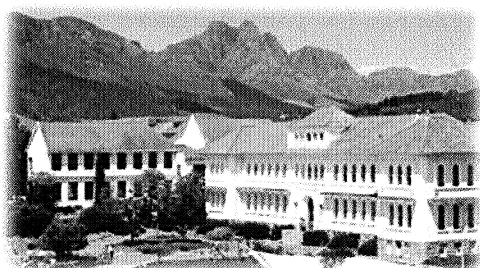


Foreword



THE IMPORTANCE OF BIOTECHNOLOGY TO THE SOUTH AFRICAN VITICULTURE AND WINE INDUSTRY IN THE NEW MILLENNIUM

The 350-year old South African wine industry boasts a proud tradition of quality that has made a significant impact on the world's rich wine heritage. The pathway to excellence has not always been an easy one, and the wine industry has seen dark days. But with innovation and the characteristic pioneering spirit of the South African people, winemakers have produced excellent wines that have held their own on the world's wine markets. Ironically, the South African wine industry faced its greatest challenge after the unexpected and welcome peaceful transition to democracy that occurred in the early nineties against a turbulent political backdrop. With the world's applause for a unique political miracle still resounding, South Africa's wine industry suddenly found itself competing in a tough global economy. Despite the world's rediscovery of the nation's excellent wines, its wine industry was compelled to implement creative strategies to transform the existing *production-driven* industry into a stronger, more competitive *market-driven* industry.

Visionary leaders in the industry, while acknowledging the romanticism and mysticism that surround the ancient tradition of winemaking, re-emphasised the importance of *cutting edge technology* to a fiercely competitive world market. The first draft of a generic technology framework for the South African wine industry was on the drawing board by the second half of 1995. WINETECH (Wine Industry Network of Expertise and Technology) was initiated to support training, research and technology transfer, all aimed at strengthening the competitiveness and profitability of the nation's wine industry.

The industry's commitment to continued innovation, based on market trends and consumer demand, was taken a step further on 1 October 1995 with the establishment of the Institute for Wine Biotechnology at the University of Stellenbosch. The industry's generous donation to the University ensured that the prospects of "Brand South Africa" were based on forefront technology in the new millennium. The Institute for Wine Biotechnology, with Professor Sakkie Pretorius as director, has since its inception striven to be a *centre for excellence* in both vine and wine biotechnology.

The Institute has made significant progress in its mission. With

visionary training and innovative research, the Institute for Wine Biotechnology has, in collaboration with various other role players, provided the wine industry with well trained human resources, cutting edge technology, expertise and environmentally friendly products. In addition to its focus on specialised research, the Institute has also made valuable contributions to the training of under-graduate students of the Department of Viticulture and Oenology. The Institute for Wine Biotechnology, with 55 postgraduate students currently registered, is one of the largest research units of its kind in the world. A unique training programme focusing on capacity development within the wine industry attracts numerous foreign students, including many from the leading wine-producing countries. A dynamic and enthusiastic atmosphere testifies to the Institute's success in creating an environment in which each individual has room to develop to his or her full potential.

The research conducted on wine yeast at the Institute for Wine Biotechnology is not only internationally renowned, but is considered to be one of the driving forces in the field of wine microbiology. The Institute's grapevine improvement programme is regarded as one of the most promising in its field. Professor Pretorius heads both the yeast and grapevine research programmes. Drs Florian Bauer, Marius Lambrechts, Pierre van Rensburg and Maret du Toit are the project leaders for yeast research, while Dr Melané Vivier is the project leader for grapevine research. The general aim of the Institute's research programme is to unravel the fundamental molecular-genetic aspects of wine yeast and grapevine plants to develop improved yeast strains and grapevine cultivars. The yeast research focuses on the improvement of fermentation, processing, health properties, and sensorial quality of wine and other related grape-based products. The focus of the grapevine research is on the development of disease resistant cultivars.

Vision 2020, the South African wine industry's long term strategic plan, is well underway, and it is becoming increasingly clear that continual technological innovation, as provided by the Institute for Wine Biotechnology and other research units, constitutes a critical link in the value chain of the wine industry. Biotechnology in the 21st century will be the key to linking tra-

dition and innovation, thereby addressing the numerous technological challenges posed by a demanding client-based wine market.

Due to the importance of biotechnology to the future of the wine industry, the *South African Society for Enology and Viticulture* (SASEV) supports the decision to devote this special Millennium edition of the *South African Journal of Enology and Viticulture* (SAJEV) to the subject. This special edition demonstrates the

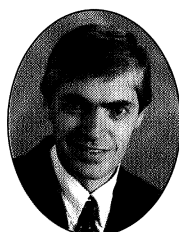
commitment of SASEV and SAJEV to publishing leading scientific articles and effectively transferring innovative technology and relevant scientific data to the wine community. In recognition of the Institute for Wine Biotechnology's significant contributions over the past five years, five review articles focusing on the specific fields of research at the Institute are included in this issue.

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