

References

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Awards of the Tropical Grassland Society

The Society awards Fellowships to those within its membership who have made significant contributions to the understanding, use and improvement of tropical and subtropical pastures.

An annual award, The Tropical Grassland Society-ANZ Bank Award, is made to a commercial operator who has been an innovator in some aspect of tropical grassland development.

Fellow of the Tropical Grassland Society 1992

RAYMOND JOHN (Ray) JONES

Ray Jones obtained his B.Sc. from the University College of Wales at Aberystwyth in 1952, followed by four post-graduate diplomas over the next four years, including a DTA (Trinidad). He then worked in Kenya from 1956 to 1960, when he was appointed to the CSIRO Division of Tropical Pastures in Brisbane.

Ray's early work with CSIRO was at Samford and Gympie in the coastal areas of southern Queensland. It is a reflection of Ray's long involvement with the Society that some of the work was reported in Proceedings 6 and 7 of the Society, the Proceedings series being the forerunner to *Tropical Grasslands*. His work covered a wide range of interests from use of insecticides to control of bean fly when sowing siratro, establishing that setaria could pose problems with oxalate poisoning, to the effect of legume pastures on subsequent crop yield. He also had a flair with gadgetry. He was involved in the development of the capacitance meter for measuring pasture yield, and in the development of a "munch meter" to measure the number of bites made by grazing cattle. However, probably his greatest contribution was in measuring the effect of pastures on animals and vice-versa. He was the first person to clearly show the susceptibility of twining legumes to regular and close defoliation. His first paper on this topic was published in 1967 and later work formed the basis for his Ph.D. study.

Ray has shown how it is possible to use grazing trials to investigate a wider range of questions

than those relating to routine comparison of the treatments imposed. From his grazing study at Samford he documented the slower rate of decomposition of litter from *Desmodium intortum* than from siratro. On the same trial he showed that it was possible to estimate the percentage of siratro in the diet of grazing animals by counting the number of siratro hairs that were passed in faeces. However, his outstanding contribution that flowed from the Samford grazing study related to the development of the "Jones and Sandland" method for relating stocking rate to liveweight gain. This relationship has been used throughout the world and found to be a very useful tool in pasture research, with the obvious proviso that it is not extrapolated with excessive enthusiasm outside a reasonable range of stocking rates! Ray was also involved with the leucaena toxicity saga and in developing the understanding of the mimosine-DHP degradation story. This interest was carried over into the next phase of Ray's career when he accepted the post of Officer-in-charge of the Davies Laboratory in 1975.

After he moved to Townsville, the flow of interesting and lateral thinking continued. Two good examples are worth quoting. Firstly, the finding about the mortality of cattle ticks that suffer an unpleasant death (for them) when they become stuck on the sticky exudate that occurs on stems of some *Stylosanthes* species. A second example relates to the use of carbon isotope analyses to measure the content of legumes in the

diet of grazing animals and to the questioning of using fistulated animals to take such measurements without taking the limitations of the technique into account. However, in recent years he is most widely known for his work on the breakdown of DHP through the "rumen bug".

Over some years Ray developed the idea that ruminants in some countries (e.g. Hawaii) could break down the troublesome DHP breakdown product of mimosine, and had the temerity to suggest that it should be possible to isolate the organism(s) involved and then inoculate other animals. This idea was met with reactions that usually ranged from scepticism to derision. Nonetheless, Ray pursued his idea with remarkable tenacity in the face of many obstacles.

He showed that a bacterium, isolated from the rumen of Hawaiian goats, was able to degrade DHP, thus enabling animals to eat large quantities of leucaena without ill effects. He then showed that the bacterium could be transferred between animals, and from goats to cattle, and would survive in the rumen of cattle for long periods of time. This overcame the leucaena

toxicity problem, led to confidence by cattle producers to plant leucaena, and led directly to present research on modification of rumen micro-organisms.

Ray's other work at Townsville included grazing management of native pastures with and without legumes. This led to his current interest in evaluating grasses that can persist under heavy grazing and yet still allow legumes to be used successfully.

All this activity has been reflected in over 150 research publications and in the award of a Fellowship of the Australian Institute of Agricultural Science and of the Academy of Technological Sciences and Engineering. He was also awarded a CSIRO medal in 1985 and the Urrbrae award in 1984. However Ray has had a wider impact than this. His lateral thinking and enthusiasm are highly respected by those who have worked with him, as has been his generous willingness to help and advise when called upon. We are grateful that he left the green Welsh hillsides and has spent some 30 years in pasture research in Queensland.

Fellow of the Tropical Grassland Society 1992

BARRY WALKER

Barry Walker is among the high achievers in pasture research and its application to tropical livestock production in Australia and internationally. He has contributed significantly through a diverse career spanning research, research management and administration, consultancies and training. Barry has tirelessly sought to enhance not only the profile and professionalism of tropical pasture science, but also to foster its relevance and application within the grazing industries.

Barry obtained a B.Sc (Agr) degree from Nottingham University in 1956. This was followed by a Post-Graduate Diploma in Crop Husbandry from Reading University (1957) and a Diploma in Tropical Agriculture (1958) from the Imperial School of Tropical Agriculture in Trinidad.

Employment with the British Ministry of Overseas Development and the Tanzanian Government from 1958 to 1968 gave Barry broad experience in tropical agriculture. His research there focused on grazing management of native

pastures, but also involved work on sown pasture plant evaluation and nutrition. In addition, he was given responsibility for a number of research and extension programs aimed at developing tropical cropping opportunities for Tanzania. Part of his pasture research in Western Tanzania was successfully submitted for a M. Agr. Sc. degree through the University of Queensland in 1972.

Barry left Tanzania and joined the Queensland Department of Primary Industries (QDPI) in 1969. Based in Mackay until 1975, he completed definitive research on the effect of stocking rates on beef production from tropical grass-legume pastures. This imaginative and rigorous study highlighted the important pasture-animal interactions determining legume persistence and animal production, and also clarified the management principles and practices required to optimise legume content and beef production from pastures based on twining legumes. The work earned Barry a Ph.D. from the University of

Queensland in 1981. Toward the end of his field research career between 1976 and 1982 in Rockhampton, Barry championed the development of new stylo cultivars and management systems for black spear grass pastures.

Barry's management skills and capacity were quickly harnessed in Queensland. In 1974 he was appointed research leader of QDPI's pasture staff in Central Queensland and, in 1982, took responsibility for nearly 80 graduate and technical staff within QDPI's pasture program throughout Queensland. He established the Pasture Management Branch and became its first Director in 1986. Barry's leadership was highly respected, brought about a reinforcement of expertise, and created a new vision and direction for research and development on tropical pastures within QDPI. His initiatives provided the foundation for a more balanced approach to sown pasture development and native pasture management in Queensland.

Since 1983 Barry has engaged in consultancy and training programs sponsored by FAO, the World Bank and the Australian International Development Assistance Bureau. His contributions have involved projects in Cuba, Kenya, Tanzania, Ethiopia, Uganda, China and the Seychelles. Since 1988 he has been retained by the Australian Meat Research Corporation as technical coordinator for beef and pasture research and development projects in northern Australia.

Barry is the author of more than 60 publications, including 9 review papers. These epitomise his breadth of expertise in tropical pasture and livestock production systems over subjects including plant introduction and evaluation, seed production, and agronomic and grazing management practices.

Another strength of Barry's professional career has been his commitment to facilitating

knowledge interchange between scientists, research organisations, universities and industry. He has served on many technical committees, often as chairperson. Examples are the Northern Australia Plant Introduction and Evaluation Liaison Committee (1977-87); the Queensland Herbage Plant Liaison Committee (1983-88); and the Editorial Advisory Committee of the *Australia Journal of Experimental Agriculture* (1984-87). He has initiated and convened many technical workshops to encourage the integration and exchange of knowledge and its translation into more useful forms for graziers and other clients. Barry was chairperson for the Third Australian Tropical Pasture Conference in 1985, and currently is president of the Australian organising committee of the 17th International Grassland Congress.

Barry's services to professional societies have been unstinting. He convened and was first president of the Central Queensland Sub-Branch of the Australian Institute of Agricultural Science and was elected a Fellow of the Institute in 1989. A strong supporter of the Tropical Grassland Society of Australia, he was convenor and secretary of the Central Queensland Branch between 1972-75. He later served on the executive committee of the Society, becoming its president in 1985.

Many of those in tropical pastures and livestock in Australia and elsewhere have been privileged to either work or be associated with Barry in his many roles. Most would agree his hallmarks are an approachable and analytical personality, and a strong commitment to professional excellence and to ensuring the relevance of pasture science and technology to the grazing industries.

Barry's endeavours can only be judged as an outstanding contribution to the field of tropical pasture science.

Tropical Grassland Society — ANZ Bank Award 1992

ROBIN AND VICKI HORN

Robin and Vicki Horn's contribution to pasture development has been through their pioneering work on development of a pasture technology for the solodic sandy soils in southern inland Queensland. These soils have a natural vegetation of bullock, cypress pine and *Angophora* and are infertile and fragile.

When Robin and Vicki Horn purchased their 2000 ha property, 'Yallamundi' in 1977, it could carry only a few wethers; cattle would die during winter. Robin realised that this type of land needed a better grass and an adapted legume to increase production from the poor quality native pasture. He started to experiment with other species: the tropical legumes, stylo and siratro, and the temperates — vetches, subclovers, medics, lucerne, clovers and serradella. Only one, Pitman serradella, looked good but even that did not persist.

Robin encouraged QDPI officers to evaluate the serradellas, and after initial trial work on 'Yallamundi' in the early 1980s, the early-flowering, persistent Madeira was released commercially in 1987.

Robin Horn was the first to sow successful pastures with serradella in Queensland, and developed a method to establish them; after sowing a light seed rate of oats, he spreads podded serradella seed into the soil surface with 125–150 kg superphosphate.

In the early years, Robin and Vicki promoted serradella by bank-rolling the bulk purchase of 2 tonnes of Madeira seed from West Australia for local distribution and evaluation by some 85 graziers. They then set up the first commercial seed-production unit in the state to provide serradella seed for their own property and for sale to other graziers and to seed merchants. This has ensured that seed of Madeira serradella has

always been available for commercial pasture development in the district.

Robin Horn also wanted an adapted pasture grass. Early on, he experimented with green panic, buffel, sabi, makarikari, creeping blue and rhodes grasses, but found Katambora rhodes to be the best coloniser and most persistent. Subsequent research on 'Yallamundi' identified Premier digitaria to be even more persistent. Robin has begun pasture development and seed production of Premier. This has encouraged local graziers to try Premier.

A system to establish grass into these infertile sandy soils has been developed to reduce the problems of weeds and erosion. Robin cultivates once after clearing, plants oats in autumn, broadcasts grass seed into the stubble in spring and, when the oats are finished, allows the grass to set seed. Serradella can also be incorporated into this system.

Pasture development using a winter-growing temperate legume (Madeira serradella), with summer grasses (Katambora rhodes and Premier digitaria) has allowed Robin to diversify this enterprise to cattle production; it has also reduced the amount of wire grass (*Aristida* spp.) in the pasture and enhanced the value of the wool clip.

Robin and Vicki Horn have always made their property and time available for experimental work, and they work closely with QDPI staff. They have hosted field days and farm walks to promote their technology. They have had articles about the property published in the rural press and been involved with the production of a video on serradella.

The Award recognises the contribution of both Robin and Vicki Horn in the development and promotion of new and suitable pasture technology to transform very poor native pasture into productive grazing country.