"PROFESSIONAL AND ANIMAL ETHICS ISSUES FOR VETERINARIANS CONDUCTING ON-FARM CLINICAL TRIALS"

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Introduction

For years, farmers and veterinarians have conducted on-farm trials to improve stock health, growth rates, fertility and overall productivity Most of these trials have involved minor procedures such as giving one group a mineral supplement and comparing their growth rate with an unsupplemented group. They have usually required some extra handling or activities such as oral drenching and weighing, which fall into the category of "normal farming practices". However, increasingly the trials involve more invasive procedures such as liver biopsy, sporidesmin challenge testing, selection for parasite resistance, artificial breeding, libido testing and so on. Some of these trials may have been carried out without due consideration of the changes that have been made to the Animals Protection Act 1960 regarding the use of animals in experiments

The 1983 Amendment and the 1987 Regulations have profoundly changed the obligations of everyone using live animals for experimental purposes or teaching in New Zealand

Legal Requirements

The 1983 Amendment removed the exemption to the Animals Protection Act 1960 which applied to any research or experimental work carried out on animals by a *bona fide* researcher and empowered the making of regulations relating to the use of animals in research and teaching. The Animals Protection (Codes of Ethical Conduct) Regulations 1987 require that any research, teaching, experimental, diagnostic, toxicity or potency testing work or work for the purposes of producing antisera or other biological agents involving the manipulation of live animals must be carried out in accordance with a code of ethical conduct. Codes are submitted to the National Animal Ethics Advisory Committee (NAEAC) by the director or chief executive of the institution and approved by the Minister of Agriculture. These Regulations are very broad and undoubtedly apply to the more invasive experimental trials being conducted on farms Veterinarians, scientists and farmers who undertake on-farm trials should know their obligations under the Act and be conversant with the following definitions.

"'Animal' means -

(a) Any horse, cattle, sheep, pig, goat, dog, cat, mule or ass, of whatever age or sex and whether in a domestic or wild state

(b) Any bird, whether in a domestic or wild state

(c) Any marine mammal found on, or in the vicinity of, the seashore:

(d) Any vertebrate animal that is kept in a state of captivity or is dependent upon man for its care and sustenance:

(c) Any animal of a species that is declared by the Minister, by notice in the *Gazette*, to be a species of animal for the purposes of this Act."

"'Manipulation' in relation to any live animal, means interfering with the normal physiological, behavioural or anatomical integrity of the animal by deliberately -

(a) Exposing it to any parasite, micro-organism, drug, chemical, biological product, radiation, electrical stimulation or environmental condition:

(b) Subjecting it to enforced activity, unusual restraint, abnormal nutrition, or surgical intervention:

(c) Depriving it of usual care: -

but does not include any therapy or prophylaxis necessary or desirable for the welfare of the animal."

Implications for Veterinarians

In the strictest sense, the Act now applies to any trial, experiment or research involving live animals when they are subjected to any procedures which are over and above what they would normally experience if the trial or experiment was not being conducted. These protocols may include, for example, additional drenching, weighing, blood or faecal sampling, reproductive procedures, liver biopsy etc. or the deliberate withdrawal or removal of usual farming procedures such as parasite control, trace element supplementation etc which might knowingly lead to disease and/or suffering It appears that few on-farm trials carried out since the new Regulations came into force actually complied with the Act, in that most have required at least additional drenching or weighing and some required control groups which did not receive anthelmintics or trace element supplementation to prevent disease and/or suffering

The NZVA is considering drawing up a code of conduct for veterinarians involved in trials requiring manipulations and it may make recommendations to NAEAC for a grading system for the more common manipulations reflecting the degree of severity of the procedure. Those in the lowest category, which are expected to cause little or no stress or discomfort, may be allowed without prior approval of an Animal Ethics Committee (AEC). For example, observational or grazing trials and trials requiring one or two extra weighings would probably fall into this category. The next grade of manipulations may involve some minor stress or pain e.g. blood sampling or faecal sampling *per rectum*. It may be possible for a given operator to obtain blanket approval for a particular type of trial which only involves this kind of minor manipulation, Higher grades of manipulation would always require AEC approval of individual projects. However, currently all veterinarians involved with on-farm trials should carefully consider whether they are imposing a "manipulation" and, if so, they should submit their proposal for approval to a properly constituted AEC

It should be noted, however, that the Act does not apply to recognised veterinary, agricultural or animal husbandry practices used for treatment, prophylaxis or diagnostic purposes and for the direct benefit of the animals involved

National Animal Ethics Advisory Committee (NAEAC)

Broadly, it is the Committee's function.

- To advise the Minister of Agriculture on the administration of Sections 19A and 19B of the Animals Protection Act 1960 (as inserted by the Animals Protection Amendment Act 1983)

Specifically it is required

- To advise the Minister on the content of regulations to be made under s19A(1) of the Act, in particular on matters to be incorporated in any code of ethical conduct.

- To review and negotiate any desirable modifications to codes of ethical conduct prior to recommending approval under s19A(5).

- To consider and advise on information that should be collated and available on the use of live animals in research, testing or teaching institutions.

- To undertake such other activities as may be requested by the Minister of Agriculture pertaining to the administration of Sections 19A and 19B of the act.

In 1991, in response to a request from Massey University, NAEAC established a sub - committee to review to what extent normal farm practices were covered by the 1987 Regulations. The final recommendation approved by NAEAC and communicated to all Animal Ethics Committees was as follows:

> "Manipulations which must be considered by AECs, are all those to which the animal(s) would not have been subjected had they not been involved in the experimental programme concerned (i.e any manipulation resulting from the programme which increases the ethical cost to the animal)"

AECs

All teaching institutions such as Universities and Polytechnics. research organisations such as AgResearch and commercial companies which use animals in experiments, trials or teaching have AECs. The composition of AECs should include a member of the organisation's staff able to explain all aspects of the research or teaching protocol, the staff member with direct responsibility for animal care in the institution and must include three external members not employed by or associated with the institution in any way, namely an NZVA representative, a nationally recognised animal welfare group representative and a representative of the public. Some AECs may consider proposals from small organisations and individuals and act on their behalf, via a "parenting" agreement. Such an arrangement must, however, be formally documented, submitted to NAEAC and approved by the Minister Project proposals should be in the format required by the AEC and they should include the following:

Justification

Justification for the proposal should set out clearly why the trial is being carried out, why the information is important (i e does the value of the information, in terms of benefit to humans or animals, outweigh the "ethical cost" to the experimental animals), why this is the best

means of obtaining the information (i.e. are there alternative means of obtaining this information which are less invasive or do not involve using live animals?) or desired product (such as antisera) and why this is the most appropriate species to use.

Limitation of Animal Numbers

It is important that the experiment is correctly designed and that an adequate number of animals is used so that a meaningful answer is obtained. Consideration should be given to the design, level of accuracy necessary, the number of animals used, the amount of animal variation expected, possible confounding effects, the method of animal allocation to treatments and the need for statistical analysis. Advice from a biometrician (which may also be available through an AEC) is invaluable to ensure sufficient, but not excessive, numbers of animals are used and that the experimental design is appropriate.

Minimisation of Distress

Consideration should be given to:

(a) selection of techniques which achieve the desired result but impose the least possible stress and pain on the animals

(b) ensuring that the person carrying out the manipulation is adequately trained

(c) using appropriate anaesthesia and analgesia whenever necessary or desirable

(d) avoiding multiple procedures on animals wherever possible

(e) possibly terminating or abandoning studies where continuance would lead to unacceptable suffering to the animals

General Health and Welfare

It is critical that the farmer and veterinarian involved in on-farm trials ensure that husbandry, feeding, animal health and general care of their animals are of a high standard. Contingency plans should be in place to deal with emergencies or side-effects resulting from the trial, including treatment, withdrawal of animals from the trial or euthanasia where appropriate

Statistical Records

It is a requirement of the Act that all people conducting animal manipulations must keep good records in order to provide specific statistical information to the Director General of Agriculture annually.

AEC Options for Practitioners

If you wish to conduct a trial which requires AEC consideration you have the following options:

1. Contract an institution or organisation to do the work and use their own AEC.

2. Collaborate with a scientist at a university, institution or company and put a joint proposal through their AEC

3. Contact your nearest university, institution or company that has an AEC which is willing to consider your proposal and monitor the trial. You must undertake to abide by that institution's Code of Ethical conduct and conform with the AEC's requirements.

4. Veterinarians in a large practice or a number of practices could set up their own AEC to oversee farm trials They would have to submit their own Code of Ethical Conduct to NAEAC and the Minister of Agriculture for approval and maintain good records for audit purposes and for annual reporting of statistics

5. The NZVA may consider setting up an AEC for its members if the time, effort, cost and benefits can be justified.

Discussion

The amendments made to the Animals Protection Act during the 1980s, ensured that New Zealand legislation relating to the use of animals in research, testing and teaching is in keeping with international norms and standards. It is interesting to compare the current New Zealand situation relating to clinical trials with that which applies overseas

In Canada, clinical trials must undergo the same level of review by ethical committees as any other animal use protocol for research, testing or teaching. Depending on the nature of the trial, an on-site inspection of the premises where the trial is to be carried out may be required prior to commencement.

In Australia, the welfare of animals in research and clinical trial activities is regulated by state and territory legislation and all work must be approved by the properly constituted Animal Ethics Committees. It is recognised that there are grey areas of animal use, such as observation, minor invasive procedures such as blood and faecal collection and normal husbandry procedures However, it is the intention of the various Acts and Regulations to include any procedures that are not performed for the benefit of the individual animal

In the United Kingdom the difficulty in sometimes distinguishing between a "scientific procedure" and "normal veterinary practice" has been recognised for some time. In most cases difficulties have been resolved by considering two questions about the proposed action:

> "Is what you wish to do being performed essentially for a scientific or experimental purpose? If the answer is yes, it is likely that licences under the Animals (Scientific Procedures) Act are required before the work is carried out The second question should resolve any remaining difficulty; is what you wish to do for the direct benefit of the animal or its immediate group? If the answer is yes, the work could reasonably be considered to be 'recognised veterinary practice'." - Jeremy Roberts - RCVSNews, March 1991

The New Zealand statutory requirements apply equally to veterinarians, agricultural scientists and other members of the farming community. In addition to the legal position, it is however important to note the professional ethical obligations which apply to New Zealand veterinarians.

The 1994 Guide to Professional Conduct issued by the Veterinary Surgeons Board of New Zealand includes the following

- Veterinarians have a special responsibility for animal welfare.
- Veterinarians must be familiar with the provisions of the Animals Protection Act 1960 and any subsequent amendment by way of Act or Regulation.
- Veterinarians must take all possible steps to ensure that their clients, employees, co-workers and any other people with whom they come into contact understand and abide by the provisions of the Animals Protection Act
- Veterinarians must consider the welfare implications of any procedure involving animals and, as appropriate, should act or advise to minimise suffering.

Conclusion

In the past, veterinarians have run on-farm trials which have largely involved "normal farming practices". However, with the introduction of the 1983 and 1987 amendments and regulations to the Animals Protection Act 1960 many of these trials and procedures need to be reconsidered especially in light of new definitions of "manipulation" Now, any procedures which are over and above what the animals would normally experience if the trial or experiment was not being carried out may be considered a manipulation. In this case, all trials involving manipulations must be approved by an Animal Ethics Committee prior to commencement AECs can assist the veterinarian by ensuring that the trials are well designed and that the welfare of the animals is adequately catered for

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Further Reading

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