

## Awards of the Tropical Grassland Society of Australia Inc.

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 — MLA Award, is made to a commercial operator who has been an innovator in some aspect of tropical grassland improvement.

## Fellows of the Tropical Grassland Society of Australia Inc. 1999

### JOHN RAINS

John Rains has made a major contribution to the use of introduced tropical pasture species throughout northern Australia. Some years ago, John received the Tropical Grassland Society — MRC Award for innovative practices as a seed producer. This was a recognition by the Society of his contribution to the technology of pasture development through his expertise in seed production.

However, John's influence extends much wider than his role as a seed producer. His family company, Southedge Seeds, not only delivers a service in producing and marketing pasture seed but also provides free technical advice to customers on pasture establishment and management. This is both a before – and after – sales service. Like the flying doctor and the flying vet, John flies his own aircraft and, on a regular basis, visits customers throughout northern Australia, even on the remotest stations in the Peninsula, Top End of the Northern Territory and the Kimberleys of Western Australia. This provides him with direct feedback on the success of his recommendations, allowing him to fine-tune his own knowledge base. This practice is not confined by the Australian coastline and he maintains contact with customers in several countries to our north, especially the Philippines, where he has clients of long standing.

John has made a significant contribution to debate on the benefits of tropical pastures and the wider dissemination of this knowledge. As an example of this, at the Fifth Australian Tropical Pastures Conference, he presented a paper on *The changing face of tropical pasture seed marketing in northern Australia*. He subsequently contributed as a co-author to a paper on *Stylosanthes in the northern Australian Beef Industry* at a workshop on International Research and Development on *Stylosanthes*. Both papers generated considerable debate and were published in *Tropical Grasslands* for dissemination to farmers, graziers and scientists world-wide.

The net effect of John's efforts has been to accelerate the dissemination of good pasture establishment and management practices among the grazing community of northern Australia and their widespread adoption. This has contributed to the growing sophistication of the northern pastoral industry, which, in the long term, is where its viability will lie. Few individuals have had a more significant influence on tropical pasture development than John Rains has, which is why he is most deserving of the award of a Fellow of the Tropical Grassland Society of Australia Inc.

## HAROLD GILBERT (Harry) BISHOP

Harry Bishop has spent his working life in the Department of Primary Industries, Queensland, in developing and promoting sustainable pasture systems for tropical Queensland. He has had a significant impact on the use of improved tropical pastures by industry. His success is recognised both nationally and internationally.

Harry had his roots in the bush on a dairy farm at Murgon. He attended Gatton College where he was awarded a Diploma in Agriculture in 1961. He continued his studies at the University of Queensland and obtained an Agricultural Science Degree specialising in Agrostology in 1964.

After joining the DPI in 1965, he spent short training periods at Brian Pastures Research Station and Richmond before moving to Cloncurry. His role was to undertake a research and development program on the sandy soils of the Normanton-Croydon area. He collaborated with Dr Don Cameron (CSIRO) in evaluating a range of pasture plants including Townsville stylo. This program resulted in the release of Patterson stylo.

In 1970, Harry's focus changed from pastures for the dry tropics. He moved to Biloela Research Station where he managed the lucerne and irrigated pasture programs in the Callide Valley and the Emerald area. During this time, Harry collaborated with Plant Pathologist, John Irwin on persistence problems with lucerne. These investigations identified *Phytophthora* root rot as the main cause of declines in stands of lucerne.

However, Harry's major contribution to pasture development was yet to come. In 1973, he moved to Mackay to work on wet tropical pastures. During the past 27 years, he has developed an international reputation as an authority in production and utilisation of wet tropical pastures. Initially, he addressed the 'wet soil' problems that prevented satisfactory production and persistence with the best available legumes at that time, siratro and stylo. This led to his interest in the *Aeschynomene* genus. He was a

major collaborator in the investigations to characterise and evaluate *Aeschynomene*, which ultimately led to the commercial release of Glenn (1984) and Lee (1991) American jointvetches.

Harry has been a leading inter-agency collaborator in many other plant evaluation programs including: the Coordinated Plant Evaluation Program; Back-up Legumes for Stylo Program; and Legumes for Clay Soils Program. More than 1500 grasses and legumes have been evaluated within these programs and 20 commercial releases have resulted.

Throughout his career, Harry has adopted an environmentally responsible approach to pasture development and plant introductions. He rejected several highly promising *Aeschynomene* accessions because of potential, but localised, weediness. Early in his career, he recognised the dangers of possible legume dominance and commenced investigations to identify and demonstrate the value of satisfactory companion grasses.

Harry's involvement with pasture development does not stop with commercial release of a cultivar. He has always been heavily involved in demonstrating the commercial use of new species, working closely with practising graziers in this phase of the work. He has maintained an excellent working relationship with beef producers and a key funding body, Meat and Livestock Australia.

Harry joined the Tropical Grassland Society of Australia in 1965 and has maintained an active membership. From 1975–1980, he was Secretary of the Mackay Branch (now the Mackay Rural Production Society). His skills and contribution were recognised in 1998 when he was elected a Fellow of the Australian Institute of Agricultural Science and Technology. His significant impact on the development of pasture science in Queensland makes him a worthy recipient of the award of Fellow of the Tropical Grassland Society of Australia Inc.

## RICHARD ARTHUR (Dick) DATE

Dick Date is well known to pasture scientists both in Australia and overseas. During his career, he has made a major impact on the understanding of nodulation of tropical legumes and the success rates with applying rhizobia to commercial sowings of legumes.

Dick graduated from Sydney University where he also gained his M.Agr.Sci. His Ph.D. degree was completed in the USA. After working in Uruguay, he joined the CSIRO Division of Tropical Crops and Pastures in 1969 and worked with Dr Don Norris. From 1972–1999, when he retired, Dick was in charge of the Legume Bacteriology Section of the Division, now CSIRO Tropical Agriculture.

During his time in CSIRO, Dick had two main roles. The first of these was to act as curator of the CSIRO *Rhizobium/Bradyrhizobium* collection. The importance of this collection is recognised internationally. This entailed the collection and isolation of hundreds of different strains, maintaining the collection, recommending appropriate strains for different legume species and distribution of cultures. Small quantities of culture were sent out to research workers in Australia and overseas. Dick also had the responsibility of supplying starter quantities of the various strains of *Rhizobium* to the commercial laboratory which then prepared the peat cultures which were sold to primary producers.

Dick has also played a major part in increasing our understanding of legume bacteriology. He has had a special interest in those factors which affect the competitiveness and persistence of rhizobia in the field. This covered many aspects, including the establishment and maintenance of a rabbit colony which was used to supply antibodies which could identify different strains of rhizobia. He also studied the effect of factors such as shoot and root temperatures on nodulation.

In recent years, Dick has had a major involvement in selecting *Rhizobium* strains for *Desmanthus virgatus* and *Stylosanthes seabrana*. This work was critical for the development of *S. seabrana*, which very seldom develops effective nodules from native rhizobia. Both *D. virgatus* and *S. seabrana* are especially suited to clay soils and are sown at shallow depths under dry conditions. This often results in poor survival of rhizobia unless rain falls soon after sowing. Dick initiated studies to improve survival of rhizobia under hot dry conditions. Results from his preliminary studies were promising and follow-up work should lead to commercial-scale technology to enhance survival of rhizobia under these conditions.

The job isn't finished until the paper work is done and Dick has been a prolific writer. He has published extensively, including 11 book chapters, 45 journal papers and more than 36 conference papers. He was editor of the proceedings of the 10th Australian Nitrogen Fixation Committee, published in a special issue of *Soil Biology and Biochemistry*, and was senior editor of the proceedings of the Third International Symposium on Plant–Soil Interactions at Low pH, which were published as a book.

Dick has co-operated extensively with workers from other organisations such as CIAT, NSW Agriculture, QDPI and the University of Queensland. He has supervised university students at all levels from fourth year projects to Ph.D. studies.

He was awarded a Fellowship of the Australian Institute of Agricultural Science in 1994. He has been a member of the Tropical Grassland Society of Australia since joining CSIRO and was editor of *Tropical Grasslands* in 1981 and 1982. With his outstanding record, he is most deserving of the award of a Fellow of the Tropical Grassland Society of Australia Inc.

## The Tropical Grassland Society — MLA Award 1999

### STUART COAKER

The Tropical Grassland Society — MLA Award for 1999 has been awarded to Stuart Coaker of 'Lindley Downs', Orion, via Springsure for his innovation in developing successful commercial technology for the establishment, grazing management and large-scale seed harvesting of Milgarra butterfly pea in central Queensland.

Milgarra butterfly pea was registered for release as a cultivar in November 1991. Despite the fact that one seed producer gave away a tonne of seed, there was little interest in using the legume in pasture development because commercial technology for its establishment and management had not been demonstrated. Stuart Coaker then took the limited research and development information that was available for Milgarra and set about rectifying the situation.

Stuart has co-operated with research workers in the development of practical technology in relation to Milgarra by:

- providing areas of Milgarra for research on weed control and conducting his own spraying trials to improve understanding of effective herbicides and optimum application rates during establishment and in established stands;
- providing resources (45 ha Milgarra, fencing, water, yards, labour for weighing) for a grazing observation at 'Lindley Downs' to gain information on animal performance on Milgarra;
- allowing the sampling of soils in paddocks planted in different years to generate information on nitrogen fixation by Milgarra in a commercial situation;
- supplying Milgarra hay to David Coates, CSIRO, Townsville for investigations on quality of harvested material; and
- experimenting to develop a one-pass spray/spread establishment technique into existing pasture.

Although the use of legumes in ley farming has been considered ideal for decades, the unavailability of suitable legumes in the tropics has been a major limitation to adoption of these practices. Lucerne and medics do not persist and annual cost of establishment of lablab is a significant deterrent to its large-scale use. Stuart Coaker has demonstrated that Milgarra butterfly pea has a

significant role to play as part of a ley farming system, where applying nitrogen fertiliser is uneconomic (on shallow soils). He has now established more than 800 ha of Milgarra some of which is used for seed production and some for grazing. No crops have yet been grown on areas previously supporting Milgarra butterfly pea but the results will be awaited with great interest.

Stuart has been a 'champion' of Milgarra butterfly pea and has actively promoted its use. He has done this by:

- supplying resources for a very successful field day with DPI on 'Lindley Downs' dealing with the use of Milgarra;
- attending field days on other properties to share his knowledge and experience;
- supplying information for numerous articles in rural newspapers and magazines to promote the use of butterfly pea;
- encouraging visits to 'Lindley Downs' and responding to enquiries by farmers and graziers;
- advertising extensively to promote an awareness of butterfly pea and the benefits of its use;
- hosting many visits to his property by research and extension staff;
- supplying seed and hay free for display by DPI at AgGrow 2000 in Emerald for a number of years; and
- supplying seed at a discounted price for four large grazing trials within the Sustainable Farming Systems Project and other DPI trials.

Largely as a result of Stuart's efforts, farmers and graziers are planting large areas to Milgarra for grazing either as leys or as permanent pastures. Butterfly pea is often planted when country is blade ploughed. Anecdotal evidence suggests that 8000 ha of Milgarra will be planted in the summer of 1999–2000, mostly in central Queensland. Projections for the next two summers are 12 000 ha and 20 000 ha.

Stuart Coaker is a very successful seed producer and grazier. As a result of his initiatives, large areas of soils in Queensland will maintain higher levels of productivity for future generations.