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

Fellows of the Tropical Grassland Society of Australia Inc. 1996

JOHN HASTINGS WILDIN

John Wildin is a well known and highly respected tropical pasture scientist. He has spent most of his working career in central Queensland, and his achievements in both pasture research and extension have been recognised both nationally and internationally.

John completed his Diploma from Gatton College in 1959 and proceeded with his Degree in Agricultural Science at the University of Queensland, completing it in 1962. After graduating, he joined the Queensland Department of Primary Industries and spent the period, 1963–72, at the newly established Brigalow Research Station at Theodore. Initially, he supervised the clearing of brigalow and pasture development on the station.

During his stay at Brigalow Research Station, John conducted research on the production and management of tropical pastures, resulting in the awarding of a Master of Agricultural Science Degree. However, he was attracted by the challenge of obtaining adoption of technology, so adopted a change of role in 1983, by becoming the pasture extension specialist for central Queensland. John's excellent communication skills made him ideally suited to this role and many people involved with tropical pastures would have heard of or benefited from John's expertise.

John possesses a very broad knowledge of tropical pastures and their management. Some of his key initiatives have been as follows:

- development of pastures and pasture systems for brigalow lands;
- development and promotion of luecaena management systems, resulting in more than 20 000 ha being planted in central Queensland;
- development and promotion of ponded pastures, including Amity aleman grass and Olive hymenachne, with 20 000 ha being planted;
- development of Highworth lablab, which still remains one of the few legume forage cropping options available to graziers in the tropics;
- assisting with the evaluation of shrubby stylo in central Queensland; and
- significant involvement with the development of a new grass-seed harvester, leading to a 4-fold increase in the yield of seed collected from species like creeping blue grass.

John's expertise has been recognised well beyond Australia's shores and he has been involved with pasture development projects in many countries, including Hawaii, Venezuela, Brunei, Sarawak, Singapore, The Philippines, Japan, Nigeria, Ethiopia, Kenya, Zimbabwe, China, Fiji, Pakistan and India.

In the late 1980s, John received the following central Queensland achievement awards:

- CQ Branch of the Australian Institute of Agricultural Science Award for meritorious contribution to the improvement of rural industries in central Queensland; and
- The Suncorp/WIN Television Science and Technology Award for his contribution to the development of ponded pasture technology.

After an extremely productive 30 years with the QDPI, John decided on a further change in direction by becoming a private agricultural consultant. This transition was achieved without a hitch and John continues to make a significant contribution to pasture development in tropical areas of the world.

John Wildin is a most deserving recipient of this award. With his heavy involvement in the extension area, he is ensuring that new technology does not wither on the vine, but that it is implemented and adopted by farmers and graziers in the tropics to contribute to increased productivity from sustainable production systems.

ALBERT E. KRETSCHMER, JR

Professor Al Kretschmer's contribution to tropical forages has been primarily in the development of cultivars for use in southern Florida. However, his enthusiasm and co-operation with scientists from other parts of the world have resulted in a much wider contribution to tropical agriculture.

His involvement in the collection, conservation and development of new tropical forage germplasm began in the 1950s, when he began his career at the University of Florida at Fort Pierce, firstly as a soil chemist, but after seeing the light, as a pasture agronomist. His early work on evaluation of tropical forages contributed to the release of cultivars of digitgrass, limpograss, stargrass and berseem clover adapted to south Florida.

From the 1960s until the 1980s, Al embarked on a program of acquisition of new forage germplasm, which resulted in his adding over 1500 new accessions of tropical legume germplasm. During this program, he collected throughout the Americas including: Brazil, Costa Rica, Mexico, The Bahamas, Antigua, Belize, Dominican Republic, Colombia, Mexico, and Arizona, Texas and Lousiana in the USA. These collection trips were often carried out in co-operation with researchers from other countries. Many of his collections have been distributed to other centres around the world including Australia. This research, over a period of more than 30 years, led to the commercial release of cultivars of *Desmodium heterocarpon, Arachis kretschmeri* and *Aeschynomene evenia*. One of his collections of *Aeschynomene villosa* has recently been released in Queensland as cv. Kretschmer. In recent years, he broadened his focus to once again include grasses. As a result, a cultivar of *Paspalum atratum* has been released in Florida as cv. Suerte, which may well have application in Queensland.

Al was an early proponent of the characterisation of germplasm collections and the establishment of databases for handling both passport and characterisation data. He currently maintains a large collection of over 6800 tropical legumes from throughout the tropical world, data from which are maintained on his database. He has contributed to several major international projects on forage legume germplasm, including the production of a catalogue of the world's collections of *Centrosema* germplasm and the program to develop a rust-resistant siratro.

Professor Kretschmer has been a member of the Tropical Grassland Society since its establishment in 1964 and served as a member of the Editorial Advisory Board from 1987 to 1991. His contribution to tropical forages has been extensive. However, many of his colleagues, who have had the pleasure of working and co-operating with him, will agree that his major contribution has been his enthusiasm for the collection and development of new cultivars of tropical forages and his extensive understanding of the role on these new plants in tropical agriculture. He is a worthy recipient of the award of Fellow of the Tropical Grassland Society of Australia Incorporated.

KEVIN FRANK LOWE

Kevin Lowe has made a major contribution to the scientific development of pastures for subtropical areas. Over 28 years, his experiments have focused on the selection and management of pasture species for dairy and beef production. Kevin has taken the initiative in industry strategic planning, framing of recommendations and participation in extension activities. As a result, his research findings are invariably adopted by the industries, and formed the basis for much of the rapid pasture development in the dairy industry over the past 20 years.

Kevin graduated in Agricultural Science in 1967 and immediately joined the pasture development team in the Queensland Department of Primary Industries in south-east Queensland. His field research showed early innovation, with a Master's thesis emphasising water use efficiency of tropical grasses and their soluble carbohydrate content, topics very current in 1996. A lasting belief in the practical importance of science was gained through his association with a number of sound pasture extension workers, notably Mr Gerry Filet. He has continued a vigorous program of full-time research throughout his career, always working closely with industry.

A sustained research program has developed grass and grass-legume pastures for the undulating land on beef and dairy properties in the 800–1500 mm rainfall zone of subtropical Australia. The work has resulted in a wide range of species recommendations for the various niches, fertiliser recommendations and guidelines for optimum management of pastures. Some early work described the decline of Siratro in farm paddocks, and the invasion by couch grass; scientific monitoring which has been fundamental to much of our subsequent thinking on the management of improved pastures on farms. A large body of data on pasture yields, quality parameters and adaptation has formed the basis for numerous Departmental recommendations, and contributed to such reference articles as "Pastures for the West Moreton" in the 1973 *Queensland Agricultural Journal*. This work is relevant to both the beef and dairy industries, but the dairy industry has made most use of the results. Kevin's adaptive research with Callide rhodes grass led to extensive planting on dairy farms, and this became the major dryland pasture development on dairy farms in the 1980s. His extensive data on the quality and performance under grazing of *Arachis* is now keenly sought by industry in the search for legume-based pastures more suited to intensive grazing.

A parallel program of work has been the development of intensive pastures for dairy and beef production. Intensive species selection work has resulted in the release of numerous ryegrass, clover, lucerne, oats and fescue cultivars. In conjunction with the continual upgrading of plants available to industry, much of the information on establishment, fertilisation and watering, and grazing management has emanated from Kevin's research. This research has consistently contained a balance of plot assessment, short- and long-term grazing trials, and observations on farmers' paddocks. A key paper showed the relationship between dry matter yield and quality parameters of temperate pastures in the subtropics and milk production. The research has resulted in a number of important milestones in irrigated pasture development. For example, research led to Berseem clover being widely used for early season grazing on dairy farms, then Shaftal clover replacing Berseem in this role. About 6 000 ha are sown annually to mixed pastures containing Shaftal on Queensland farms. Kevin's subtropical component of the national white clover selection program has also identified improved white clovers for inclusion in these mixtures.

Kevin's assessments of ryegrasses resulted in the release of a number of improved cultivars, in particular the Midmar/Aristocrat cultivars after Kevin insisted that the South African cultivars be incorporated in the subtropical program. Some 24 000 ha are now sown annually to ryegrasses selected through this subtropical program, producing $86 000 000 in milk sales. From this experience, Kevin has maintained a substantial consultative role with the seed companies in the selection of seed material for the subtropics. Recent research is leading internationally in the development of perennial temperate pastures for the subtropics, with success in selecting for rust tolerance and vigour during summer.

Kevin demonstrated the high carrying capacity of irrigated tropical grasses, but clearly showed management procedures are unable to overcome the quality limitations of these grasses. Collaborative work with CSIRO showed potential for selecting for increased digestibility in tropical

grasses grazed by milking cows, and this result awaits further development.

A program dear to Kevin's heart is lucerne selection for the subtropics. He was heavily involved in the very successful program to find alternative cultivars to Hunter River following the devastation caused by aphids, and his field testing led to the release of Trifecta and Sequel. As the subtropical component of the national lucerne selection program, he has continued to select for root, stem and leaf disease resistance in lucerne cultivars.

Kevin has been extremely efficient in publishing his results. He has 55 research papers in applied pasture development, 35 conference contributions, 21 final reports on projects, 6 invited reviews and numerous extension articles from papers in the *Queensland Agricultural Journal* to newspaper reports. In recent years, his work is being taken up internationally, with collaborative projects in South Africa and New Zealand. The information is used extensively in training and development programs in Asia, the Pacific Islands and South America.

Kevin has given strong support to the Tropical Grassland Society. He was honorary Journal Editor for 3 years from 1986–1988, has been an Associate Editor from 1992, and has assisted the Society consistently over the past 20 years in the preparation of newsletters and field day material. Often, with field activities of the Society, Kevin has been instrumental in both making arrangements for the day and giving a presentation. As part of his commitment to industry, he is Departmental or industry representative on a number of national workshops, planning bodies and review committees.

For his scientific development of pastures for subtropical regions, and strong commitment to the practical application of this information, the Tropical Grassland Society of Australia is pleased to enrol Kevin as a Fellow of the Society.

The Tropical Grassland Society — MRC Award 1996

NEV MILLS

The Tropical Grassland Society — MRC Award for 1996 has been awarded to Nev Mills of 'Melrose', Morinish, via Rockhampton for a sustained program of pasture development over the past 40 years and initiatives in regard to weed control in the Fitzroy River Catchment.

'Melrose' is a 7 600 ha breeding and fattening property about 70 km north-west of Rockhampton, including a mixture of undulating ironbark/bloodwood slopes, poplar box flats and some brigalow-softwood country. Pasture development commenced in the 1950s with the clearing of brigalow-softwood scrub and the establishment of improved grasses. Successive developments have included the introduction of ponded pastures in 1979, leucaena in 1981, Seca stylo in 1985 and more recently sowing mixed grass-legume pastures following contour ripping to conserve rainfall.

The development program aims to:

- improve nutrition for breeders to enhance drought survival, minimise reliance on supplementary feeding and ensure good body condition for maximum reproductive efficiency;
- improve growth rates of steers to reduce age of turnoff to less than 3 years to obtain age premiums in the Jap Ox trade;
- conserve rainfall through water harvesting schemes to improve drought resilience of the property; and
- provide flexibility of turnoff to meet a broad range of market specifications, while minimising the use of chemicals.

A total of 144 ha of leucaena have been planted as supplementary browse feed in the four breeder paddocks since 1981. Part of each paddock has been developed to leucaena, which is grazed 3–4 times a year and spelled following rain to allow the stand to recover. Original areas were planted as a drought reserve but now areas have been developed to fatten steers. The aim is to sow 60–80 ha/year for steers but drought years have hampered progress. Initial plantings were into a fully cultivated seedbed but a strip planting method has been developed to reduce costs and conserve grass feed. Sloping areas of native pasture are ripped on the contour in 2 m-wide strips about 10 m apart. These strips are kept cultivated with a chisel or offset-disc plough to control weeds and conserve moisture before planting leucaena at 1 kg seed/ha through a single row planter. This method has since been adopted by other landholders in the district.

The first banks for ponded pastures were established in 1979. Currently, there are 120 ha of ponded para grass pastures over four paddocks, which are used in conjunction with improved pastures to fatten cows and steers.

A program of stick-raking and oversowing with Seca stylo, buffel grass and rhodes grass has resulted in 480 ha being developed. In 1990, aerial seeding of Seca in strips to cover about one-third of the paddock was used. During 1991–96, 100 ha of sloping country has been contour banked, deep ripped with a bulldozer and planted with buffel grass, rhodes grass, silk sorghum and Seca stylo. This intensive development aims to harvest rainfall more effectively, grow better pastures for fattening steers and reduce grazing pressure on surrounding native pastures.

Brigalow-softwood areas have been developed to green panic, rhodes grass and buffel grass and are used with forage crops for fattening steers.

In earlier years, paddocks were set-stocked and steers generally remained in the same paddock for the whole of the fattening period. Current policy is to move steers between paddocks to optimise feed use and maintain growth rates with a minimum of set-backs.

The pasture development program has resulted in a highly productive beef herd. Age of turnoff of steers has been reduced by 12–18 months.

In recent years, Nev Mills has provided the initiative, leadership and management which established a weed-eradication program along the Fitzroy River from the junction with the Dawson River to Rockhampton. Parkinsonia had become a serious problem in the area following floods in 1988 and 1991. In 1993, Nev Mills called a meeting of local landholders who commenced an eradication program. He was instrumental subsequently in enlisting the aid of the Department of Lands with monitoring progress, successfully applying for funds to purchase chemicals and equipment and organising with DEET for the training and paying of a weed-control team. Most Fitzroy River infestations have been treated and plans are underway to control successive germinations and to extend control along the Mackenzie River.

Nev Mills has promoted better property management by hosting field days on pasture development. He has been particularly active in promoting sustainable development in his roles as Co-ordinator of the Parkinsonia Eradication Scheme, a Member of the Fitzroy River Catchment Care Group and Chairman of Morinish Landcare.