Society for Veterinary Medical Ethics Newsletter

Volume 3 Number 1
April, 1997

Amended Constitution is Approved by Members

IRS Approval of 501(c)(3) Status for Society has been Granted

In response to requirements established by the Internal Revenue Service, the Constitution of the Society for Veterinary Medical Ethics, prepared under the guidance of our Past-President, Al Dorn, had to be amended to enable our Society to qualify as a charitable, 501(c)(3), organization.

Via email and the U.S. Postal service (snailmail) copies of the amended Constitution were sent to all members by Treasurer Bob Speth. Despite the fact that some copies of the Constitution regrettably did not make it to their destination, a 2/3rds majority of members voted to approve the Amended Constitution. *(**Treasurer's Note:** To all those individuals who did not receive a copy of the Constitution and a ballot, I express my most sincere apologies. In attempting to send out group electronic mailings, some names on the list were ignored or overlooked. Some, but not all of these errors were later discovered and corrected. If you did not receive a copy of the amended Constitution and would like to receive one, please email your request to me: <speth@wsu.edu> or via regular mail: Bob Speth, Dept. VCAPP, Washington State Univ., Pullman, WA, 99164-6520, USA, and I will send a copy to you.)*

The amended Constitution was sent to the IRS on March 5, 1997 and notice of approval was received on April 1, 1997.

SVME ISSUES FORUM

Last Fall, Dr. Virginia Wensley Koch sent me an e-mail message in which she asked a question that she hoped might be placed before our Society's members. I decided to send the question to members who have e-mail to see how they would answer it and to determine whether this kind of activity would be useful for the Society to sponsor. I relied on members with e-mail because Bob Speth and I also wanted to see whether the Society should consider instituting an e-mail list devoted to ethical issues and open only to our members.

The responses, as you will see, are interesting, insightful, and thought-provoking. As a "test," this exercise succeeded wonderfully. Hopefully, progress can be made on an e-mail list, which would make communication among our members more frequent and fruitful.

Jerrold Tannenbaum

THE QUESTION, submitted by Dr. Virgina Wensley Koch

Which is more ethically acceptable---to use one animal (ultimately euthanatized) for research involving multiple surgeries or to use multiple animals (ALL of which are then euthanatized)?

THE QUESTION (continued from page 1)

Ethics is never that simple, of course, and there are multiple other considerations that are ignored by the simple phraseology above, but that very point is what might stimulate an interesting debate.

THE ANSWERS, submitted by:

Adrian R. Morrison

First, in my view the number of animals used is not an issue as long as the use is appropriate. By that I mean every effort is made not to waste a single animal to get a significant answer. Having long ago decided the use of animals in research is justified, my concern is intelligent experiments and careful attention to care.

Next, multiple use. Here it is a matter of judgment as to how deleterious the first use was, and I am sure each would have his or her threshold. Certainly to me it is unethical to waste resources if people are waiting for relief. Thus, to deny the possibility of using an animal that has undergone a spay in another type of experiment and require a fresh animal would be unethical to me.

I do not think it histrionic to bring suffering people into the argument even though their relief may be far from my experiment. The thought that I am serving mankind is why I can experiment.

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Larry Carbone:

The "prohibition" against multiple major survival surgery first appears in the fifth edition of the NIH Guide, published in 1978. As with so many of the recommendations in the Guide, there is no explanation, cited literature, or rationale offered for WHY the practice is "discouraged," and in particular, whether the concern is primarily scientific or ethical.

Though the Guide is fairly clear in its guida[illegible] on what circumstances might warrant an exception to this prohibition, this guidance is limited by not revealing the underlying concern of the prohibition. Animals may undergo multiple survival surgeries when they are all related parts of a single research project, or when the species is rare. An issue not addressed by this or subsequent editions of the Guide is what to do when our best evidence indicates that there is no residual or cumulative harm to the animals in undergoing multiple surgery.

The crucial first step is to evaluate the likely harm attendant with each surgery, to assess whether subsequent surgeries are in some way more harmful to the animal (as in a build-up of abdominal adhesions, or progressive removal of more and more organs), whether the surgeries are essentially isolated events, or whether subsequent surgeries might somehow be of less harm than if they were performed on a surgically naive animal.

As the Guide is currently written, we are in a bit of a pickle if our best evidence indicates that there is no cumulative or residual harm, or if repeated surgeries seem somehow less harmful than single surgeries on multiple animals might be. This is where understanding the basis of the prohibition would be helpful.

My suspicion is that there is involved here some sort of notion of fairness (see my protocol review opinion in *Lab Animal*, February 1996, 25 (2): 20-21). Even if surgeries are viewed as isolated events (i.e. no residual or cumulative harm, and no habituation or other improvement with additional surgery), the idea seems to be that it would be unfair to subject one animal to three such surgeries when we could subject three animals to but a single surgery. All things being equal, we are encouraged to spread the burden of research surgery over a greater number of animals.

One reason that this may sit uneasily with many of us is that for the vast majority of cases, this will increase the number of animals euthanized in projects, and to euthanasia at an earlier age. This is the case when an investigator replaces two survi[illegible]

surgeries per animal (say, abdominal collection of oocytes) with a policy of one survival surgery followed later by a terminal surgery This is not just wasteful of money, or of animals as resources, but wasteful, it seems, of life itself. Where there seems little evidence of accumulated surgical harm, the wastefulness takes on more prominence.

It appears to me that the research community and its ethical advisors have yet to reach any sort of consensus on the question of how much of a harm death is to animals. The 'fairness' of spreading surgical procedures over greater numbers of animals only seems reasonable if the corollary deaths are seen as relatively insignificant. The current state of affairs seems to be that pain is everything, the overwhelming issue of concern, while questions of life and death, of euthanasia, of killing, are of much lesser concern. This has yet to be clearly articulated, debated, discussed or defended, and until it is, policies that simply presume that death is insignificant are likely to remain, at least on occasion, arbitrary and inappropriate.

I believe there are social, historical and political explanations for our reluctance to count death per se as a harm to animals, for doing so would markedly change how we 'score' many of our research procedures, and most of our animal agriculture also.

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Txema Peralta

My answer is that it depends on the severity of the surgery. If there is no use of postsurgical analgesia and the animal needs to be left in pain, or if the surgery is so invasive that, even when cared for, it takes the animal a long period of time postsurgery to fully recover its normal activity, I would certainly favor the use of several animals and the performance of one single surgery per animal. However, if the surgery is followed by proper care that allows the animal to recover in a few days the normal function of the organs involved, I would probably suggest the use of the same animal for more than one surgery.

Certainly, exceptions can be found on both ends, and each specific case would need to be studied individually, but as a general answer to your question, I think that covers the way I feel about this matter.

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Patricia Olson

"Dying is nothing, but pain is a very serious matter" - Henry Jacob Bigelow 1971.

The ethical issue begs more information as to the nature of the research and whether any animal at all is required. No individual person, without their consent, should be made to suffer for the good of many persons.

Likewise, a single animal should not be subjected to multiple surgeries to spare many animals (unless all surgeries are performed at one time, under one anesthesia, whereby the animal never needs to recover and experience pain).

Have alternatives to using animals been adequately researched? Is the research deemed absolutely necessary? Have computer searches world-wide (in many languages) verified that the knowledge sought is not available? Unfortunately, animal research is frequently conducted without serious thought to ethics or necessity.

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David B. Morton

1. Considerations:
   LEVEL OF SUFFERING
   TOTAL SUFFERING INCURRED BY ALL ANIMALS
   QUALITY OF SCIENCE
   NUMBER OF ANIMALS

2. The same question arises at many levels in research and education using animals, e.g., when one wishes to take multiple blood samples during a time course, e.g., drug absorption, distribution, metabolism and excretion (ADME

studies). Does one use one animal with multiple venipuncture (or even biopsies) or several animals at each time point? I suspect the question derived from the use of pound dogs in surgical labs.

3. First and as a matter of fact, in the UK the law is based around the principle of causing minimal animal suffering, rather than reducing animal numbers. Hence it would follow that, normally, multiple animals would be used once, rather than one animal many times.
4. Now to be anthropomorphic, but critically anthropomorphic. I think the animals concerned would prefer minimum suffering, unless animals have a vision of the future and could be altruistic! I believe it was this stance that drove the antivivisectionists in the UK to accept minimal suffering over animal numbers.
5. It would also depend on the level of suffering incurred e.g., if all the multiple procedures were carried out under a single terminal anesthetic, then in my opinion one animal would be the best option. However, if the surgeries involved recovery between each one, I would have to take into account the total suffering endured by one animal, against all the other animals waiting for their single surgical procedure, and if this could be calculated, it might be greater than the suffering of the single animal, though I doubt it. I take this from a utilitarian viewpoint which forms the basis of laws relating to the use of animals in research.
6. Such discussions also involve the reuse of animals. One of the primary questions to define whether a use is 'reuse' or not, is, "does that particular animal have to be used e.g., because of data already obtained (or procedures already carried out), or would any animal do?" If the former then it is not reuse and the latter is - by this definition anyway. Thus the protocol may demand that animals have more than one procedure carried out on them as part of an experiment.
7. If however, the protocol does not require that animal be used, and the science is compromised by that second use (reuse) then that has to be taken into account, as 'bad' science should not be carried out.
8. If the severity of a series of scientific procedures is too high, despite the scientific objective, it may make the procedures impermissible. So even good science does not trump any level of suffering in the present context. That is, in the UK, we have a notional upper limit of suffering, beyond which no scientific justification is acceptable. This is characterized as "severe pain or severe distress". Furthermore, as with the law in many countries, the level of suffering should always be proportionate to the level of perceived benefit - however, that provides much material for future debate.
9. The question of reuse raises all sorts of issues. For example, it raises the point of not only how one measures the level of suffering at any one time, which is not too difficult, but how one calculates it over time. Does one add it up over the animal's lifetime, or only at the time of the scientific procedure and recovery therefrom? Thus several mild procedures over a period of several weeks, may be the same as one substantial procedure on a single occasion. Two substantial procedures may equal 10 mild or 4 moderate etc. over the same time period. (I am using the UK system here of recognizing and assessing 4 categories of severity: graded from mild to moderate to substantial to severe). Where does one draw the line and why?
10. If the question is about surgical labs, I would have a lot more to say, but I'll leave it there for now.

I mention the UK perspective not to push it, but to raise issues over cultural relativism?

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Fred S. Jacobs

This is a question which has already been answered by most veterinary colleges. One animal, one surgery, one euthanasia (with no recovery).

When I went through surgery classes back in the early 70's we were allowed three surgeries per animal at 2 week intervals. I found the system to be humane and an invaluable learning experience because the patients could be followed through the post-surgical phase of treatment and recovery.

Ethically speaking I don't see a problem as long as attention is paid to pain management and post-operative comfort. There is no ethical or moral difference between working on a research or teaching animal, and an owned animal in my view as long as they are treated with a high degree of care. It is very wasteful and unethical to euthanize unwanted animals if they can be utilized in a teaching situation as long as humane guidelines are met.

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Jerry Silverman

Needless to say this question has arisen at many different IACUC meetings, and opinions are all over the place. There are those who have successfully argued that if you are working with a threatened or endangered species, it is better to use the one rather than many: kind of a utilitarian approach. Others have justified multiple surgeries on the same animal by arguing that since the vast majority of laboratory animals do not have a concept of the future and what it might bring, doing repeated surgery on a fully recovered animal is of no moral consequence (i.e. ethically neutral).

May I suggest that you look at my *Lab Animal* column from November 1995. Dr. Martin Stephens of HSUS and Dr. Constance Perry of Allegheny University address this problem. They both concluded that there should not be multiple surgeries on the same animal, arguing that repeated surgery might very well skew research results.

T.E. Hamm, Jr.

The question is too general to answer. More would have to be known about what surgeries would be done, what anesthesia, what possibility for pain post operation, what drugs could be used for analgesia, etc. In addition we would have to keep in mind the Guide requirements for multiple survival surgeries which limits our ability to make the decision.

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John R. Boyce

First of all, we must assume for discussion purposes that the multiple surgeries are acceptable under Federal law. It is my recollection that USDA regulations prohibit "multiple major" survival surgeries on the same animal.

I have been intrigued by this issue for some time. As I see it, pain is not additive. Pain is experienced only by individuals and it cannot be summed over multiple individuals. In other words, one animal experiencing pain "3X" is worse from an ethical point of view than three animals experiencing pain "X." Therefore, to me, one animal undergoing multiple surgeries (which surely result in some pain) is worse than multiple animals undergoing non-survival surgery (assuming they experience little or no pain). As long as the animal is humanely treated during its life, and assuming it has either been raised for use in research or has been taken from a pound or shelter where it was going to be killed anyway, killing that animal (or many such animals) in a humane manner does not pose a significant ethical problem to me, as long as the killing is done to generate legitimate and valid scientific data.

The above does not mean that I am always opposed to survival surgery. On the contrary, I believe that survival surgery is often justified, especially in teaching surgery to veterinary students. Students benefit from seeing animals recover from anesthesia and from evaluating the results of their

surgery exercise. Of course, due consideration must be given to post-operative care and analgesia, but properly designed survival surgery has a place in veterinary education, in my opinion.

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Fred Quimby

I'm not sure there is a single answer to Dr. Koch's question, but this is the way I elected to analyze it.

First, regardless of considerations of pain, is there an advantage to minimizing the number of animals involved in the process? Most people I've talked to say yes, even if the animals end up being adopted into loving and caring homes at the end.

If there is considerable distress involved – and in all likelihood there is – does the amount of distress diminish over time if one animal is used versus the reintroduction of new animals? We had noticed previously that dogs bred for research seem to display more behavioral and physiologic abnormalities during their first exposure to student surgery (which was minor) than on either of the next two exposures. Dogs were handled daily after 2 day post surgery and prepped for the second (or third) procedures at weekly intervals. From these observations including weekly blood cortisols, hemograms, body weight. records of inappetence, daily observation for reluctance to greet caregiver, etc. we were convinced the first event was by far the most stressful.

Given this scenario, we felt it best to submit each dog to 3 (1 minor, 1 major survival, 1 major terminal) procedures. A modification of this format occurred when we introduced an "alternative" tract. Incorporating animals previously euthanized for research, or by the local SPCA allowed us to submit a living dog to a spay or castration as the only major procedure and conduct the approach to femoral pinning and eye surgery on nonliving animals. At this point, students frequently adopted their surgical patient.

A further refinement occurred this year when all purpose-bred dogs were excluded and replaced by living SPCA dogs which are dewormed, vaccinated, neutered and returned for adoption. The adoption rate during a pilot study increased 3 to 4 fold.

This latter program has the added value of reducing the overpopulation problem (which nationally inflicts more pain and distress on dogs and cats than all uses in research and teaching combined).

Now back to the original question. The steps taken in the evolution of our student surgery program [at Cornell] can be used in a case-by-case analysis of animal use. Important questions are:

Can multiple procedures in one animal actually reduce total (overall) distress (when multiple animals are used)?

Is the amount of harm inflicted by any one procedure so great as to warrant the procedure being terminal?

If the amount of harm (as measured objectively) appears acceptable (criteria must be established) can the animal still have a comfortable life with a reasonable expectation of enjoyment (through adoption)?

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Bob Speth

My opinion is that the multiple surgeries is a better ethical choice. If an experiment is such that it can be done most efficiently using multiple surgeries, it would be a poor choice to use a larger number of animals which might require a greater number of surgeries in the long run, e.g., it might not be possible to use the animal as its own control. The multiple animal versus single animal multiple surgery design will require an unpaired comparison to be made. There is likely to be greater variability between animals and larger group sizes will be needed to establish the existence of significant

treatment effects. Thus not only would more animals be needed, but more resources and time would have to be expended.

Another comment that is relevant to this issue is that the multiple animal approach is not consistent with two of the 3 R's (reduce and refine) by which we attempt to minimize the adverse impact of our work upon experimental animals.

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Peter Theran

Numbers of animals: As you know there are several factors that influence the number of animals that are most appropriately included in a protocol. But I assume that your question means that all other considerations regarding numbers aside, is it better?

I think the answer is "it depends" ; I don't think the answer is black and white as it is almost stated in the Guide. But the Guide has, in my opinion, a purpose. It is aimed at the past (I hope) practice of doing multiple major survival surgeries on one animal in rapid succession. The justification being the economics without any regard for the suffering of the animal. Hopefully no one would endorse this practice today. That practice was mostly employed in a teaching situation, I believe, and today there are alternatives to this teaching method.

But if we move away from this extreme case, the question becomes more a question of whether there are scientific reasons for multiple surgeries in one animal (identified by the Guide as a possible exception), in addition one could ask what is the time period between surgical procedures and are procedures in place to minimize pre and post operative pain and distress.

While major surgeries, performed every week with no use of analgesics would be unacceptable, what would one say to a surgical procedure performed every three months with impeccable technique and proper application of analgesics?

If housing, environmental enrichment, exercise, etc. were very good, one would perhaps see some gray in an otherwise black and white situation.

Cory Brayton

When I and our IACUC address the issue of multiple survival surgeries we are influenced by regulatory, scientific, practical, and ethical considerations, and (probably especially) by personal perceptions of the suffering (pain and distress) that the animals could/should/do experience, I find that there is significant overlap among these considerations and that they are very difficult to dissect. Which is the more acceptable answer (fewer vs. more animals) is influenced by all of these considerations, and depends very much on the situation. "Which answer is ethically more acceptable?" is a different question.

To ask this question, one must have taken the stand that it is ethically acceptable to use animals for research involving surgery. To answer this question one must take a stand:

Pro-Life – i.e. you want to minimize the life/lives sacrificed for research, therefore it always is more acceptable to use one animal (ultimately euthanized) for research involving multiple surgeries.

Anti-suffering – i.e. you want to minimize the suffering (pain and distress) experienced by each individual animal, therefore it always is more acceptable to use multiple animals (ALL of which are then euthanized).

Simple. Right? The Dilemma is that you are committed to Animal Welfare, and probably you think that you are Pro-Life and Anti-Suffering. In this scenario, you cannot be both. To answer this question, one must put a value on Life and a value on Suffering (or freedom from it, perhaps one may substitute 'Quality of Life' in this equation), and simply determine which is more valuable.

I.e., Value of Life > Value of Quality of Life → it always is more acceptable to use one animal.

Value of Quality of Life > Value of Life → it always is more acceptable to use multiple animals.

The question may be simplified somewhat if one premises that all animals are equal (thus all lives are of equal value: "Rat = pig = dog = boy"; by extension: cockroach = president), and premises that

all surgical procedures are equal (i.e. in terms of the amount of suffering incurred). For most of us however, these premises are false, so a decision reached by using them would not be sound.

Our regulatory agencies (principally USDA and NIH) recognize this dilemma. They have come down on the 'Anti-Suffering' side of the fence, but straddle it with exceptions:

The Animal Welfare Act (USDA) stipulates "that no animal is used in more than one major operative experiment from which it is allowed to recover except in cases of:

(i) scientific necessity or;

(ii) other special circumstances as determined by the Secretary;

The Guide (NIH) states "Multiple major survival surgical procedures on a single animal are discouraged, but may be permitted if scientifically justified by the user and approved by the IACUC...."

These agencies premise that all animals are not equal. USDA defines 'animal' in some detail (9 C.F.R. Ch. 1: 1.1. Definitions) and specifically excludes various 'lower' species. The Guide concerns only laboratory animals and states: "laboratory animals include any vertebrate animal". The Guide requests justification of the use of the chosen species. Implied is the request for explanation of why a 'lower' species could not be used to answer the scientific question.

These agencies premise that all surgeries are not equal. USDA defines: "Major Operative procedure means any surgical intervention that penetrates and exposes a body cavity or any procedure which produces permanent impairment of physical or physiological processes". The Guide uses the same definition. Furthermore both agencies distinguish survival procedures from non-survival procedures. Implied is that if the animal is not recovered, there is/was/would be less suffering, and that although incurred by the surgery, substantial suffering can occur after the surgery.

While these premises clearly complicate what could be a fairly simple ethical question, whether you would like the ethical answer all of the time not, they also provide the basis to justify exceptions,

- (typically created for the experimental situation);
- implantation of monitoring or other devices followed by surgical or other interventions. These situations can be justified scientifically. The use of different animals in the surgical procedures would not permit the questions to be answered.

2) experiments that involve species of limited availability, where use of this species is scientifically justified. In this situation, Scientific and Practical considerations may overlap.

Perceptions of the relative suffering that animals experience influenced the premises held by the regulatory agencies, and influence our decisions about multiple surgeries.

1) Major operative procedures are perceived to cause more suffering (principally pain) than minor procedures.
   - While by definition not major procedures, surgeries that involve manipulations of bone (e.g. creating and repairing defects) are perceived to incur significant pain. In practice, at my institution, we consider these to be equivalent to major procedures.
2) Survival procedures are perceived to cause more suffering than are non-survival procedures, principally from post-anesthetic pain, and/or from distress because of debility or loss of function, or because of handling for postoperative treatments (including administration of analgesia).
   - Handling is perceived to incur significant distresss suffering in some animals (evidenced by increased heart rate, avoidance behaviors or aggressive behaviors, etc.). Recently our IACUC permitted a PI to perform a second (minor) operative procedure on several rabbits who had been used in a previous similar

protocol. The rabbits had been in the facility for more than 6 months, and had been handled daily. They came to the front of their cages for carrots or cabbage when we entered the room. We all were impressed, especially the PI, by how quickly these rabbits were up and eating after the procedure, and how easy they were to handle compared to rabbits who had been in the facility for only 2 weeks before a surgical procedure. This PI now is a proponent of longer acclimatization periods and daily handling for rabbits on surgical protocols.

In conclusion, I do not know which answer is ethically more acceptable. I think that the best answer depends on our premises, and on the values that we assign to Life, Suffering and Science. I think that current regulations and the new Guide permit us the latitude to determine these premises and values for ourselves, and that our knowledge and perceptions and our integrity and conscience must guide us in each situation.

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Christine S.F. Williams

With regard to the 2 dog/1 dog ethical issue, this question has not arisen, for a long time, with regard to veterinary student surgery at Michigan State University. Many years ago, a decision was made in the College of Veterinary Medicine that the student surgery exercises on dogs would not involve recovery. I don't know who made the decision, or on what basis, it's in the mists of time. Our campus wide animal care committee has also made the decision that survival surgery cannot be carried out on unconditioned dogs. Also NIH and USDA have some discouraging words about multiple sequential surgeries which are not part of an integrated piece of research.

However, we once had the thought-provoking task of deciding whether dogs should have bilateral simultaneous hind limb surgery, and thus be their own controls, or whether to double the number of dogs used, with only one surgery per dog.

We know that dogs can, if they have to, walk on their front legs only, but in no way did we feel that this justified a double simultaneous surgery and so we chose to double the number of dogs which doubled the cost of the entire project. It wasn't a question of whether we could do it, it became more a question of whether we should. Even though these were conditioned pound animals which had been destined to die at the pound, we weren't prepared to say that an extension of life with double leg surgery discomfort is better than no life at all. But we did feel that dogs with proper pain medication and cared for by skilled attentive technicians could undergo a simple leg surgery, and have a quality of life, even though it is a short life, that is better than a double leg surgery, or no life at all.

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NEW QUESTION FOR SVME FORUM

In March of this year, Dr. Ian Wilmut announced that he and his colleagues in Scotland had succeeded in cloning a sheep, one "Dolly," from another adult sheep. This event has sparked a flurry of comments and commentaries in the public media regarding ethical issues raised by cloning. However, virtually all of the published comments have dealt with the issue of whether it is, or would ever be, ethically appropriate to clone human beings. The comments appear to assume that no ethical issues are raised by the cloning of animals.

Are there in your view distinctive and important ethical issues raised by the cloning of animals? If so, what are they and what would you say about them? Does the veterinary profession have distinctive contributions to make regarding such issues, or regarding the ethical issues of human cloning?

Please send your responses to me via e-mail or "snail mail." by June 10th for inclusion in the next Newsletter. My e-mail address is <jtannbm@sprynet.com>. My snail-mail address: P.O. Box 478, Arlington, MA 02174-0004.

Jerrold Tannenbaum

Book Review

AGRICIDE: The Hidden Farm and Food Crisis That Affects Us All
By: Michael W. Fox
Second Edition 1996
278 pp. Cloth $29.50
ISBN 0-89464-945-0
Krieger Publishing Co. Phone 407-724-9542

From the perspective of an academician whose area of expertise is dairy production, *Agricide* appears somewhat dichotomous. The thrust of the first four chapters lacks balance. In these chapters Dr. Fox tries to foment a strong reaction against the agricultural industry. He does this often with innuendo, and I will refer to several with respect to the dairy industry.

Although in the introduction the author states that he has tried to update this edition of the book with the most current statistics, a notable portion of the book continues to rely on old information and references that may support his claim. More current findings that would to refute his arguments are not mentioned. The next five chapters, or the remainder of the book, is better balanced. I will allude to parts where the balance and the thrust are designed to direct the reader to the middle ground.

In the opening chapter, Fox writes about factory farming and the move away from traditional farming practices. He tries to paint a picture of the indifference a farmer might have to the nature of the animals he raises. But there is no reference to improvements in rearing practices. As an example, on Page 1, he refers to some cases where lights are kept on all day and he argues strongly that this is an example of how animals are being unnaturally raised on farms. It is true in some dairies that lights are kept on all day. It has been shown that cows consume more when there is more daylight. Traditionally, cows have been considered a prey rather than a predator type of animal, and so it would be logical to conclude that they would consume more when there is sufficient ambient light. One can easily extrapolate that they are more comfortable because they are more contented and less fearful with an increase in ambient light. Admittedly, this is an extrapolation, but it comes in the face of a somewhat strong and misleading statements made by the author.

Fox rails against the fact that farmers are moving away from the use of manure on the fields. One would be led to assume the farmers are opting for a less ecological approach to dairying, where the emphasis now is on the use of synthetic fertilizers. The problem that addressed here may be real, but may not be due to that which the average dairy farmer would desire. The fact is that state and federal EPA guidelines severely restrict the ability of dairy managers to apply manure to their fields. The need to store this material has become quite a problem in many dairies. If the case is that more synthetic fertilizers are being used, it may be that severe restrictions that are currently placed on dairy managers arise due to outside pressures and regulations and do not reflect the managers' own desires and philosophy. Whereas the "old-fashioned" way of taking care of manure, was for the farmer to get the "honey-wagon" out to the field and return the ostensible waste product to the field. Nature's recycling at its best. Yet now we know the old fashioned way was not best, especially for those down-stream and those concerned about the quality of water in near-by wells. The problem with hearkening back to the old-fashioned way of farming can be also discussed in terms of the Heptachlor problem in Hawaii, that is raised on page 67. No doubt the appearance of heptachlor in milk was a major problem, for both producer and consumer. Yet the beauty of the system was that the heptachlor was discovered because the Department of Health heavily scrutinizes milk. No, milk is not risk-free, but one could argue that it is as safe as it has ever been. One can hearken back to the early years of the 1900's. This was a time that some agricult

economists think of as the "Golden Years of Agriculture" since the old parity system was centered during this time. Yes pastures and "Old McDonald" farm types were prevalent during this period. Yet during this time, thousands of people were made ill by brucellosis and tuberculosis through milk consumption. This is no longer the case today. I would have to argue that the milk today is probably as safe or safer than it has ever been and it is as safe or safer here in the U.S. than it is any other place in the world. No doubt, it could be safer, but I think we could always make that argument about any aspect of our lives. It would seem to me that there will always be some risk to what we do.

Fox's discussion on page 95 about bovine leukosis is outdated and misleading. The references cited are more than 15 years old. It is my understanding that milk can be contaminated with bovine leukosis, but there is no link between human and bovine leukosis. His discussion of the support programs is clearly dated and without balance. The dairy farmers have traditionally benefited from the government support programs. He makes this clear on pages 44 & 45. The figures that support the quotes are probably inarguable; however, this is a revised edition yet these figures are 10-15 years old. Over the last five years, the government has been divesting itself from the dairy support programs, and there have been industry driven programs instituted to reduce overproduction. These programs were paid for by the dairy farmers themselves through assessments, not through government payments. No discussion is made here on the dairy farmer supported assessments.

Misleading statements appear on page 48, where Fox writes that monies are going to the university via Hatch funds, and this money is being overspent. Dr. Fox opens this chapter with a discussion on the rape of the land and the loss of the topsoil, but does not mention the numerous research efforts at land grant universities on no-till farming concepts.

It appears that Fox will reach for quotable, but perhaps not scientific, information to prove his point. In his discussion on irradiated foods, there is mention of unique radiolytic products that could be hazardous to consumers. While such radiolytic products may exist, their existence has yet to be demonstrated. Furthermore, there may be but one questionable study that suggests that irradiated foods are not safe. Most of the findings that I am familiar with indicate that irradiation of foods is safe, and that the benefits far out-weigh the small potential for risk. Moreover, Dr. Fox cites *Acres USA* magazine, a 1984 edition, as his support for his suppositions. I am not familiar with this as a scientific journal. Nor am I impressed with the dated citation. Again his reliance on non-scientific journals helps him twist information and create innuendo. On pages 77 & 78, the author writes about the DES ban and the lag time in instituting the ban. His remark at this point, is clearly inflammatory. He writes, "Interestingly, if this hormone had been linked with testicular cancer rather than cancer of the cervix, it undoubtedly would have been banned long ago". He misleads the reader not only by describing thelarche improperly, but by using *Mother Jones* magazine, 1983, as his source of information. The comment is misleading because no direct link between premature puberty in 15,000 children and use of endocrine factors in feeding cattle is made. Rather the wording of that paragraph is constructed so that the reader will infer such an association.

On page 104, the information presented is again misleading and outdated. Holstein milk is lower in fat, and it should also be noted that carotene is not a major portion of solids fraction of milk. Cows are not fed to produce low protein milk. Traditionally, they were fed to produce high fat milk and the fat and protein content in milk are correlated. However, the recent trend in the industry has been to pay more of a premium on the solids, not the fat portion of milk. This is a reflection of the consumer demand. The USDA Dairy Market News 1995,

Volume 62, Report 25, Page 11, clearly documents the decrease in demand for whole milk and 2% milk, with an increase in demand for the lower fat milks. On page 105, Fox argues somewhat for pro-vegetarian diet. Whereas some of the vegetables mentioned will provide calcium, the consumption quantities are so great that reliance on vegetables as a sole calcium source in children is not even remotely realistic.

For example, the opening statements regarding overcrowding of livestock in Chapter 6, are good examples of a reliance on old information to argue a point without a balanced discussion. The current trend in the dairy industry is to reduce overcrowding and to look for more humane aspects of housing dairy cows. A *Hoard's* survey has indicated an expansion of dairy farms in terms of the numbers of free stalls and milking parlor barns. There has been a 10-15% increase in the number of loose housing systems over the traditional tie-stall, heavily restrained housing systems of the past. Traditionally in the Midwest and Northeast, where the majority of cows in this country are kept, the method of housing was to keep these cows tied or stanchioned over the winter. Often, cows would remain stanchioned for days on end. With the movement away from the stanchion type of housing systems towards the free stall housing system, cows now have the ability to wander at their leisure between stall and feeding areas. Arguably cows spend less time on pasture with such a system. But there has been a great deal of research and scientific discussion of late as to how housing systems can be made more comfortable and augment health in cows.

In Chapter 5, the writing takes a more balanced approach. Fox discusses other points of view on the measures of adaptability and fitness of animals, arguing that fitness cannot be evaluated by gross productivity and health, since these factors are influenced by drug, genetic, environmental, and veterinary factors. He does in this case clearly state the need for more research to measure animal well-being. It would be hard to argue against this claim.

He then goes on to discuss opinions on animal rearing practices and evaluates the welfare of each animal species, using as a criteria that offered by Carpenter in his book, *Animals and Ethics*. The argument in this chapter is for the consumer to be aware of what they consume in relation to how that animal is reared. This is sound advice.

Chapter 6, takes a more balanced approach in discussing the economics of factory versus family farming. He discusses both sides, but argues for a smaller family size unit. The emphasis on the dairy industry today is to increase herd size. There have been tremendous changes very recently with respect to herd expansion. Typically the increase in size is achieved by adding on not 10, but hundreds of cows. This expansion is not restricted to the West, where the larger herds in dry lot dairies are a tradition. Extension of expansion of large farms has been made to the Midwest, where traditionally dairies have been much smaller. Twenty years ago, my recollection is that the largest farm in Wisconsin was a 200 cow herd. Today there are many dairies with over 1,000 cows in that state. Milk price is not the primary driving force. Dairies are largest where the price is lowest, in California, New Mexico, Texas, and Washington. Clearly, dairy farm managers would not opt for large herds and expansion if the economics did not dictate such expansion. Since the government is getting out of the dairy business, (the current Federal Agricultural Improvement and Performance Act of 1996 is calling for a gradual termination of the price support) the response by dairy managers has been to increase in size and to augment the economies of scale.

In chapter 7 of *Agricide*, Fox argues for a more humane and ecological food production system. Again, my perception is that he is arguing for change towards the middle ground. The arguments seem to be more reasonable and tolerant. Rather than argue for the abolishment of pesticides and herbicides and drugs, he urges a more judicious use of these substances.

Chapter 8 focuses on global issues. The argument that 3rd world countries should not be raped

less inflammatory than those related to issues presented in earlier chapters. Chapter 9, discusses the philosophy of man's intervention with the forces of life and the social and economic impacts to farmers and consumers. This is not as harsh of a discussion as in the beginning, but perhaps not quite as balanced as the 4 preceding chapters.

In the Epilogue, page 220, Dr. Fox argues against the use of BST because it may increase the use of antibiotics. Scientific evidence argues otherwise. I can site a half score or more of papers that indicate that recombinant BST does not predispose the cow to an increased incidence of mastitis. By contrast, I am only aware of one paper whose evidence might support Fox's claim.

Regarding the book's structure, placement of references at the end of the book rather than at the end of each chapter, made for awkward cross comparisons. Moreover it would have been easier if the running head of each chapter included the chapter number.

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Field Disease Investigative Unit
Washington State University

Comments from the Editor:

Due to the added challenge of conducting the vote for approval of the amended Constitution for the Society and working to meet the guidelines of the IRS for 501 (c) (3) status for the Society, this issue is a bit more than a month late. I hope to return to the correct timing for the June issue which will contain the complete meeting announcement

Also due to time and space constraints, the New Member Profile section of the Newsletter has been postponed until the June issue.

The Society extends its condolences to **Dr. Robert Shomer**, our founding President, on the passing of his wife of 60 years, Leona. All who were privileged to know her were inspired by her boundless energy and her devotion to charitable causes. May she rest in peace.

Annual Meeting - Preliminary Plans

Preliminary plans for the plenary meeting are in place. Last year, we concentrated on issues of special importance in clinical veterinary practice. This year we will focus on another area of major interest to our members, animal research and animal welfare. **Jerry Tannenbaum** is in the process of putting together what should be an exciting, and perhaps even controversial day titled "Educating students and the public about ethical issues in animal research and animal welfare." Society members who have already agreed to speak and lead open discussions are **Jerry Silverman, Larry Carbone, Bob Speth, Susan Paris**, and **Ione Smith. Dick Simmonds** will also present.. The session will concentrate on ethical issues in animal research, but with special emphasis on educating veterinary students, graduate and undergraduate students, and members of the public. There are still one or two slots open for speakers, so if you are interested please contact **Jerry Tannenbaum** by e-mail at <jtannbm@sprynet.com> or at 508-839-7991. **Jerry Tannenbaum** will chair the morning session and **Bob Speth** will chair the afternoon session. We will have a complete listing of times and speakers in the June Newsletter.

We hope to have good attendance at the meeting. This year's AVMA convention begins on Sunday and not on Saturday as in previous years. The one day later start reflects the fact that Reno is exempt from the Saturday night stay-over rule that airlines impose for low cost airfares. Thus one can obtain discount airfares to Reno without have to stay over on a Saturday night. Add to this the low cost of lodging in Reno and further discounts on air fares via AVMA, and its almost cheaper than staying home!.

The SVME plenary session will be all day on Monday, July 21.

APPLICATION FORM
SOCIETY FOR VETERINARY MEDICAL ETHICS

NAME:

BUSINESS
ADDRESS:

HOME
ADDRESS:
(Optional):

ELECTRONIC MAIL ADDRESS:

PLEASE SEND MAIL TO: Office❑ Home ❑

Phone:
Business:

Phone
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OCCUPATIONAL AND PRESENT POSITION:

PROFESSIONAL DEGREES:

PROFESSIONAL MEMBERSHIPS:

INTERESTS IN VETERINARY ETHICS:

MAJOR OBJECTIVES OF THE SOCIETY ARE:

A. To encourage ethical practices and professional behavior of veterinarians in all aspects of the profession.
B. To increase the understanding of the philosophical, social, moral and ethical and value issues encountered by the veterinary profession.
C. To sponsor seminars and other presentations on ethics and value issues at local, state, regional and national meetings of veterinarians and other interested individuals.
D. To promote the teaching of ethical and value issues at colleges of veterinary medicine and to identify speakers on these subjects.
E. To encourage persons from other professions and disciplines, such as biomedical research, discussions and studies of these issues.
F. To exchange information about veterinary ethical issues via bulletins, periodicals, and newsletters.
G. To maintain archives of appropriate documents and materials related to these disciplines.

I hereby make application to the Society for Veterinary Medical Ethics

_____
(Signature of Applicant) *(Date)*

The dues are currently $20.00 per year. Please mail this application to Dr. Robert Speth, College for Veterinary Medicine, Washington State University, Pullman, WA 99164-6520