PRESIDENTIAL ADDRESS

Animal productivity and the veterinarian: another perspective

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When I turned my thoughts to preparing this address I did what I imagine most Presidents have done before me, searched the titles (and in some cases the contents) of the addresses that have gone before. It was while doing this that I noticed that no member of the veterinary profession had held office in the Animal Production Society since 1959, yet 5 veterinarians had been elected as President during the first 20 years of its existence. That my predecessors performance had resulted in this state of affairs I could not believe — I knew them all as men of stature who had contributed much to the animal based industries in this country. And so it is as much to remember their efforts, as for any other reason, that I have titled my address "Animal productivity and the veterinarian: another perspective". The last 2 words of the title are significant, for those of you who by accident or design have read Presidential addresses of the past will recall that David McFarlane spoke on a similar topic 34 years ago. Look on this as an update if you will.

Veterinary Services During the Early Years

Although the Maori rat (Kiore) and the Maori dog (Kuri) were the first exotic animals introduced into New Zealand at the time of the great Polynesian migrations, the majority of effective introductions of animal species took place as recently as the 19th century. The range was surprisingly large and included cattle, sheep, pigs, horses, deer, goats, dogs, poultry, rabbits, ferrets, weasels, kangaroos, possums, bears, turtles, tortoises, hedgehogs, ostriches and other game and companion birds. The major source of the more improved domestic animals was Great Britain but introductions from this country were numerically small compared with those brought from Australia in the second half of the 19th century.

It is not surprising, with such an influx of new species into a virgin country, that there should also be the introduction of disease. Sheep scab, introduced before 1849 (probably from Australia), and a pleuropneumonia in cattle (recognised in 1864), were the most important of these. The problems they posed drew immediate reactions from the farmers and the urgent need for control measures over these introduced diseases quickly became apparent; many runholders were set back severely or even ruined by the introduction of sheep scab onto their properties. The seriousness of the situation is clearly illustrated by the plight of Edgar Jones, a runholder near Waiau, where in writing about his experiences it is stated:

> "Ten sheep from a diseased mob being driven from Horsley Downs to St. James Station escaped across the Waiau River to his property. Next day at dawn he mustered the hill that the sheep had gone up and found one infected sheep among his mob. The other nine were still at large. By law, he had to inform the inspector at once. In another mob of 150 he found one more infected sheep. Jones then mustered the whole of the front of his property and slaughtered the lot (7,000). In doing so Jones saved the district (containing 350,000 sheep) from being declared infected. The local land holders subscribed one shilling and three pence a head, and the Government promised the same in recompense."

Lawyers and well-informed farmers, familiar with the actions that had been taken in Great Britain to deal with repeated outbreaks of serious infectious diseases in animals in Europe over the centuries, were well able to frame appropriate legislation to combat these threats to the young colony from diseases of imported animals. Examples of legislation to control animals at that time included: an ordinance to provide a summary mode of abating the nuisance of dogs wandering at large in towns (1844); an ordinance for regulating the slaughtering of cattle in certain places (1847); an ordinance to prevent the extension of the infectious disease called the scab as well as the disease called the influenza or catarrh in sheep or lambs (1849); the Diseased Cattle Act (1861); the Diseased Sheep Act (1867); the Rabbit Nuisance Act (1876) and the Animals Importation Prohibition Act (1876). In due course amendments to such legislation became the basis of the control of infectious diseases of animals in New Zealand.

Veterinary services were indeed thin over this period and were provided mainly by farmers, blacksmiths and *cow-leeches*. Qualified veterinarians, not surprisingly, were very rare since the first veterinary school had only been established in Europe in 1762, while the London Veterinary

College, the first amongst the English speaking nations, was not put in place until 1791.

Prior to the formation of the Department of Agriculture in 1892 John F. McLean MRCVS was the sole veterinarian employed by the Government of the day; his task, to prepare a series of reports on stock diseases throughout the country. With the formation of the new Department, however, 4 veterinarians were employed and 2 of these, J.A. Gilruth and Charles Reakes, became extremely powerful advocates as promoters of veterinary services in the newly developing colony. Gilruth was the Chief Veterinary Officer, a bacteriologist with a strong personality, and all the attributes of a top class administrator. It is to his great credit that he saw control of animal diseases not in isolation, but as a means to increasing production of healthy animals. The Gilruth era lasted from 1893 to 1908 and during that time at least 30 veterinarians were recruited to the Veterinary Division which he had formed in 1895. The 2 major issues concerning the Division at the time were

(i) Attention to problems of animal health affecting output at herd and flock level such as pneumonia, blackleg, anthrax, tuberculosis, mastitis, high mortality rates in pregnant ewes, Winton's disease in horses, and problems associated with trace element deficiencies.

(ii) Inspection and certification of slaughter houses to ensure carcasses intended for human consumption were free from serious disease.

The Slaughtering and Inspection Act (1900), reflected Government concern with protecting the consumer both at home and abroad, and with the need to retain a competitive edge in export markets. More veterinarians were in fact involved in this quality control work than were active in field services.

A significant development during this early period was the establishment of the Wallaceville Laboratory in 1905 to provide a back-up and laboratory service to the Veterinary Division. Later expansion of this station led to it providing the research foundation for the assistance of clinical veterinary services in almost every part of New Zealand. Older members of this Society will recall names such as Filmer, Hopkirk, Cunningham, Fitch, Andrews, MacFarlane, Salisbury and Hartley and the contributions they have made, not only in their own particular fields of science, but several as Presidents of the New Zealand Society of Animal Production.

When Gilruth left for Australia Dr Charles Reakes succeeded him as Head of the Veterinary Division; ultimately he became Director General of Agriculture. His influence in this latter role was undoubtedly significant in the passing of the Veterinary Surgeons Act 1926, an Act that established a clear line of demarkation between qualified and unqualified persons. Despite the eloquent pleas and forceful cases made by men such as Gilruth and Reakes, it had taken 3 decades to bring this legal closure of the profession about — a story in itself for those interested in veterinary politics.

Reakes was an excellent manager and used his limited resources to best advantage by combining the professional veterinarians with the lay inspectors, many of whom were highly experienced in animal management and disease control. An example of this was the effort of teams of veterinarians and inspectors of stock who worked very long hours to ensure that all calves offered for vaccination against blackleg were dealt with. This disease had become very serious in the North Island following its introduction through improperly sterilised animal manures imported from Australia and India at the end of the 19th century. Lewis Fitch, a veterinarian working at the Wallaceville Laboratory, had prepared the vaccine.

Resources however, particularly of veterinary manpower, were proving to be a major problem. The bulk of qualified veterinary officers, and they were relatively few in number, were employed by Government with their time more or less fully committed to meat inspection duties. There was little time left for field work aimed at either identifying problems affecting animal health or in assisting stock owners in the preventative and curative treatment necessary to deal with them. Development of such services was further delayed by the intervention of the First World War.

Over these early years, and up to and including the period immediately after the great depression, the demand for veterinarians for clinical practice was at best intermittent — when farm prices dropped, the demand for services fell dramatically, and even when they were high, demand was largely seasonal. While many farmers agreed that it was desirable to have veterinary services, the remoteness of many properties and the practical economics of agriculture meant there were many locations where veterinary practitioners could not earn a living. Yet, despite these difficult times, farmer groups attempted to overcome the financial problems of employing a veterinarian by using the co-operative approach — the stage was being set for the evolution of the Veterinary Club system. Early examples include the Southland Farmers Union Veterinary Group (1903), the Clutha Veterinary Association (1907), the Kaipara Veterinary Association (1916), the Rangataiki Plains Dairy Company Veterinary Department (1923) and the Rata Veterinary Club (1934).

As early as 1919, Charles Reakes had drawn attention to the desirability of subsidising veterinary practice in rural areas. It is interesting to read his

comments, made in the context of a rapidly developing dairy industry, some 11 years later:

> "What is needed, is an organised veterinary service under which skilled qualified men would be engaged to give their whole time to practice among dairy farmers in a definite area and at the same time act as advisers generally upon all questions bearing upon the health and productivity of dairy stock. The experience of veterinary surgeons who have attempted independent private practice in dairy districts has been that the earnings they are able to collect do not provide a reasonably sufficient income, hence some other system has to be adopted, but it is considered that a properly organised service on a self-supporting basis could be established and maintained through the medium of dairy factories."

Reakes then went on to outline possible ways of organising such a system:

> "Thus, in the case of a large factory whose suppliers own 8,000 cows or upwards, if the whole of the suppliers would combine in forming a veterinary association and each provide a small sum — say at the rate of 2/6d per cow — the amount derived from 8,000 cows would be sufficient to pay the salary and travelling expenses of a good veterinarian, whose whole-time services would be available without extra charge. Or, alternatively, the payment could be made on a per pound of butterfat basis. Arrangements could also be made for medicine to be supplied on the veterinarian's prescription at cost price, plus expenses of preparation, handling, etc. A scheme such as this, properly organised and managed would be a great benefit to dairy famers and of great economic value to the Dominion. The government could well assist in bringing about the establishment of a scheme by selecting veterinary surgeons of the right type, and in other ways which would be helpful in placing it upon working lines."

The organisational options outlined were very close to what did ultimately develop as the Veterinary Club movement.

Development of Clinical Veterinary Services in the Rural Community

In the post depression years prices rose and there was every encouragment to increase productivity on the farm. The Second World War stimulated this further. Animal health was a prime area where improvement could be effected and at the same time factors such as the discovery of the sulphonamides and of penicillin ushered in the era of modern pharmaceuticals in veterinary medicine; the profession's ability to treat disease rose dramatically. Research into animal health problems associated with trace elements, the widespread use of the motor car, and the advent of the radio-telephone were other factors that helped set the stage for a rapid escalation of clinical veterinary services to the rural community.

Alan Leslie, the veterinarian, and Andrew Linton, the farmer, were the 2 key men who made such a marked impact on the establishment of the Veterinary Club system. It was a system that evolved with 3 groups sharing responsibilities for its development and function, the veterinarians, the farmers, and the State through its establishment and financial support of the Veterinary Services Council. The gestation period of the club movement was not without difficulty and it required tenacity, diplomacy, and considerable administrative acumen to bring it to a successful conclusion. Leslie was associated with farmers in the formation of veterinary clubs for some 20 years, and it is alleged by 1 writer who knew him well that it was "largely through his persuasive powers that the Meat, Wool and Dairy Boards were convinced of their necessary interest in veterinary service. This was a much greater achievement than appears in retrospect, as many of the leading farmers were far from veterinary minded." Linton became the first Chairman of the Veterinary Services Council formed in 1947, and by his personality and experience was able to lead both the farmers and the veterinarians forward in this joint venture. A close observer remarked at the end of Linton's 10 year period as Chairman of the Council:

> "Mr Linton can be very largely regarded as being the Council . . . . We have passed through difficult times in the relationships between veterinarians and farmers, and there has never been anybody on the Council, or outside it, who can adjust these matters as well as Mr Linton".

In a period of 15 years from 1937, 70 farmers' veterinary clubs were formed giving reasonably comprehensive veterinary coverage to the whole of New Zealand. The growth in the veterinary population was very rapid during this time and almost entirely due to recruitment into the veterinary club system. Demand for veterinarians still exceeded supply however, and quarrels between clubs associated with poaching of staff were commonplace.

During the 1950's 2 other developments occurred that helped provide the solution to these particular problems. The first was the steady increase in pressure on the Australian Veterinary Schools to retain places for their own countrymen rather than for training students from New Zealand, and the second considerable agitation within the profession itself for a New Zealand school. This as we now know came to fruition in the early 1960's,

also not without a long and protracted gestation.

The first attempts to establish a training school for veterinarians in New Zealand had taken place in 1904 at Otago University with Government offering the necessary finance (estimated at £800 to establish the school and £1500 annual running costs at that time). A 4 year course was proposed; when the degree was first offered in 1907 there were no enrolments. A committee set up in 1943 considered the matter of veterinary training once again and surprisingly recommended that a veterinary school not be established until it was clearly demonstrated that New Zealand intended to offer permanent employment to at least 250 veterinarians. The decision was by no means unanimous and a minority report disagreeing with the recommendation was also brought forward. Finally, when the University of New Zealand in 1954 recommended that a school be established there were delays for another 8 years before the Faculty of Veterinary Science came into being at Massey University. Professor Ira Cunningham was appointed its first Dean in 1962.

In the early years of its existence the Veterinary Services Council was the *effective employer* of the majority of clinical veterinarians in New Zealand. The key role of this body in the establishment of veterinary services virtually guaranteed a clientele for the profession and there is little doubt that for many, if not most veterinary groups, the reduced costs of veterinary services that were possible enabled them to expand those services faster than would otherwise have been the case. From the 1960's onwards however, the power of the Veterinary Services Council began to wane. The veterinarians produced by Massey University had no obligation to join the veterinary clubs (although many did); so-called *contract practice* and other variations in individual club structure developed, and there was a steady movement into private practice and government service. The trend has continued and from the 1st April this year the Veterinary Services Council will cease to exist. Members of the Council, and all those associated with it, need not mourn its passing for it can take pride in its many achievements, and in particular the bringing of clinical veterinary services within the reach of virtually all New Zealanders working in the rural areas of this country.

The Veterinary Profession Now, and in the Future

To this point I have sketched the growth and development of veterinary services in the New Zealand community with particular emphasis on the rural sector. Table 1 outlines the deployment of veterinarians in the work force at the present time. Clinical practice continues to be the main employment category comprising approximately two thirds of the active population — of these 64% are listed as in private practice, 24% in Veterinary Clubs and 12% in contract practice. According to Boland and Morris, who analysed 1985 information from the Register of Veterinary Surgeons, 59% of clinical practitioners work predominantly with farm animals and 41% with non-farm animals. I suspect this may have changed, even over the intervening 2 years, in favour of non-farm animals.

The most significant development of recent times has been the rapid increase in women graduates entering the profession. While they presently occupy only 17% of the occupational groupings listed in Table 1 the ratio of females to males in the present undergraduate veterinary population now exceeds 50%. As this is a relatively new phenomenon it is not yet clear what impact, if any, it will have on the delivery of veterinary services to the farming community. Personally I see no valid reason why our farming clientele should have anything to fear.

I need hardly remind you of the increasing difficulties New Zealand has faced in obtaining and maintaining markets for agricultural products over

TABLE 1 Occupational groupings of veterinarians in New Zealand (Source — Veterinary Surgeons in New Zealand as at 30 June 1987. Issued by the Veterinary Surgeons Board of New Zealand. The figures below exclude those veterinarians who classify themselves as retired (115) yet reside in New Zealand as well as those who are listed in the Register as overseas (279)).

Category	Number	Proportion of total (%)
Clinical practice	792	65
Ministry of Agriculture and Fisheries	242	20
Industry	36	3
University	50	4
Other[1]	98	8
Total	1218	100

[1] Includes a number where the occupational category is unknown.

the last 2 decades. Areas where we have traditionally sold our goods have become restricted because of subsidies, trade barriers, or an excess of similar products being dumped there. In response to these developments wide ranging changes are being put in place in our economy, changes that are significantly altering our approach to farming, processing and marketing. Because this country's security depends on satisfying consumers and having them return for more, quality of product has become of the utmost importance. Increased numbers of veterinarians and other scientists appropriately trained in the required disciplines, have been placed in positions to meet the demands of the freezing works, and the field and laboratory services that support regulatory procedures associated with meat safety, disease control and import/export certification. Major programmes associated with tuberculosis and brucellosis control have been undertaken with considerable success. These will be continuing obligations and, provided adequate standards are maintained, the credibility of New Zealand products will remain assured. The importance of this, as far as retaining entry to export markets are concerned, must never be underestimated.

Let me next turn, if somewhat briefly, to the issue of research. Modern technology in agriculture has never been challenged so much as in recent years and indeed there are many detractors who link technology with the excesses of eggs, milk and meat in much of the world today. It needs to be remembered that the application of science and technology to industry, to agriculture, and to many other facets of society has always had its opponents. Even in the 17th and 18th centuries for example the evolving sciences were described as vain, corruptive and dangerous, phenomena that aggravated the living conditions of man. Workers believing their jobs were threatened by innovative technology, destroyed machines in the early phases of the industrial revolution — but the industrial revolution became a phenomenon that was irreversible and no return to the past has ever been reported. Since that time the application of science and technology to production, processing and marketing systems has continued at an ever increasing rate as can be witnessed by the massive production and utilisation of nitrogen fertiliser; the development of modern preservation methods for foodstuffs; the application of genetics to animal and vegetable production; the pharaceutical revolution; and in recent years the advent of biotechnology providing new ways of diagnosing, preventing and treating disease, and of purifying the environment. Yet again detractors and opponents to these developments have emerged, and increased numbers cry out for *a return to nature*. What can this really mean in a world that is no longer what it was a century ago? Is such a concept realistic? I for one thing the clock cannot be turned back.

The problem of agricultural surpluses notwithstanding, there are, or will be by the end of this century, actual food shortages in areas of substantial population such as the Middle East, Africa, perhaps even the USSR. Many countries are keen to supply these markets and will continue to invest in high technological developments at a fast rate — improved productivity and lower production costs are objectives that must be achieved if consumers are to preserve their buying power. If we are really serious about competing in this race it requires an increasing, not a decreasing, diffusion of new technologies, new skills and new forms of knowledge. There is no turning back. Political expediency and emotion should not be allowed to stand in the way of the development and application of the new techno-science towards increasing profitability of animal production. The need for increased effort in science and technology has never been more urgent if New Zealand is to maintain a competitive edge. Adequately resourced research teams, headed by inspired leaders, are required; we already know they are effective. This is one investment we cannot afford to do without. Far too few of our best veterinary graduates come forward either here or elsewhere, for research training, a phenomenon I am assured is not peculiar to this particular discipline. Government has been given the message loud and clear; has it the wit and the will to grasp this nettle and institute policies that will produce the required result, for time is running out.

Finally I would like to turn to the role of the rural practitioner; the crystall ball in respect to their continued contribution is far less revealing. The future of the veterinary species specialist involved with companion animals and other pets is quite obvious; provided animal welfare interests (which are changing), are observed they will follow their role models in human medicine with the application of new discoveries to such species limited only by the depth of the owner's pocket book. In an affluent society their future is rosy indeed. The situation is entirely different, and always has been, for those servicing the food and fibre producing species.

The *muck and magic* era of large animal veterinary practice in this country has long since passed — our clients are knowledgeable and competent, and acceptable results are expected from their animal health advisers if they are to survive. The properly trained veterinarian knows that high productivity does not necessarily go hand in hand with high profitability, and that it is the latter that determines the success (and survival) of the farm business.

Despite this constraint, animal health remains a major ingredient in the success of any animal production enterprise; even in our own relatively restricted University veterinary practices examples

of substantial, and what is more salvageable loss, are regularly found. The problem more often than not is found to be multiple in origin with each component taken individually having a relatively small effect, yet cumulatively, leading to a catastrophic result in a productive sense. Identification of the component parts takes real effort and requires both technical and interpersonal skills; not every veterinarian is able to succeed at this. Personality (whatever that trait means), skills in communication, and the ability to recognise limitations are essential attributes. Winning the confidence of the client is an integral part of the service and has been shown to be critical if success in dealing with such problems is to be achieved.

The new technologies, and new approaches, some of which you have heard about during this conference, undoubtedly help the animal health professional to fulfil this role. They certainly open up a new spectrum of opportunity. There is still much that can be done for the farming community if we can recruit, train and motivate the required proportion of graduates to undertake this type of work. Some steps have been taken in this direction by modifications to our own veterinary curriculum, modifications that will lead to integrated teaching within a production system by soil, plant and animal scientists working alongside veterinarians. Continuing education courses and other postgraduate training are a necessary supplement to this.

Fortunately there already exist a number of veterinarians who have developed a gread deal of skill as animal health and production experts. Where necessary they are already demonstrating their willingness to work alongside and draw on the resources of others with different abilities in offering their clients a service. While still too few in number these species specialists are just the role models we need for those who aspire to this form of veterinary practice.

The influence of the rural practitioner in the general field of science extension is another facet of the veterinarian's potenital that should not be underestimated. Farming magazines, glossy brochures, newsletters, field days and seminars all have their place in raising issues, passing on advice, and selling ideas, but I doubt they have nearly the impact of the 1 to 1 consultation carried out between parties who have mutual respect for each others ability.

It has been said before, but is worth repeating, that looking over our shoulders, concerned that we may be treading on one another's ground, is something that really must be put behind us. Animal productivity in this country can only benefit if all the groups concerned are prepared to work in harmony and trust. I believe this is happening and only hope that all concerned will continue to rise to the challenge.

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