectroscopy and chemometrics for rapid identification of superior, engineered α -fructofuranosidases. *Analytical and Bioanalytical Chemistry* 2015; **407**:1661-1671.
- WEIGHILL DA, JACOBSON D.** 3-way Networks: Application of hypergraphs for modelling increased complexity in comparative genomics. *PLoS Computational Biology* 2015; **11**(e1004079):1-23.
- WHITENER MEB, CARLIN S, JACOBSON D, WEIGHILL DA, DIVOL BT, CONTERNO L, DU TOIT M, VRHOVSEK U.** Early fermentation volatile metabolite profile of non-*Saccharomyces* yeast in red and white grape must a targeted approach. *LWT-Food Science and Technology* 2015; **64**:412-422.
- ZIETSMAN JJ, MOORE JP, FANGAL JU, WILLATS WGT, TRYGG J, VIVIER MA.** Following the compositional changes of fresh grape skin cell walls during the fermentation process in the presence and absence of maceration enzymes. *Journal of Agricultural and Food Chemistry* 2015; **63**(10):2798-2810.

ZIETSMAN JJ, MOORE JP, FANGAL JU, WILLATS WGT, VIVIER MA. Profiling the hydrolysis of isolated grape berry skin cell walls by purified enzymes. *Journal of Agricultural and Food Chemistry* 2015; **63**:8267-8274.

PUBLICATIONS 2014

BENGTSSON T, WEIGHILL D, PROUX-WÉRA E, LEVANDER F, RESJÖ S, DHAR BURRA D, MOUSHIB LI, HEDLEYPE, LILJEROTH E, JACOBSON D, ALEXANDERSSON EO, ANDREASSON E. Proteomics and transcriptomics of the BABA-induced resistance response in potato using a novel functional annotation approach. *BMC Genomics* 2014; **15**: 315-332.

CONRADIE A, SIGGE GO, CLOETE TE. Influence of winemaking practices on the characteristics of winery wastewater and water usage of wineries. *South African Journal of Enology and Viticulture* 2014; **35**(1): 10-19.

FAIRBAIRN SC, SMIT A, JACOBSON D, PRIOR BA, BAUER FF. Environmental stress and aroma production during wine fermentation. *South African Journal of Enology and Viticulture* 2014; **35**(2) : 168-177.

LOUW L, OELOFSE S, NAES T, LAMBRECHTS MG, VAN RENSBURG P, NIEUWOUDT HH. Trained sensory panellists' response to product alcohol content in the projective mapping task: observations on alcohol content, product complexity and prior knowledge. *Food Quality and Preference* 2014; **34**: 37-44.

MAGWAZA LS, LANDAHL S, CRONJE PJR, NIEUWOUDT HH, MOUNEM MOUAZEN A, NICOLAI BM, TERRY LA, OPARA UL. The use of Vis/NIRS and chemometric analysis to predict fruit defects and postharvest behaviour of 'Nules Clementine' mandarin fruit. *Food Chemistry* 2014; **163**: 267-274.

MAGWAZA LS, OPARA UL, CRONJE PJR, LANDAHL S, NIEUWOUDT HH, MOUNEM MOUAZEN A, NICOLAI BM, TERRY LA. Assessment of rind quality of 'Nules Clementine' mandarin during postharvest storage: 2. Robust Vis/NIR PLS models for prediction of physico-chemical attributes. *Scientia Horticulturae* 2014; **165**: 421-432.

MAGWAZA LS, OPARA UL, CRONJE PJR, LANDAHL S, NIEUWOUDT HH, MOUNEM MOUAZEN A, NICOLAI BM, TERRY LA. Assessment of rind quality of "Nules Clementine" mandarin fruit during postharvest storage: 1. Vis/NIRS PCA models and effect of canopy position and orchard location. *Scientia Horticulturae* 2014; **165**: 410-420.

MEHLOMAKULU NN, SETATI ME, DIVOL B. Characterization of novel killer toxins secreted by wine-related non-*Saccharomyces* yeasts and their action on *Brettanomyces* spp. *International Journal of Food Microbiology* 2014; **188** : 83-91.

MOORE JP, FANGAL JU, WILLATS WGT, VIVIER MA. Pectic-B (1,4)-galactan, extensin and arabinogalactan - protein epitopes differentiate ripening stages in wine and table grape cell walls. *Annals of Botany* 2014; **114**: 1279-1294.

MOORE JP, NGUEMA-ONA EE, FANGAL JU, WILLATS WGT, HUGO A, VIVIER MA. Profiling the main cell wall polysaccharides of grapevine leaves using high-throughput and fractionation methods. *Carbohydrate Polymers* 2014; **99**: 190-198.

MOSTERT TT, DIVOL B. Investigating the proteins released by yeasts in synthetic wine fermentations. *International Journal of Food Microbiology* 2014; **171**: 108-118.

PLANCOT B, VANIER G, MAIRE F, BARDOR M, LEROUGE P, FARRANT JM, MOORE JP, DRIOUICH A, VICRE-GIBOUIN M, AFONSO C, LOUTELIER-BOURHIS C. Structural characterization of arabinoxylans from two African plant species *Eragrostis nindensis* and *Eragrostis tef* using various mass spectrometric methods. *Rapid Communications in Mass Spectrometry* 2014; **28**: 908-916.

SCHNIERDA T, BAUER FF, DIVOL B, VAN RENSBURG E, GORGENS JF. Optimization of carbon and nitrogen medium components for biomass production using non-*Saccharomyces* wine yeasts. *Letters in Applied Microbiology* 2014; **58**(5): 478-485.

SILVA FERREIRA AC, MONTFORTE AR, TEIXEIRA CS, MARTINS RC, FAIRBAIRN S, BAUER FF. Monitoring alcoholic fermentation: An untargeted approach. *Journal of Agricultural and Food Chemistry* 2014; **62**: 6784-6793.

THERON LW, DIVOL B. Microbial aspartic proteases: current and potential applications in industry. *Applied Microbiology and Biotechnology* 2014; **98**: 8853-8868.

TROLLOPE K, NIEUWOUDT HH, GORGENS JF, VOLSCHENK H. Screening a random mutagenesis library of a fungal β fructofuranosidase using FT MIR ATR spectroscopy and multivariate analysis. *Applied Microbiology and Biotechnology* 2014; **98**(9): 4063-4073.

VAN WYNGAARD E, BRAND J, JACOBSON D, DU TOIT WJ. Sensory interaction between 3-mercaptohexan-1-ol and 2-isobutyl-3-methoxypyrazine in de-aromatized Sauvignon Blanc wine. *Australian Journal of Grape and Wine Research* 2014; **20**(2): 178-185.

PUBLICATIONS 2013

ALBERTS P, KIDD M, STANDER MA, NIEUWOUDT HH, TREDOUX AGJ, DE VILLIERS AJ. Quantitative survey of 3-alkyl-2-methoxypyrazines and first confirmation of 3-ethyl-2-methoxypyrazine in South African Sauvignon blanc wines. *South African Journal of Enology and Viticulture* 2013; **34**(1): 54-67.

CALEB OJ, OPARA LU, MAHAJAN PV, MANLEY M, MOKWENA L, TREDOUX AGJ. Effect of modified atmosphere packaging and storage temperature on volatile composition and postharvest life of minimally processed pomegranate arils (cvs. 'Acco' and 'Herskawitz'). *Postharvest Biology and Technology* 2013; **79**: 54-61.

CAMERON M, SIEBRITS L, DU TOIT M, WITTHUHN RC. PCR-based DGGE fingerprinting and identification of the microbial population in South African red grape must and wine. *Journal International des Sciences de La Vigne et Du Vin* 2013; **47**: 47-54.

FRANKEN CJ, BRANDT BA, TAI SL, BAUER FF. Biosynthesis of Levan, a bacterial extracellular polysaccharide, in the yeast *Saccharomyces cerevisiae*. *PLoS ONE* 2013; **8**(10): 1-14.

JACOBSON D, MONFORTE AR, SILVA FERREIRA AC. Untangling the chemistry of Port wine aging with the use of GC-FID, multivariate statistics and network reconstruction. *Journal of Agricultural and Food Chemistry* 2013; **61**: 2513-2521.

JOUBERT DA, DE LORENZO G, VIVIER MA. Regulation of the grapevine polygalacturonase-inhibiting protein-encoding gene: Expression pattern, induction profile and promoter analysis. *Journal of Plant Research* 2013; **126**(2): 267-281.

KRITZINGER EC, BAUER FF, DU TOIT WJ. Influence of yeast strain, extended lees contact and nitrogen supplementation on glutathione concentrations in wine. *Australian Journal of Grape and Wine Research* 2013; **19**: 161-170.

KRITZINGER EC, BAUER FF, DU TOIT WJ. Role of glutathione in winemaking: A review. *Journal of Agricultural and Food Chemistry* 2013; **61**(2): 269-277.

LASHBROOKE JG, YOUNG PR, DOCKRALL SJ, VASANTH K, VIVIER MA. Lashbrooke, J.G., Young, P.R., Dockrall, S.J., Vasanth, K. & Vivier, M.A. 2013 Functional characterisation of three members of the *Vitis vinifera* L. carotenoid cleavage dioxygenase gene family. *BMC Plant Biology* 13(1) art no 156. *BMC PLANT BIOLOGY* 2013; **13**(1): 156.

LOUW L, MALHERBE S, NAES T, LAMBRECHTS MG, VAN RENSBURG P, NIEUWOUDT HH. Validation of two Napping techniques as rapid sensory screening tools for high alcohol products. *Food Quality and Preference* 2013; **30**(2): 192-201.

MAGWAZA LS, OPARA LU, TERRY LA, LANDAHL S, CRONJE PJR, NIEUWOUDT HH, HANSENS A, SAEYS W, NICOLAI BM. Evaluation of Fourier transform-NIR spectroscopy for integrated external and internal quality assessment of Valencia oranges. *Journal of Food Composition and Analysis* 2013; **31**: 144-154.

PUBLICATIONS 2012

DE VILLIERS AJ, ALBERTS P, TREDOUX AGJ, NIEUWOUDT HH. Analytical techniques for wine analysis: An African perspective; a review. *Analytica Chimica Acta* 2012; **730**: 2-23.

DIVOL B, DU TOIT M, DUCKITT E. Surviving in the presence of sulphur dioxide: Strategies developed by wine yeasts. *Applied Microbiology and Biotechnology* 2012; **95**(3): 601-613.

ENDO A, IRISAWA T, FUTAGAWA-ENDO Y, TAKANO K, DU TOIT M, OKADA S, DICKS LMT. Characterization and emended description of *Lactobacillus kunkeei* as a fructophilic lactic acid bacterium. *International Journal of Systematic and Evolutionary Microbiology* 2012; **62**(3): 500- 504.

EYEGHE-BIKONG HA, ALEXANDERSSON EO, GOUWS LM, YOUNG PR, VIVIER MA. Optimisation of an HPLC method for the simultaneous quantification of the major sugars and organic acids in grapevine berries. *Journal of Chromatography B-Analytical Technologies in the Biomedical and Life Sciences* 2012; **885**: 43-49.

JAIN VK, DIVOL B, PRIOR BA, BAUER FF. Effect of alternative NAD (+)-regenerating pathways on the formation of primary and secondary aroma compounds in a *Saccharomyces cerevisiae* glycerol-defective mutant. *Applied Microbiology and Biotechnology* 2012; **93**: 131-141.

KNOLL C, FRITSCH S, SCHNELL S, GROSSMANN M, KRIEGER-WEBER S, DU TOIT M, RAUHUT D. Impact of different malolactic fermentation inoculation scenarios on Riesling wine aroma. *World Journal of Microbiology & Biotechnology* 2012; **28**: 1143-1153.

MAGWAZA LS, OPARA UL, NIEUWOUDT HH, CRONJE PJR, SAEYS W, NICOLAI BM. NIR spectroscopy applications for internal and external quality analysis of citrus fruit - A review. *Food and Bioprocess Technology* 2012; **5**: 425-444.

MAGWAZA LS, OPARA UL, TERRY LA, LANDAHL S, CRONJE PJR, NIEUWOUDT HH, MOUNEM MOUAZEN A, SAEYS W, NICOLAI BM. Prediction of 'Nules Clementine' mandarin susceptibility to rind breakdown disorder using Vis/NIR spectroscopy. *Postharvest Biology and Technology* 2012; **74**: 1-10.

MALHERBE S, TREDOUX AGJ, NIEUWOUDT HH, DU TOIT M. Comparative metabolic profiling to investigate the contribution of *O. oeni* MLF starter cultures to red wine composition. *Journal of Industrial Microbiology & Biotechnology*

2012; **39**: 477-494.

MTSHALI PS, DIVOL B, DU TOIT M. Identification and characterization of *Lactobacillus florum* strains isolated from South African grape and wine samples. *International Journal of Food Microbiology* 2012; **153**(1): 106-113.

MTSHALI PS, DIVOL B, DU TOIT M. PCR detection of enzyme-encoding genes in *Leuconostoc mesenteroides* strains of wine origin. *World Journal of Microbiology & Biotechnology* 2012; **28**(4): 1443-1449.

NGUEMA-ONA E, MOORE JP, FAGERSTROM A, FANGEL JU, WILLATS WGT, HUGO A, VIVIER MA. Profiling the main cell wall polysaccharides of tobacco leaves using high-throughput and fractionation techniques. *Carbohydrate Polymers* 2012; **88**(3): 939-949.

REID VJ, THERON LW, DU TOIT M, DIVOL B. Identification and partial characterization of extracellular aspartic protease gene from *Metschnikowia pulcherrima* IWB T Y1123 and candida apicola IWB T Y1384. *Applied and Environmental Microbiology* 2012; **78**(19): 6838-6849.

ROSSOUW D, DU TOIT M, BAUER FF. The impact of co-inoculation with *Oenococcus oeni* on the transcriptome of *Saccharomyces Cerevisiae* and on the flavour-active metabolite profiles during fermentation in synthetic mus. *Food Microbiology* 2012; **29**: 121-131.

ROSSOUW D, JACOBSON D, BAUER FF. Transcriptional regulation and the diversification of metabolism in wine yeast strains. *Genetics* 2012; **190**: 1-11.

ROSSOUW D, JOLLY N, JACOBSON D, BAUER FF. The effect of scale on gene expression: commercial versus laboratory wine fermentations. *Applied Microbiology and Biotechnology* 2012; **93**: 1207-1219.

VAN DER MERWE H, NIEUWOUDT HH, DE BEER D, DU TOIT WJ. Comprehensive survey of the distribution of colour and phenolics of different red grape wine vineyard blocks from the Robertson area in South Africa. *South African Journal of Enology and Viticulture* 2012; **33**(1): 58- 71.

WILLENBURG E, DIVOL B. Quantitative PCR: An appropriate tool to detect viable but not culturable *Brettanomyces bruxellensis* in wine. *International Journal of Food Microbiology* 2012; **160**: 131-136.

YOUNG PR, LASHBROOKE JG, ALEXANDERSSON EO, JACOBSON D, MOSER C, VELASCO R, VIVIER MA. The genes and enzymes of the carotenoid metabolic pathway in *Vitis vinifera* L. *BMC Genomics* 2012; **13**: 243-250.