JOHN FRENEY MEMORIAL SESSION

John Freney 1928-2015



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A tribute to John Raymond Freney (December 7, 1928-January 2, 2015)

"Dr John Freney was a world leader in the fields of efficiency of use of nitrogen fertilizer, greenhouse gas production, climate change, and environmental research."

Deli Chen, James N. Galloway, Susan Greenwood, Arvin Mosier E-mail address: sgreenwood@scopenvironment.org (S. Greenwood)



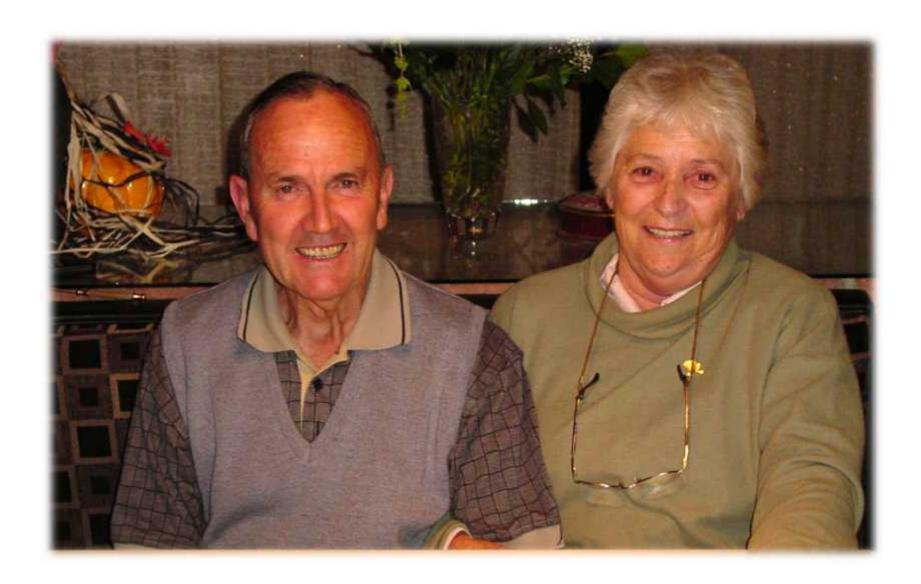
Dr. John Raymond Freney was a world leader in the fields of efficiency of use of nitrogen fertilizer, greenhouse gas production, climate change, and environmental research.



7th International Nitrogen Conference (INI 2016)

4-8 DECEMBER 2016

ELBOURNE CRICKET GROUND | VICTORIA | AUSTRALIA



Highlights of Dr John Freney's N Research

- 1st measurement of N₂O emission from flooded rice fields; showed that little is lost if the soil is flooded before fertilizer application.
- Discovery of a new pathway for the emission of N₂O from aerated soils, namely considerable N₂O is produced during nitrification.
- 1st demonstration of substantial (as much as 100 kg N ha⁻¹) NH₃ loss to the atmosphere from unfertilized grazed pastures each year.
- Development of micrometeorological methods for the direct measurement of NH₃ from fertilized fields, now adopted as international methodology.
- Construction of a sampler for measuring atmospheric NH₃ fluxes; an enormous improvement in technique allowing measurements to be made in remote locations.
- Development of models of NH₃ volatilization from flooded rice fields leading to simplified emission measurement techniques.
- Assessment of the fate of fertilizer nitrogen applied to cotton, showing that up to 92% of the nitrogen applied was lost in gaseous form by denitrification; use of a new nitrification inhibitor, wax coated calcium carbide, reduced nitrogen loss by 52%.

DEVELOPMENTS IN PLANT AND SOIL SCIENCES VOLUME 9

GASEOUS LOSS OF NITROGEN FROM PLANT-SOIL SYSTEMS

J.R. FRENEY/J.R. SIMPSON (KENTORIA)

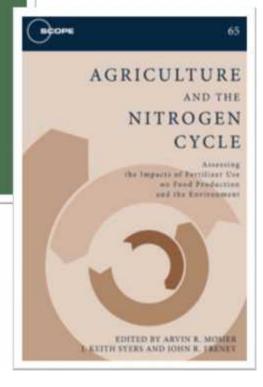
SPRINGER-SCIENCE-BUSINESS HEDIA, B.V.

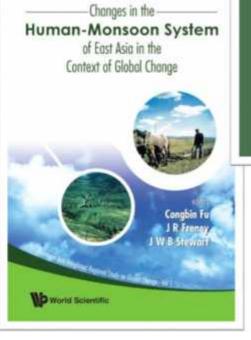
Nitrogen, Sulfur and Phosphorus in Terrestria and Aquatic Ecosystems

Admidding A. H. Frency and L. Y. Garbel



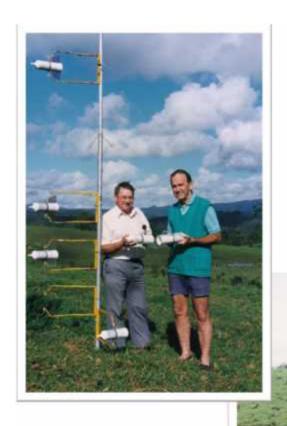
Manufactured Brown inspectation in Land





Selected list of John's awards

- Founding member for the UN's Scientific Committee on Problems of the Environment (SCOPE)
- Adjunct Professor of many prestigious institutions/universities, including the Chinese Academy of Sciences and the University of Melbourne
- Fellow of the Soil Science Society of America
- Fellow of the American Society of Agronomy
- Fellow of the Australian Academy of Technological Sciences and Engineering
- Centenary Medal by the Australian Government
- SCOPE–Zhongyu Environmental Lifetime Achievement Award
- Doctor of Agricultural Science, The University of Melbourne, the highest degree in Science of the University (one of only 25 awarded since the degree was initiated 50 years ago in 1964)
- Appointment as an officer of the order of Australia (AO), in January 2015, but unfortunately John didn't live to receive the award



























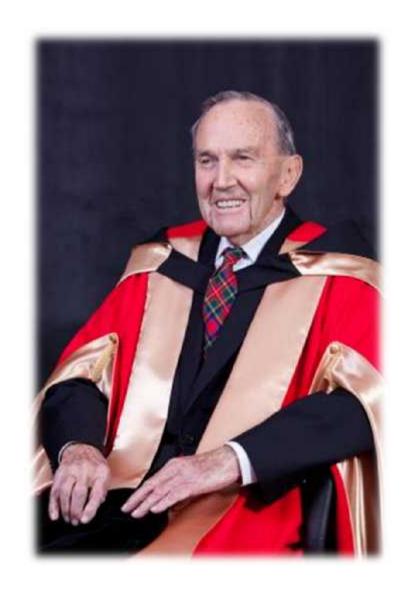


Appointment Ceremony of Adjunct Professor of Shanxi Academy of Agricultural Sciences











John Freney 1928-2015

Message sent to me from the SCOPE Secretariat

- "Through his long and distinguished career, John Freney informed, inspired and encouraged scientists and practitioners throughout the world. His research made significant impacts on environmental and agronomic research worldwide; his powerful influence as a mentor influences scientists today and will continue to do so in the future.
- His SCOPE colleagues and friends remember with gratitude the perception and rigour in his scientific endeavours, and generosity in all his doings. John was a gentle man and a gentleman, he made a difference and changed lives".