

APPS Fellow
Prof John Irwin



In a distinguished plant pathology career, John Irwin has managed to blend his achievements in fundamental genetic research to commercial plant breeding programs and produce significant economic benefit to Australia's agricultural industries.

Highlights in John's career include being the first person in Australia to demonstrate that two fungal root and crown diseases, caused by *Phytophthora* and *Colletotrichum*, were the major causes of poor lucerne persistence and productivity over much of Eastern Australia. More recently, John has developed a genetic map for lucerne, representing only the third autotetraploid lucerne genetic map which has been published, and the first to report chromosomal locations of disease resistance genes in autotetraploid lucerne to *Phytophthora medicaginis*, *Colletotrichum trifolii* (3 races) and *Stagonospora meliloti*. John's work in these areas has contributed to the development and commercialisation of a number of new disease-resistant forage cultivars that represent substantial productivity increases for farmers in Australia and overseas.

From an early age, John enjoyed a fascination with plants and farming, and following school he elected to study Botany as part of a Bachelor of Agricultural Science at The University of Queensland in 1968. John would not have known then that it was the start of a (now) 40-year association with UQ, but his undergraduate years soon extended to Honours and Masters degrees which he juggled while working as a plant pathologist with the (now) Queensland Department of Primary Industries and Fisheries. A PhD scholarship to study at the University of Wisconsin (Madison) in the United States further fuelled John's interest in research, and a lecturing position at The University of Queensland followed soon after. In what must have been a truly rewarding stage in his career, John was awarded a higher doctorate in Agricultural Science in 1992, appointed to Professor by UQ, and was successful in funding a Cooperative Research Centre bid, all in the same year.

John served as CEO of the CRC for Tropical Plant Pathology from 1992-1999 and the subsequent Cooperative Research Centre for Tropical Plant Protection until 2006. John's vision and leadership in

this role was quickly realised with the Centre achieving recognition as “the leading Australian, and a significant international, Centre researching plant diseases and their control” by 1997. Now a Professor with the School of Integrative Biology at The University of Queensland, John has continued his involvement with Cooperative Research Centres as a Director for the Canberra-based CRC for National Plant Biosecurity and, as a skills-based appointment, will continue to apply his expertise in research management across a wide range of Australia’s plant industries and sciences for some time to come.

John’s strengths in research administration have been underpinned by strong individual research, and a cursory scan over his personal research career involves some enviable statistics. John has published 158 refereed journal articles, authored 12 refereed book chapters, been part of successful research grant bids totalling almost \$30 million, and held rights to numerous Australian Plant Breeder licenses and technology patents. The financial benefits from his research to Australia’s agricultural industry, principally around productivity gains due to new lucerne cultivars, is estimated to be well in excess of \$100 million.

John’s scientific achievements have been recognised with a number of awards over a distinguished career, perhaps most notably the Australian Medal of Agricultural Science in 1992 (awarded by the Australian Institute Agricultural Science) and the Clunies Ross National Science and Technology Award in 2002. More recently, John was the recipient of the 2006 Farrer Memorial Medal from the NSW Department of Primary Industries, rewarding John’s significant contribution to the field of agricultural research and, in particular, his efforts in reducing risk of disease in tropical plants.

In his oration for the Farrer medal, John described a 30 year research path towards understanding the etiology, epidemiology and genetics of host-parasite interactions and developing disease-resistant cultivars of lucerne, *Stylosanthes*, soybean, cowpea, chickpea and oats. During his career, John’s research has led to the commercialisation of nine new disease-resistant forage crops, representing a significant proportion of Australia’s current proprietary seed market. Continuing this interest, John’s research now concentrates on the genetic improvement of lucerne varieties through DNA marker approaches and he is now looking to recent advancements in hybridising lucerne with *Medicago arborea* to deliver significant yield increases for future lucerne cultivars.

John has been a member of the Australasian Plant Pathology Society since 1972. During this time, his involvement has included roles as Senior Editor of the Australasian Plant Pathology journal, Program coordinator for the 1989 APPS Conference in Brisbane, induction as Fellow of the Australasian Plant Pathology Society in 1999, and delivery of the Daniel McAlpine Memorial Lecture, which opened the 11th Biennial APPS Conference in Perth in 1997.

Sue McKell, CRC for National Plant Biosecurity
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[APS Fellowship](#)

[Fellow Australian Academy Technological Sciences and Engineering \(1998\)](#)

[Clunies Ross National Science and Technology Award \(2002\)](#)

[Farrer Medal \(2006\)](#)