

CURRICULUM VITAE

22 June, 2004

GEORGE WILHELM SEIFERT

1. PERSONAL

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Nationality: Australian

Date of Birth: 7 October 1936

Place of Birth: Kuruman, Republic of South Africa

2. ACADEMIC QUALIFICATIONS

B.Sc. (Agric.) (Animal Husbandry) 1960

University of Pretoria, Republic of South Africa

Thesis: Comparative studies on the growth and development of Afrikaner and Hereford steers from birth to 24 months of age. (Afrikaans language)

Supervisor: Prof. J. Bonsma.

M.Agric.Sci (Parasitology) 1967.

University of Queensland, Brisbane, Australia.

Thesis: Field observations on the host resistance to the cattle tick (*Boophilus microplus*) with special reference to the inheritance of resistance.

Supervisor: Dr. D. Moorhouse.

Ph.D.(Animal breeding - major; Statistics and Genetics -minor.) 1970.

Iowa State University, Ames, Iowa, U.S.A.

Thesis: The estimation of genetic parameters for birth, 21 and 42 day weights of Duroc and Hampshire swine.

Supervisor Prof. R.L.Willham.

1 EXPERIENCE

1.1 BEEF CATTLE PRODUCER.

I own two coastal properties with a combined area of 1800 hectares. The properties were purchased in 1976 in very run down condition. The properties are in a very harsh environment close to the coast (poor soils, poor pastures and high parasite burdens), in the Yeppoon shire. Planning and developing the properties from scratch while working as a scientist and consultant was a challenge. The task included upgrading boundary fences, planning and constructing internal paddocks, dams, clearing, pasture improvement, roads, sheds and dwellings. The breeding herds were established on Brahman and Brahman crossbred cows which were mated to Africander bulls, and then followed by high performance Africander Cross (Belmont Red) bulls. From the outset all animals were individually identified with tags and brands. All cattle are selected solely on performance under pasture conditions. All registered cattle are selected on their NBRB EBV's. Since 1980 I have been selling registered Belmont Red bulls out of the paddock with no supplementary feed or parasite treatment. The herd was one of three Belmont Red herds in CRC 1 on meat quality. During that period the properties were running 500 breeders. However due to a series of unprecedented dry seasons the breeder herd has been reduced to 250 cows. Substantial pasture management and development remains in progress.

My daughter has recently purchased a 5000ac beef cattle property north of Towoomba. I am presently assisting her with her breeding programme and property management.

Having grown up in the cattle industry in South Africa, it was natural for me to become professionally and personally involved in the Australian Beef cattle industry. I remain passionate about the Beef cattle industry.

1.2 LIVESTOCK CONSULTANT.

During my career with CSIRO I was asked to advise on projects in Indonesia and the Philippines. My conditions for becoming involved were that objective data be gathered and be freely available to myself and students at universities in their own countries. This allowed me to evaluate technologies developed in

Australia for the tropics. Because of the connections I developed at private and Government levels in these countries I was instrumental assisting and developing the live cattle trade. In 1976 I organized and supervised the first shipment of heifers to Indonesia.

As a consultant to the United Coconut Planters Bank in the Philippines during the Marcos era I made many friends on both sides of the political spectrum. Consequently when the Aquino Government took power I received an urgent personal request from the new minister for Agriculture (later the secretary for Agric. and then Speaker of the House), Mr Ramon Mitra for assistance for a three year period. This request was also conveyed to our Government of the time. Our Government agreed to the request but due to difficulties with CSIRO and AIDAB, for unpaid leave during this period I finally resigned and elected for early retirement to meet the obligation I made to Mitra.

One of the first acts of Mitra was to dismantle Philbai, the Marcos monopoly, and free up live cattle imports into the Philippines. Within the first week of the new Government, before taking up my appointment as special advisor to the Secretary of Agriculture, I was put on the board of Philbai as the Philippine Government representative to oversee its dismantling. I was also heavily involved in organizing the initial cattle import and drafted the first protocol during this very early stage as well.

My close friendship with Mitra and others allowed me to act as a very effective conduit between Australian industry and Government and the Philippine Government and their cattle and other industries.

A request by PT United Livestock in Indonesia for assistance with problems on their Bila river ranch in 1975 led to a very long working relationship. The friendships I developed allowed me access to people of influence such as Mr. B. Arifin, head of the National Logistics Board and a close associate of President Suharto. During my visits I was required to brief him on progress at Bila and the feedlots at Chichurug. We developed a friendship and I was able to have very frank discussions with him which I am confident had positive outcomes for our cattle industry.

3.0 CONSULTANT

3.1 General Philosophy : a. To design programmes which are simple and practical and therefore easy to implement.

b. To plan that management is handed over to the client in the shortest possible time. Programmes thus incorporate a high degree of training where appropriate.

3.2 OVERSEAS

3.2.1 Aid Programmes .

3.2.1.1 Alleviating rural poverty in Developing Countries.

Poverty is most visible in the slums of cities. However, urban poverty is very largely a consequence of rural poverty. The rural poor as a rule migrate to cities with the expectation of improving their circumstances. Comprehensive reviews of the small (peasant) farmer sector of the Philippines indicated that rural poverty was to a large degree a consequence of inadequate diversification. The poverty could significantly have been alleviated by diversification with livestock and a reorganization of resources (technical support, training, marketing, etc).

An integrated assistance package for peasant farmers was therefore developed. This included access to finance at reasonable interest rates, organization into co-operative groups, improved technical support and training, marketing, and social support services, such as health services and education, as well as recreation and entertainment especially for women and children. The package was directed towards the whole family, and not only the head of the family. A large effort was put into talking directly to the farmers in their village situation.

Pilot trials were highly successful, and the principles would be applicable not only to SE Asia, but to all developing countries.

3.2.1.2 PHILIPPINES

3.2.1.2.1 Australian International Development Assistance Bureau (AIDAB)(1987 to 1990)

Special adviser to the Secretary of Agriculture and Food.

Four one-month visits annually, over a period of five years. The task involved directly advising the Secretary on all matters concerning the Philippines livestock industries, including policy formation. Major components of the consultancy involved a review of the following: livestock industry, rural poverty, Government Breeding Farms, and Government constraints on the development of the livestock industry. It also required very close liaison with the Under- and Assistant-Secretaries, Directors of the Bureau of Animal Industries (BAI), National Meat Inspection Authority, Livestock Development Council, Directors of the Regions, and private enterprise. There was also direct involvement with programs proposed, as well as extensive travel within the Archipelago.

Fourteen major comprehensive reports and numerous minor reports were presented, in which the entire livestock industries were reviewed. A large number of programs were proposed and recommendations were made. The most important of these was: (i) The Multi-Livestock Dispersal Program, which was designed to assist the impoverished peasant farmers, through direct financial aid, to purchase livestock modules. This program replaced the failed livestock dispersal program. (ii) The relaxation of the import restrictions on livestock which was immediately adopted. This resulted in the opening up of the Philippines market for the Northern Australian cattle industry.

3.2.1.3 VANUATU

3.2.1.3.1 British and French Condominium Government (pre-independence 1980)

Reviewed, reported and made recommendations on the cattle industry. The review included: cattle under coconuts, village projects, ranching, beef processing, marketing, research and development. A major recommendation during this consultancy, was for the establishment of a demonstration farm where local farmers could be trained. The Vanuatu Livestock Development (VLD) farm was established for this purpose.

3.2.1.3.2 Australian International Development Assistance Bureau (AIDAB 1982 - 1984)

Reviewed, reported and made recommendations on the development of the VLD farm.

3.2.2 FOREIGN GOVERNMENTS

3.2.2.1 Philippines Government- Member of the special Presidential task force to dismantle Philbai (April 1986).

Philbai was a Philippines Government company created by the Marcos regime and registered in Australia and New Zealand, with its head office in Sydney. It was established to control (monopolize) the importation of livestock and their products from Australasia and the Pacific region into the Philippines. Philbai was dismantled and its staff retrenched. This allowed Australian and New Zealand exporters free access to the Philippines markets.

3.2.2.2 Indonesian Government - Indonesian National Logistics Board (BULOG) -P.T. United Livestock (1976-1989).

Reviewed, made recommendations, and supervised the management of Bila River Ranch and the breeding herd. The herd consisted of 5000 Brahman crossbred, Ongole and Banteng cattle. The ranch of 1200 hectare is situated in South Sulawesi, approximately 6 degrees south of the equator, with an average rainfall of 4000 mm per annum. The ranch supplied feeder cattle to a feedlot situated at Chichirug. The ranch achieved profitability within a two year period.

3.2.2.3 Taiwan Government (1989)

Assisted in the selection of Australian Brahman and Droughtmaster breeding stocks for importation to Taiwan.

3.2.2.4 Brazilian Government (1982): Inter-American Institute for co-operation on Agriculture, (IICA), and the Brazilian Agricultural Research Enterprise (EMBRAPA), Juiz de Fora.

Workshop on the utilization of cattle genetic resources for dairy production. One of five international geneticists to lead workshop sessions to evaluate the breeding of dairy cattle for the Brazilian tropics.

3.2.2.4 Thailand Military - Member of MPW Consultative team (April 1989)

Evaluated the feasibility of producing high quality beef in North Eastern Thailand for the Bangkok markets. The objective was to use beef cattle raising as a means of improving the living standards of farmers on the border with Cambodia, to gain political stability.

3.2.3 FOOD AND AGRICULTURAL ORGANIZATION OF THE UNITED NATIONS

3.2.3.1 Rome (1976): Expert research panel on trypano-tolerance in cattle.

The only Australian member of a select international group of experts, who evaluated the feasibility of using trypano-tolerant cattle to combat sleeping sickness in cattle (trypanosomiasis).

3.2.3.2 Togo, West Africa (1980): Workshop on trypano-tolerant cattle for Equatorial Africa. One of five international experts to lead discussions at a workshop on trypano-tolerant cattle for seventeen Equatorial African countries.

3.2.2 PRIVATE OVERSEAS COMPANIES

3.2.2.1 Philippines

3.2.2.1.1 San Miguel-Monterey Farms (March 1986)

Reviewed and made recommendations on; the management and nutrition of their feed-lot operations in South Catabato and Cavite Provinces, dairy herd management and breeding, as well as beef and pig breeding and management.

3.2.2.1.2 United Coconut Planters Bank (1980-1986)

The terms of reference were to: (i) Develop programs to supply steers to subsistent coconut farmers, for growing and fattening. (ii) Evaluate existing tropical production technologies, and develop appropriate new technologies for the Philippines. (iii) Demonstrate ranching technologies and train local staff in tropical cattle production. A comprehensive review of the Philippines cattle industry was completed. The review revealed a neglected ranching sector and a seriously depleted national cattle breeding herd, which was incapable of supplying feeder stocks. Information on cattle performance, pasture establishment and management was not available. Consequently ranches were established in Northern Luzon and Central Mindanao, to evaluate technologies and the economics for ranching in the Philippines. These ranches were successful, and supplied young cattle to peasant farmers on a share basis.

3.2.2.2 Indonesia

3.2.2.2.1 Jarong Agro Listari (1994 -1997).

Advised on Feedlot management and nutrition of 2000-4000 head feedlot in South Kalimantan, design and implementation of a pilot scheme for a breeding herd in semi-confinement to compliment the feedlot.

3.3 DOMESTIC

3.3.1 Government

3.3.1.1 Australian Meat and Livestock Research Council and Northern Aboriginal Development Council. Evaluated the potential of Crocker Island for beef production by the local Aboriginal community. The island was tick free, and a large herd of feral Northern Shorthorn cattle and brumby Timor ponies resided on the Island. In addition, a small disused, but well equipped abattoir existed. The report recommended that it would be desirable and viable to utilize the cattle and the horses.

3.3.1.2 Australian Meat Research Committee. Review Swans Lagoon Research Station programme

3.3.1.3 Australian Meat Research Committee. Review Ord River Research Station Breeding Programme

3.3.2 Private

3.3.2.1 Elders International Trading and Service Division (1988 - 1993).

3.3.2.1.1 Investigated and proposed a plan for the development of a tropical dairy for Bataan Island, Northern Indonesia. The objective was to develop a dairy to produce fresh whole milk for the Singapore market. The Elder's proposal, to use Australian tropical dairy breeds, was not accepted.

3.3.2.1.2 Provided technical and market support for the export of Australian cattle to South East Asian markets, particularly to the Philippines and Indonesia.

3.3.2.2 Heyetsbury Pastoral Co.(June 1991, & Sept. 1991)

Introduction and evaluation of Indonesian and Philippines markets for live cattle exports from northern Australia.

3.3.2.3 Northern Cattle Co. Katherine, Northern Territory (1972).

Proposed breeding programs for Willaroo Station. Due to a large crop failure, the company went into liquidation before the breeding plans could be implemented.

4.0 RESEARCH

4.1 Attitude and Philosophy.

4.1.1. Genetics.

Environmental and genetic improvements on beef production in northern Australia are synergistic rather than antagonistic. Their effectiveness is therefore logarithmic if they are implemented together. Livestock

production in the tropics is therefore most efficiently increased by a balanced combination of genetic and environmental improvements, rather than the traditional preferred alternative of a high reliance on environmental modification alone, which in some circumstances may have serious negative consequences.

For example, the control of parasites, which have large negative economic effects on livestock production, has entirely relied on chemicals rather than utilizing the hosts resistance. The consequences of this was a gross over-use of chemicals which has led to:

- a. Pollution of the environment with toxic chemicals,
- b. Creation of parasites that were highly resistant to the chemicals used, and thus required ever increasing levels of chemical inputs to be effective, thus increasing costs and pollution, and
- c. Exhaustion of potentially useful chemicals for use in emergencies.

Adoption of adapted cattle resistant to parasites leads to dispensing with chemical treatments for parasites. Not only is there a saving in chemicals, but also large labour savings. Adapted cattle also have higher growth, higher reproduction and lower mortalities. Invariably the adoption of the first technology to cope with parasites leads to the adoption of other technologies such as objective selection within their herd for traits of real economic importance. The ultimate consequence is a large increases in productivity.

4.1.2. Exstention of Research.

Primary producers are very conservative and view new technologies, especially those originating from predominantly research establishments with suspicion. The limited adoption of scientifically developed technologies was a problem which was compounded by inadequate contact and communication of scientists with primary producers, and the fact that most technologies developed under research conditions require some degree of modification before they can be applied in practice.

During the 1960's I was acutely aware that the basic research conducted by CSIRO had tremendous value for the cattle industry but was being ignored and actively discounted in many instances by the cattle industry. A large part of this was due to communication barriers between CSIRO on the one hand and QDPI and the industry on the other. CSIRO scientist were unwilling and incapable of communicating with lay people. There was also no incentive for scientists to involve themselves with extending the practical elements of their research. There was effectively a disincentive to spend time and effort outside of pure research. Merit in CSIRO was assessed according to scientific publications. Time away from research meant less scientific publications and loss of advancement in your career. In spite of this I actively engaged with the QDPI and the cattle industry in 1971 and established working relationship with both parties. The very close co-operation was very effective and led to adoption of established and new technologies. Together with the QDPI field trials were conducted on grazier co-operators properties using bulls from the research station to validate CSIRO research under commercial management. The results demonstrated the value of objective selection for growth, fertility and parasite resistance, the advantages of using tropical genotypes as straight breeds and in crossbreeding. The trials also demonstrated that using adapted animals resistant to parasites reduced or eliminated the need for chemical treatments. The trials also demonstrated that promoting new technologies needed to be presented as a genetic and management package deal and where implementation led to dramatic increases in productivity. It also demonstrated that successful producer co-operators were the most effective promoters of new technologies. During the 1970's this co-operation was unique and was maintained until my early retirement in 1987.

4.1.3. Preservation of rare genetic resources. Cattle indigenous to the tropics are highly adapted to stresses such as heat, parasites and poor nutrition, but phenotypically do not conform to the expectations of traditional western cattle breeders. They have therefore generally been considered inferior, and their desirable genetic qualities have not been fully exploited. On the contrary, these breeds have often been graded up with European breeds in their country of origin and have been in danger of being lost.

In view of the above I focussed my research primarily on the following broad areas;

- a. Exploiting the genetic variation between and within genotypes for production (reproduction and growth), and parasite and disease resistance .

- b. Increasing adoption of new technologies by the cattle industries. My approach was to evaluate research under practical commercial conditions, as a means of extension. This was achieved by establishing close co-operation with State Department services and the Cattle Industry.
- c. Evaluation, preservation and improvement of indigenous livestock across the tropical and sub-tropical regions of the world.

4.1 Scientist with Commonwealth Scientific and Industrial Research Organization, (CSIRO), (1963 – 1987)

4.1.1 Experimental Officer. (1963 – 1970). Resident on "Belmont" National Cattle Breeding Research Station. Responsible for the management of the breeding herds. Assisted Research Scientists from the Rockhampton and other Laboratories with their experiments in the field. Implemented field observations on cattle tick burdens on the herds. I used the data collected for a thesis to obtain my Masters Degree in Parasitology from the University of Queensland. Designed and completed a field experiment to quantify the actual weight losses caused by the cattle tick and internal parasites on the three main crossbred herds viz. Africander x Hereford/Shorthorn (AX), Brahman x Hereford /Shorthorn (BX) and Hereford x Shorthorn (HS) on Belmont. The results of this experiment had far reaching consequences and substantially altered the direction of research at Rockhampton.

4.1.2 Unpaid leave from CSIRO to undertake Ph.D studies overseas on Australian Meat Research Council (AMRC) scholarship. (1967 – 1970). Completed Ph.D degree in Animal Genetics & Statistics at Iowa State University, USA.

4.1.3 Research Scientist (1971 – 1976). On my return from the USA I was relocated to the Laboratories in Rockhampton. Responsible for the breeding programme and continued with studies on the genetics of parasite resistance as well as the genetics of growth and fertility in cattle populations in tropical environments. Published some of the first estimates of genetic parameters for growth and parasite resistance in tropical cattle, and demonstrated the effectiveness of selection for growth in cattle in a harsh environment. Active engaged with QDPI and the cattle industry and extended the co-operative research with overseas organizations and companies. Recognized as a leader and world authority on the genetics of parasite and disease resistance in cattle, and on tropical cattle breeding.

4.1.4 Senior Research Scientist. (1977 – 1982). Continued the above programme. Initiated research into the genetics of behaviour in cattle, especially with regard to temperament in cattle. Developed the flight speed measurement, which is a simple but accurate indicator of temperament in cattle. Flight speed is highly correlated to tenderness in meat and other production traits. A device for commercial use has recently been released.

4.1.5. Principal Research Scientist (1982 – 1987). Continued the above programme and expanded the Genetics Group.

4.3 "Belmont" Breeding Program. National Cattle breeding Station, "Belmont", (1963 – 1987).

The responsibilities covered the selection and the management aspects of all cattle of the 1200 breeder herd, which consisted of Pure Brahman and Afrikaner, Belmont Red (originally Afrikaner x Hereford / Shorthorn), Brahman crossbred and British lines (Hereford x Shorthorn) of cattle. The selection of the herds on merit, initiated in 1966, included parameters for growth rate, fertility traits and tick resistance, and was the most advanced in Australia at the time. Routinely, large amounts of data were collected on all herds. The comprehensive data base was extensively used. The Best Linear Unbiased Prediction (BLUP) methods to estimate Breeding Values were first used in Australia on the Belmont data base.

4.4 Growth. Unique genetic estimates (heritabilities and genetic correlation) were developed for cattle in a tropical environment. These estimates and the experience of selecting in a harsh environment, were used extensively in the development of the National Beef Recording Scheme (NBRS) for Northern herds.

4.5 Reproduction (in collaboration with Divisions of Animal Health and Animal Physiology). Research into the reasons for the failure of cows to calve, was commenced in 1966. This was extended to bull fertility. Studies involved reciprocal test matings between genotypes, and the results contributed to the knowledge of cattle fertility in the tropics.

4.6 Parasites .

4.6.1 Effects of ecto- and endo-parasites on growth . Pioneered experiments, which showed differential responses of different genotypes to external parasites (ticks), and to internal parasites (gastro-intestinal worms), were unique. The results of these experiments were very important in explaining the varying production of the different genotypes in the tropics. This research resulted in a major shift in the direction of research at the Tropical Cattle Research Center, Rockhampton.

4.6.2 Genetics of Tick Resistance. The collection and the analyses of extensive data dealing with the variations in resistance within, and between, genotypes of cattle, contributed to the understanding of the genetics of resistance to the cattle tick, and parasites in general.

4.6.3 Genetics of Internal Parasite Resistance (in collaboration with Division of Animal Health). A large experiment, spanning over 5 years, was completed on within- and between- breed variations in internal parasite resistance. These data have not been published.

4.6.4 Buffalo Fly Studies (in collaboration with the Division of Entomology)

Experiments evaluated the significance of buffalo fly infestations on production of different genotypes.

4.7 Temperament of Cattle. Techniques to quantify temperament of cattle were devised (Flight speed). The accurate measurement of temperament allowed the genetic estimates for the trait.

4.8 Evaluation of South African Genotypes for importation into Australia (in collaboration with the Animal & Dairy Research Institute, Irene, RSA). The Belmont Red has been evaluated in comparison to the Bonsmara breed in South Africa. Comparisons of over 2000 Belmont Red progeny revealed that the two breeds were very similar in production.

4.9 Production under commercial management (in collaboration with the Q.D.P.I.) Extensive co-operative trials with commercial producers evaluated research, and the factors affecting production. This resulted in a very close liaison between C.S.I.R.O , Q.D.P.I. and industry. Assisted the QDPI, Beef Cattle Husbandry branch, with design of experiments and analyses of data.

4.10 Scientific Publications . (see attached list)

5.0 VISITING SCIENTISTS & TRAINING.

The following scientists spent from between 2 to 24 months working with me at CSIRO, Rockhampton.

5.1 Professors C. Pereira and V.Penna, University of Minas Gerais, Belo Horizonte, Brazil (1983)

5.2 Professor R.H. Quaas, Cornell University, Ithaca, New York US (1984)

5.3 Professor W. Hohenboken, Washington State University, Washington, USA (1985)

5.4 Mr. P. Rushigajiki, Research Leader, East African Trypanosomiasis Research Organization (1978)

5.5 Mr. Y. Endo, Japanese Aid Agency (1980)

5.6 Mr. Renato Barbieri, University of Sao Paulo, Brazil(1985)

5.7 Mr. Francis Uralui, Papua & New Guinea Dept. of Agric. (1985)

5.8 Dr. Whartomo, Gadjadara University, Jogjakarta, Indonesia (1982)

5.9 Dr. D.Sularasasa. Gadjadara University, Jogjakarta, Indonesia (1983)

6.0 INTERNATIONAL CONFERENCES

Invited speaker at :

6.1 23rd Nottingham Easter School of Production, University of Nottingham, Great Britain, (1975).

"Genetic implications of selecting cattle for large size."

6.2 4th International SABRAO Congress, Malaysia, (1981)

"Evaluation of beef cattle breeds/crossbreeds of the SABRAO region"

6.3 National Convention, Federation of Cattle Raisers Association of the Philippines, Manila,(1982).

"Practical cattle management."

6.4 International Conference on Impact of Disease on Livestock Production in the Tropics, Florida,(1983).

"Genetics of disease resistance in cattle."

6.5 2nd World Conference on Sheep and Beef Cattle Breeding. Pretoria (1984)

"Selecting cattle for beef production in humid and sub-humid tropical environments."

"Research and practical experience in selecting for resistance to the cattle tick and gastro-intestinal helminths."

6.6 1st International Agro Equipment / Technology Exhibition & Conference, Manila, Philippines (1987).

" Backyard cattle production for the Philippines."

6.7 Agro-Indonesia 91, Jogjakarta, Central Java, 1991. Special invited guest speaker.

"Breeding and Management of cattle for Indonesia"

6.8 South African Society of Animal Production, 14-16 April, 1992.

"Breeding strategies for beef cattle in the Tropics and sub-tropics"

6.9 Australian Association of Animal Breeding and Genetics. 10th Annual meeting, September, 1992, Rockhampton. Panel member on an open forum on use of transgenic animals to improve Livestock production. Topic: "Requirements and Realities"

7.0 VISITS TO OVERSEAS RESEARCH INSTITUTES .

7.1 United Kingdom :

Animal Breeding Research Organization, and Institute of Animal Genetics, Edinburgh (1970).

7.2 Switzerland :

Swiss Federal Institute of Technology, Zurich, (1970)

7.3 France:

Centre Nationale de Recherches Zootechniques, Jouy -en - Josas (1970) IEMVT and INRA (1976)

7.4 West Germany :

University of Hohenheim (1976), Institute for Animal Research and Breeding,

7.5 South Africa :

Dept. of Animal Science, University of Pretoria (1970, 1979, 1991)

Sth. Afr. National beef recording scheme, Pretoria (1970)

South African Dept. of Agric., Pretoria (1970)

Animal and Dairy Research Inst., Irene (1970, 1979, 1991) Mara Research Station, Northern Transvaal (1970, 1979)

Vaalhartz Research Station, Christiana, (1970, 1979, 1984)

Onderstepoort Veterinary Research Institute (1979)

Roodepoort Research Station (1979)

Armoedsvlakte Research Station (1979, 1984)

Cedara Research Station, (1984)

Bartlow Combine N'Guni cattle breeding project, April, 1992

7.6 Sri-Lanka :

Veterinary Research Institute, Peradinya (1976)

7.7 India :

Indian Veterinary Research Institute, Izatnagar (1976)

Karnal University, Dept of Animal Genetics, Karnal (1976)

University of Madras, Veterinary College, Madras (1979)

Bhartiya Agro- Industries Foundation, Uruli- Kanchan, Poona (1979)

Mahatma Phoolle Agricultural University, Rahuri (1979)

National Dairy Development Board, Annand (1979)

7.8 USA :

University of Texas, Beeville Cattle Reproduction Unit, Beeville, and Animal Science Dept., College Station (1979)

University of Florida, Gainesville, (1979)

United States Dept. of Agric., Beltsville (1979)

Cornell University, Ithaca (1979)

Iowa State University, Ames (1979, 1984)

Clay Centre, Nebraska (1979, 1984)

University of Nebraska, Lincoln (1979)

Colorado State University, Fort Collins, (1979)

University of California, Davis (1979)

7.9 Malaysia :

Malaysian Agricultural Research Development Institute (MARDI), Selangor (1976, 1979)

Ministry of Veterinary Services and Agriculture, Kuala Lumpur (1979)

University of Malaysia, Animal Science Dept., Selangor (1979)

7.10 Kenya :

ILRAD & ILCA, Nairobi (1979)

7.11 Botswana :

Animal Production Research Unit, Gabarone (1979)

Five research stations, FAO projects (1979)

7.12 Brazil :

University of Minas Gerais, Belo Horizonte (1979, 1984) EMBRAPA (1979, 1984)

Zebu Breeders Association, Uberaba (1979)

7.13 Columbia :

University of Columbia, Medellin (1979)

CIAT, Cali (1979)

7.14 Mexico :

University of Mexico, Dept of Animal Genetics and Institute of Parasitology, Mexico City (1979)

7.15 Fiji :

Fijian Dept. of Vet. Services, Suva (1979)

Beef cattle program, Siga Toga (1979)

8.0 CO-OPERATION & EXTENSION

8.1 QDPI .

Advised Brigalow and Swan's Lagoon Research Station scientists on breeding programs, selection and analyses of data. Assisted beef cattle husbandry officers with trial designs and analyses of data.

8.2 New South Wales Dept. of Agriculture

Advisory committee on the Grafton and Duck Creek crossbreeding experiments.

8.3 West Australian Dept. of Agric .

Adviser on genotype evaluation at the Ord River Research Station.

8.4 Cattle industry .

Organized and initiated meetings between Extension officers and Scientists with the Councils of the Brahman, Braford, Drought- master, Hereford and Afrikaner/Belmont Red, breed associations. Also served on producer organizations and breed association committees.

9.0 WORKSHOPS

Session leader in the following workshops :

9.1 Field investigations with beef cattle, Brisbane, (1973)

9.2 Genetic resources for beef cattle in Southern Australia, Glenormiston, (1974)

9.3 Improving the servicing of animal breeding programs in Australia, Armidale, (1976)

9.4 Australia Beef Review Conference, Glenormiston, (1981)

9.5 QDPI, Beef Cattle Husbandry Branch. Workshops on beef production, selection and parasite resistance, at Rockhampton (1972, 1976 & 1980), Innisfail (1972), Townsville (1978 & 1979), and Gympie (1980)

10.0 SEMINARS AND FIELD DAYS

1. Special meeting on cattle tick problems, Canberra (1965)

" Aspects of selection for tick resistance under extensive conditions"

2. Special meeting on tropical adaptation, Rockhampton (1967) "Parasite tolerance."

3. Workshop Queensland Department of Primary Industry, Central Qld. Beef Cattle Officers, Rockhampton (1972) "Reproduction and growth rates at 'Belmont'."

4. North Qld. Q.D.P.I., Workshop on tick resistance, Innisfail (1972) "Tick Resistance."

5. Central Coast Graziers Association, Beef School, Yeppoon (1972) "Practical crossbreeding in Central Queensland."

6. Northern Vet. Conference, Mount Isa (1973) "Genetics and tropical beef cattle breeding."

7. Australian Society of Animal Production Symposium "Changing patterns of beef production", Agric. College, Gatton (1973) "New breeds for beef production."

8. Qld. Vet. Assoc. Annual Meeting, Brisbane (1974) "Selecting beef cattle for production."

9. Young Cattlemen's Camp, Central Queensland Institute for Advanced Education, Rockhampton (1974) " Selection and Genetics."

10. Cattle and Carcase Field Day, Biloela (1974) "Performance recording and selection."

11. Mareeba Beef School. Mareeba (1974) "The genetic approach to tick control."

12. Belmont Field Day, Rockhampton (1975) "Selecting Cattle for Beef Production."

13. Young Cattlemen's Camp, C.I.A.E., (1975) a) " Factors affecting herd production",
b) "Experimental evidence on tick control."

14. Lecture, C.I.A.E., Rockhampton, (1975) "Genetics and cattle breeding."

15. Trop. Grasslands Soc. of Aust., Central Coast Section, Mackay, (1975) " Breeding cattle for tick resistance."

16. C.Q. Vet. Assoc., Rockhampton (1975) " Breeder management and selection."

17. Series of five meetings covering Central Queensland for C.S.I.R.O Jubilee, (1976)
"Selecting bulls for beef production."

18. Seminar on the cattle tick, Taroom (1976) "Selection for tick resistance."
19. Cattlemen's Union Regional Conference, Biloela (1977), "More efficient beef production."
20. Series of five meetings with the Q.D.P.I and Brahman Breeders' Association, covering South East Qld., (1977) "The role of tropical breeds and their selection."
21. Australian Brahman Breeders' Assoc., (1977) "Selecting bulls."
22. Australian Braford Assoc., (1978) "With-in breed selection."
23. Joint meeting of Industry and C.S.I.R.O on the role of Belmont in the industry, Rockhampton (1978) "The role of the Belmont Red."
24. C.Q. Hereford Association, Rockhampton (1978) "Selecting Hereford bulls."
25. Q.D.P.I., Workshop, Townsville (1978) "Performance recording in the North."
26. Australian Brahman Breeders' Assoc., Rockhampton (1979) "Reproduction in the Brahman."
27. Cattlemen's Union Beef Production Forum, Jambin (1979) "Economics of beef production."
28. Symposium on fertility of tropical cattle, Tropical Research Centre, Rockhampton, (13 Nov., 1980) "Broad research findings on fertility of tropical cattle."
29. Q.D.P.I. Seminar, Gregory, (May 1980) "Breeding programs for the Gulf."
30. Q.P.D.I. Seminar, Bourke and Wills Crossroads (May 1980) "Bull selection for the North."
31. Q.P.D.I. Seminar, Normanton. (May 1980) "Herd management & selection in the North."
32. Lisgar Droughtmaster Stud, Field Day, Homehill (1981) "Selection for tick resistance"
33. Brahman Breeders World Conference on "Beef in a Changing World", (1983)
 - a. "Stud cattle: yesterday, to-day and to-morrow."
 - b. "Beef production potential of the tropics."
34. Belmont Red Society sponsored Field Day, Samford (1986) "Objective selection"
35. Belmont Red Society sponsored Field Day, "Bangalla", Maryborough, (1986) "Use of breeding values in selection."
36. Belmont Red Society sponsored High Technology Day, Bundaberg Show Grounds (1986) "Breeding Beef Cattle towards the year 2000."
37. Beef production field day, Minnie Plains, Blackwater, July, 1992 " Crossbreeding: Facts and Fiction"

11.0 COMMITTEES

- 11.1 Central Queensland Beef Production Liaison Committee (1972 - 1976)
- 11.2 Australian Society of Animal Production, C.Q. sub-branch, Foundation President (1973)
- 11.3 National Beef Recording Scheme (NBRIS), Technical Committee (1978 - 1986)
- 11.4 Australian Institute of Agricultural Science. Special Committee reporting on research requirements for Northern Australia to ASTEC
- 11.5 Australian Association of Animal Breeding and Genetics (AAABG). Corresponding member on the foundation council.
- 11.6 Department of Mathematics and Computing, CIAE, Course Development Committee.
- 11.7 Australian Brahman Breeders Association
 - i. Subcommittee on performance recording.
 - ii. Research committee.
 - iii. Central committee. Planning and organizing the world Conference "Beef in a Changing World."
- 11.8 Australian Afrikaner/Belmont Red Association
 - i. Treasurer (1973 - 1979)
 - ii. Research committee.
- 11.9 2nd World Conference on sheep and beef cattle breeding. South Africa Technical program committee (1984)

12.0 TERTIARY INSTITUTIONS; TEACHING & TRAINING

- 12.1 James Cook University, Department of Tropical Veterinary Medicine, Townsville.
 - a. Annual lectures: Applied Animal Breeding, for Post graduate students (1976 - 1986)
 - b. Short courses in tropical animal production (1978)
 - c. External examiner and joint supervisor for Ph.D and M.Sc. students.
- 12.2 Capricornia Institute for Advanced Education (presently University College of Central Queensland), Rockhampton
 - a. Part-time Lecturer: Statistics for final year mathematics students, Department of Mathematics & Computing, (1973/1974)
 - b. Guest lecturer: Applied genetics, Biology Department.
 - c. Student training for research credits, Biology Dept.

12.3 University of Pretoria, Pretoria, RSA. Visiting Professor (March, 1992); Lectures to final year students in Animal Breeding, assisted graduate students with research credits, and assisted Professors C. Maree and N. Casey with chapters in a book on Agriculture for developing Countries.

12.4 University of Fort Hare, Alice, Ciskei (April, 1992) . Visiting Professor: Lectures to Graduate and final year students. Staff seminars on animal breeding.

12.5 University of Zululand, Empangeni, Zululand.(May, 1992). Visiting Professor: Lectures to Graduate and final year students. Staff seminars on animal breeding.

OTHER EXPERIENCES.

Jan. 1961-Feb. 1963: Agricultural Teacher & Extension Officer, Tasmanian Dept. of Agric., Deloraine.

Aug. 1960-Jan. 1961: Technical Officer, Vic.Dept. of Agric.,Burnley, Random Egg Laying Tests.

June 1960-July 1960: Labourer, Special Vibrated Concrete, Moorabbin, Vic.

Jan. 1960-June 1960: Agriculture & General Science Teacher, Kalahari High School, Kuruman, South Africa.

1956 -June 1960: Assisted with the management of the family property, "Spitsberg", Kuruman, RSA. The property ran Afrikaner Crossbred cattle and Dorper sheep.

14.0 ADDITIONAL PERSONAL INFORMATION .

High School education: Grey College, Bloemfontein, RSA

Date of marriage: 17th April, 1960

Wife.

Name: Maria Catharina Seifert (nee Van der Spek)

Date of birth: 5th March, 1938.

Occupation: Biochemist, Government Health Laboratory, 1970-1989

Qualifications: B.Sc.(Agric.)(Bioch), Univ.of Pretoria. 1960. M.S.(B ioch.) Iowa State Univ., USA, 1970

Children: George - Veterinary Surgeon; Graduated medicine 2004

Karen - Physiotherapist

Jeanne - Occupational Therapist

Languages: Fluent English and Afrikaans

Sport: Rugby 1st and 2nd teams, Grey College. Senior Back-stroke Champion, Grey College, 1954

Orange Free State, Junior and Senior Back-stroke Champion, 1954 Cricket Captain, 3rd XI, Grey

College, 1954 Rugby 2nd XV, Univ. of Pretoria, 1959 Captain, Agric. Faculty Rugby 1st XV, 1958/1959

North Transvaal & Univ. Back-stroke Champion, 1955-1958 200 & 400 m Univ. Freestyle Champion, 1955

1st Water-polo Team, Univ. of Pretoria, 1956 -1957 Tasmanian 1st XV Rugby Union Team, 1961 -1962

University Committees: Member of Agric. Faculty House Committee,1959 Chairman, 3rd & 4th Year

Agric.Sci. Students.

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