Son of the stubble excelled in science

Robert Henry Symons
Biochemist
Born: March 20, 1934; Merbein, Victoria
Died: October 4, 2006; Adelaide

BOB Symons came from an agricultural family. He often said that he was familiar with the seat of a tractor and was proud of it. No doubt this influenced his interest in later life in the molecular biology of plant diseases, in which he made his greatest mark.

An Agricultural Science graduate from Melbourne University with a PhD in Biochemistry, Bob was appointed lecturer in the Department of Agricultural Biochemistry at the Waite Agricultural Research Institute in 1962. He transferred to the North Tce Campus of the University of Adelaide in 1963.

In the following 25 years, Bob played a major role in the development of the Biochemistry Department, rising through the ranks to professor (personal chair) in 1987.

He was a devoted and very able scientist who was usually to be found at his laboratory bench working with his research group.

This gave his students first-class training and created an excellent relationship between them. For the major part of his career, he focused on the molecular biology of nucleotides and nucleic acids.

On study leave in Stanford in the U.S., he and others were the first to join two stretches of DNA molecules together to form a single piece. This is an essential manipulative step in the later development of cloning techniques. He also devised synthetic methods

for making radioactive nucleotides. These were used for much of the experimental work in DNA technology but were expensive and had to be imported into Australia.

Bob for a long period made the necessary labelled nucleotides for the whole department. This was very important for the development of gene technology.

It also became the basis for the establishment in 1982 of the first biotechnology company in Australia (Biochemical Research Enterprises of SA, later Bresagen) for making and supplying research materials. Bob was the prime mover in this company and later became its chairman. Bob's greatest contribution was in the molecular biology of plant viroid diseases. Viroids are the smallest pathogens known. Bob's group determined the complete structure of the palm viroid (cadang-cadang).

It was a major achievement, and his work was not only published in prestige scientific journal *Nature* but was featured on its cover.

Bob was recognised internationally as a leader in viroid molecular biology and nucleotide biochemistry in general.

He was elected Fellow of the Australian Academy of Science in 1983, and the zenith of his career was to be elected Fellow of the exclusive Royal Society of London in 1988.

Bob decided in 1990 to take his research group to the University of Adelaide's Waite Campus. Within the Department of Plant Science, he established a new laboratory with Australian Research Council funding where his interests in the replication of plant viruses, identification of the functions of virus genes and other work occupied him for a further 12 years.

His commitment to providing practical outcomes for viticulturists led him to establish the diagnostic company, Waite Diagnostics. The enviably low virus load of new Australian vineyards is partially due to his introduction of laboratory-based molecular methods for avoiding the use of infected planting material.

He is survived by his wife, Verna, four children and eight grandchildren.

John Randles, George Rogers and Bill Elliott