

## **EDUCATION:**

The Foundation was again involved in many educational activities. These were:

### **Seminars:**

Each year a series of lectures on important horse topics is held in several main centres of New Zealand. These lectures are organised by the NZ Equine Research Foundation. They are sponsored by Bomac Laboratories (NZ) Ltd and have become well known in the industry as the Bomac Lecture series.

The purpose of these lectures is to raise the standard of knowledge of New Zealand horsemen and women so that our horses can be cared for in a manner which equates with the best in the world.

Over the years in which these lectures have been run some of the subjects dealt with have been very popular and large numbers have attended. Others have covered less popular subjects or have appealed to just a section of the horse industry (eg reproduction) and consequently the attendance figures have been lower. This year several subjects were presented, the main one being horse dentistry. The key speaker was Professor Paddy Dixon of the University of Edinburgh who is regarded as one of the most knowledgeable equine dentists in the world. He was assisted by Dr Mark Ethell of Massey University and Dr Trish Pearce of the Ministry of Agriculture and Forestry.

Although the attendance figures for the Bomac series of lectures were slightly down on previous years, the people who attended were enthralled with the new knowledge presented and there is no doubt that Professor Dixon, Dr Mark Ethell and Dr Trish Pearce helped raise their awareness and understanding of our horse problems.

The continuing support of Bomac Laboratories (NZ) Ltd for these lectures series has helped keep the cost of these seminars at a level which encourages young keen horsemen and women to attend. The entire horse industry is greatly indebted to Bomac Laboratories (NZ) Ltd for their wholehearted and continuing support for this lecture series.

### **Bulletins:**

Since 1994 the NZ Equine Research Foundation have been publishing twice yearly Bulletins the purpose of which is to inform people of the Foundation's many activities and to bring the results of equine research in other countries to their attention. During 2000/2001 the Equine Industry Training Organisation has taken the opportunity to advertise horse education and training opportunities available to New Zealanders in these Bulletins.

Bomac Laboratories (NZ) Ltd has again generously supported these Bulletins which are distributed to 15,000 people throughout the NZ Horse Industry. Their willingness to continue to support this publication is sincerely appreciated by the Foundation. We also gratefully acknowledge the extraordinary support from the following organisations which so keenly distribute these Bulletins to their members or readers of their publications:

- The NZ Thoroughbred Breeders' Association
- New Zealand Thoroughbred Racing
- Harness Racing New Zealand
- NZ Standardbred Breeders' Association
- NZ Equestrian Federation
- Equine Branch NZ Veterinary Association
- NZ Farriers' Association (Inc)
- Taranaki Miniature Horses

- The Morgan Horse Association of NZ
- NZ Hanovarian Association

#### Books:

The Foundation's Publications Sub Committee have been involved in the preparation of several books throughout the year.

The purpose of these books is to provide, for the entire horse industry, contemporary research-based information on important horse topics in a readily understandable way. Aimed with this knowledge our horsemen and women can more fully understand horse health problems and methods of overcoming them. Thus the standard of horse health is raised.

"Parasites and Horses" was revised and published during the year. Generous advertising support for this book enabled us to produce 20,000 copies and distribute most of these free of charge to a wide range of people involved in the NZ Horse Industry.

The Foundation appreciates the support it receives from various Companies and Organisations which helped to finance this endeavour. Without their assistance production of these books would be beyond our financial resources. The "Parasites and Horses" book was financially supported by:

- Ancare New Zealand Ltd
- Bomac Laboratories Ltd
- Community Grants Foundation (Inc)
- Fort Dodge Animal Health Ltd
- Equine Branch NZ Veterinary Associations
- Merial New Zealand Ltd

#### Scholarships & Fellowships:

The generous and continuing support of the Pye Foundation and Sir Patrick and Justine Lady Hogan has allowed the NZ Equine Research Foundation to proceed with a number of fellowships and scholarships during the year.

#### Pye Foundation Fellowship

No Pye Foundation Fellowship was given in 2000/2001. The previous year's recipient Dr Erica Gee however commenced her Fellowship during this year. The purpose of the Fellowship was to encourage and assist in the development of a level one equine course at Massey University. It was made available extramurally and the response from people wishing to better their understanding of horses was almost overwhelming. Nearly 100 students enrolled indicating the high amount of interest in equine education at this level.

#### Bluegrass Laminitis Symposium Scholarships

Because of the support given to the NZ Equine Research Foundation by the Pye Foundation, we were again able to provide scholarships for both a farrier and a veterinarian to attend the prestigious Bluegrass Laminitis Symposium in the USA. The purposes of this scholarship are:

- improve knowledge and skills of New Zealand farriers and veterinarians on diseases and conditions of the horses' feet.
- to provide an opportunity for New Zealand farriers and veterinarians to "network" with the world's top people in these professions.
- to encourage veterinarians and farriers to work together to improve the treatments of foot problems in the horse.

Brendan Bell, veterinarian from Invercargill, and James Collins, farrier from Rotorua were the successful recipients of these scholarships. Since their return to New Zealand both have spoken at various meetings throughout the country and have had their excellent reports published in Veterinary and Farrier magazines.

#### Patrick and Justine Hogan Scholarships

These two scholarships are given to final year veterinary students of the BVSc course at Massey University. The scholarships are to encourage the best veterinary undergraduate students with a background in horses to keep developing their interest and so ensure that future equine veterinarians in New Zealand are at the highest possible standard. The successful applicants were Donna Williamson of Timaru and Jennifer Wells of Palmerston North.

#### Travel Awards:

With the assistance of the Pye Foundation three Travel Awards were granted during the year.

Two of these were given to practising veterinarian, Dr Bruce Taylor, and researcher, Dr Margaret Evans, to attend the 14th International Congress on Animal Reproduction in Stockholm, Sweden. This world-renowned congress is held every 4 years and is attended by most of the top clinicians and researchers in equine reproduction. Twelve hundred people attended this year. Both Drs Taylor and Evans presented comprehensive reports on this conference after their return to New Zealand. Parts of the reports have been published in the Foundation Bulletin and the Equine Branch NZ Veterinary Association Newsletter.

The third travel award was granted to Dr Dan Shaw of Matamata. Dr Shaw attended the Racecourse Practice Conference in Newmarket, England; the 5th International Symposium on Equine Embryo Transfer in Finland; and visited experts in advanced reproduction techniques in Britain, Europe and the United States.

#### Web Site:

The NZ Equine Research Foundation set up a web site some years ago with the assistance of the New Zealand Thoroughbred Breeders Association. This site contains information on the Foundation, its personnel, publications, seminars, scholarships, travel awards, speaker's roster, and items of interest to the NZ Horse Industry. The NZERF is now developing it's own web site which will become active in the next few months.

#### Speakers Roster:

To expand our efforts to transfer new knowledge to organisations within the NZ Horse Industry a speaker's roster of researchers and topics of importance to our industry was set up some years ago. The list of speakers and topics are distributed to appropriate organisations within the industry. Speakers on this roster are supported by the Foundation to encourage industry organisations to use them at Annual General and other meetings.

#### Education Brochures:

In conjunction with the Equine Branch NZ Veterinary Association the NZ Equine Research Foundation was involved in financially supporting an excellent series of educational brochures which have been distributed to all the major horse veterinary practices in New Zealand. This series of 8 brochures contain very useful educational information on maintaining health of horses and deal with topics such as Dental Care, Vaccinations, Parasites, Care of the older Horse etc. In total 40,000 of these brochures were produced.

## **RESEARCH:**

Two major types of research are supported by the Foundation. One is research specifically commissioned by the Foundation to supply knowledge which we consider is essential for the successful development of the industry. The second is research which is applied for, in a competitive fashion, by researchers who have a particular expertise in a research area. These projects are evaluated by our Technical Sub Committee and assessed for their value to the industry, cost-effectiveness, scientific merit and other features. The Foundation rarely has sufficient funds to support all the excellent applications it receives and the 1999/2000 year was no exception.

### **COMMISSIONED RESEARCH PROJECT:**

#### **Health And Performance in NZ Thoroughbreds**

This project which was initially commissioned in July 1997 for the purpose of identifying the major disease and lameness problems in NZ racing Thoroughbreds and to gather information on factors which affect racing performance. The researcher responsible for this project is Dr Nigel Perkins of the Epicentre at Massey University. Dr Perkins started collecting data in October 1997 when a pilot study was initiated at Awapuni in order to test methods of data collection and finalise study design. The project was then expanded during 1998 by including trainers from Levin to Cambridge. Information on individual horses was collected every month and race/trial data were downloaded from the NZ Thoroughbred Racing database. Data collection ceased in August 2000, with at least 2 full seasons of data collected on more than 1,700 horses from 21 trainers, representing about 20% of the horses training and racing during that time period. The project is now in the data analysis phase with the first results and reports expected towards the end of 2001. In August 2000, Nigel delivered a presentation describing the project and selected findings to the International Society for Veterinary Epidemiology and Economics, in Colorado, USA, the major veterinary epidemiology meeting around the world. The talk was very favourably received with considerable interest from equine veterinarians from the USA, UK and Australia. In April of this year, he spent a week with Professor Stuart Reid at the University of Glasgow, Scotland, discussing the details of analytical techniques and approaches being used on the data. A series of presentations on the project were made at the BOMAC lecture series, during June of this year.

### **NEW RESEARCH PROJECTS:**

Five new research projects were financially supported during the year. These were:

#### **DEVELOPING A SIMPLE METHOD FOR ASSESSING STRESS IN HORSES**

Professor Cliff Irvine, Lincoln University

#### **THE INFLUENCE OF DIFFERENT PASTURE MANAGEMENT SYSTEMS ON PARASITISM**

Dr Kevin Stafford, Massey University

#### **A STUDY ON THE POTENTIAL USE OF AN HORMONE ANTAGONIST TO CONTROL REPRODUCTION IN THE HORSE**

Dr Margaret Evans, Canterbury Health

#### **A STUDY ON THE RELATIONSHIPS BETWEEN pH OF FAECES, THE AMOUNT AND TYPE OF GRAIN FED, AND "SUB-CLINICAL" LAMINITIS IN NEW ZEALAND HORSES**

Dr Chris Rogers, Massey University

**A PILOT STUDY TO DETERMINE WHICH OCCURS FIRST; BONE DAMAGE OR  
CARTILAGE DAMAGE IN THE FETLOCK WHEN INJURIES OCCUR AS A RESULT OF  
FAST REPEATED GALLOPING?**

Dr Susan Dykgraaf, Massey University

**RECENTLY COMPLETED RESEARCH PROJECTS:**

**A STUDY OF THE BONE MINERAL DENSITY OF GROWING THOROUGHBREDS**

E Firth

This study clearly showed when the greatest changes in bone density were occurring in young horses. It is an important finding as researchers now know when density measurements should be made as the foal grows and our understanding of bone growth has been improved.

**CREATING A HIGH SPEED TREADMILL IN NEW ZEALAND**

E Firth

A highspeed treadmill is essential to the study of the efficiency of heart and lung function in horses and for the accurate diagnosis of many of the problems related to fast exercise. Such a treadmill has been set-up at the Massey University Veterinary Clinic and is now in use to investigate factors affecting horse performance. This is a big step forward in helping clinicians assess your competitive horses and their problems.

**A STUDY OF THE STRESS OF TRAINING IN STANDARD BRED PACERSHBREDS**

M Hanlon

This study identified the variables which should be measured to detect overtraining in standardbred horses.

**A COMPUTERISED STUDY OF EQUINE LOCOMOTION**

C Rogers

This study showed, using sophisticated computer technology, that individual horses have a highly repeatable gait and that some elements of that gait are unique to each horse. It also showed that 3 day events do not unduly fatigue fit horses.

**A STUDY OF FACTORS AFFECTING LH AND FSH PRODUCTION IN HORSES**

M Evans

This study showed that Cetorelix (an antagonist to Gonadotrophin Releasing Hormone) given in a certain way was a cost effective method of suppressing gonadotrophin releasing hormone from horse pituitary cells and that it could be an effective tool for studying the role of LH and FSH in horses.

**COPPER INJECTION TO PREGNANT MARES : ITS EFFECTS ON THE COPPER STATUS  
AND ORTHOPAEDIC DISEASE OF THEIR FOALS**

E Firth

This study showed that mares utilised injected copper differently from copper given in feed. It also showed that copper given by injection should be discouraged as a means of copper supplementation in mares.

**AN ASSESSMENT OF BONE DENSITY OF THE THIRD CARPAL BONE**

C Secombe

This study showed that a quantitative assessment of the photodensity of the Third Carpal Bone was not a useful technique in the horse.

Note - As a result of the studies completed during the year, three PhD Thesis and one Masterate Thesis were gifted to the Foundation.ONGOING RESEARCH PROJECTS:

A study of the tensile strength of horse tendon  
E Firth

The production of a gene map in the horse  
I Anderson

A study of the wastage of growing horses on NZ stud farms  
E Firth

A study of injuries to the proximal palmer (upper back part) of the cannon bone in thoroughbreds  
B H Anderson

Monitoring gentamycin therapy in the horse  
T Mogg

Axial CAT scanning of the lower limbs of horses  
E Firth

A study into the Potential use of an antagonist to Gonadotrophin Releasing Hormone (GnRH) to Control Equine Reproduction  
M Evans

The Effects of Terylene Fibre Implants on the Superficial Digital Flexor Tendon  
K Gibson

#### **ADMINISTRATION:**

The Board and the seven Sub Committees of the NZ Equine Research Foundation have been working hard during the year to keep improving and expanding its research and educational activities. In addition the Board members are involved with the management of Equine Research NZ at Massey University, the NZ Equine Health Association and, in conjunction with the Government and the Equine Industry Training Organisation, have been examining the future of education in the Equine Industry.

An appraisal of techniques of fundraising has taken place and fund raising brochures for distribution to people in the industry, law offices etc have been produced.

Several meetings have been held to explore ways of obtaining increased funding from the Foundation of Research Science and Technology and strategies are being put in place to attempt to increase this amount of these funds.

In addition, a review of the research achievement of the Foundation has commenced. Professor Fielden has collated much of the background information for this and it is hoped that this activity can be completed during the current year.

A change in Board composition occurred during the year as the NZ Pony Clubs Association (Inc) has agreed to join our Board. Thus for the first time we represent the main organisations in all the major facets of the Industry.

#### **ACKNOWLEDGMENTS:**

The activities of the NZ Equine Research Foundation keep expanding and consequently the workload of its Board members increases. We are indeed fortunate to have a group of individuals who are highly qualified, enthusiastic, and have a diverse range of skills. These people have willingly and uncomplainingly taken up the challenge of an increased workload. They do this because they believe the activities of the Foundation can raise the standards of knowledge and skills within the industry and by so doing ensure that our horses receive the best possible standards of management and health care. The abilities and endeavours of these people have allowed me to keep my activities during the year to manageable levels and I gratefully acknowledge my indebtedness to them all.