VELVET ANTLER HARVEST FROM FARMED DEER - ANIMAL WELFARE AND DRUG SUPPLY ISSUES IN AUSTRALIA IN 1991

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Introduction

The subject of velvet antler harvesting has been one of the most controversial aspects of deer farming since the early days of the industry, and there has been considerable debate on the moral, ethical and legal aspects of the issue - which were well summarised by Wilson (1989). It is not the purpose of this paper to review the whole matter yet again, but rather to concentrate on those aspects which are most contentious in the Australian deer farming industry as we begin the 1990s. Specifically, it will deal with the factors which lead to a decision on what to do about antlers on farmed deer, and on the question of the supply of the drugs which are required by deer farmers, to enable them to velvet their own deer if they choose to do so.

Methods of removal or prevention of antler growth

The justification for velvet antler removal from farmed deer stems from an honest belief that there is no place for antlers on farmed deer, given the unacceptable degree of risk of injury to other deer and to handlers, and damage to facilities such as fences. Thus, if antlers have to be removed anyway, there is the case that the removal may as well be done at a time when the antlers will attract the best price - as long as animal welfare is not compromised in the process. A major aspect of deer farming, especially in New Zealand, has developed from this situation, with large numbers of red deer stags being retained for velvet antler production. Thus, a multi-million dollar industry is now in place, with production and returns determined by international factors.

The situation in Australia has been complicated only by the greater number of species of deer being farmed, with the preponderance until recently of fallow deer placing a little less emphasis on the running of herds of male deer specifically for velvet production. Nonetheless, the issues are the same, with a need to choose the method of antler removal which best suits the owner concerned. The options which are available have been summarised by English (1984, 1990a), and will not be dealt with again in detail. In short, each deer farmer needs to make a decision on the relative merits of each of the following: velvet antler harvest (including regrowth), removal of hard antlers, surgical polling of breeding males, castration of males destined for slaughter, and other chemical or hormonal methods.

There could well be a mixture of these options adopted by individual farmers - for instance it is common on Australian fallow deer farms to cut the antler spikes from yearling bucks in January, just as velvet rubbing commences, and to harvest velvet antler from adult breeding bucks. The first procedure does not require analgesia but the second most certainly does. Alternatively, bucks destined for slaughter may be castrated (usually with rubber rings) before puberty, in which case there is no antler development, and bucks which are to be retained for breeding can be surgically polled by a veterinarian at 6-7 months of age. Castration by this means can be achieved by a deer farmer without veterinary supervision (although in most cases the procedure would have been

demonstrated initially by a veterinarian), whereas polling is very definitely an act of veterinary science, requiring general anaesthesia.

The tropical deer species farmed in Australia (chital, rusa and rusa/sambar hybrids) are generally submitted to velvet antler harvest, but in the case of chital stags in particular there is an excellent case for surgical polling of stags retained for breeding. The cost-effectiveness of velvet antler harvest from the larger species will be determined by the current velvet price, with a recent tendency in Australia for rusa velvet to not sell well. Rusa and rusa/sambar stags are generally velvetted using immobilizing doses of various drugs, being much less amenable to the close approach of people while under light sedation, as is commonly achieved with fallow deer and red deer. Furthermore, their often violent reaction to physical restraint means that it is very difficult to cut velvet from these stags in a crush or cradle using only local analgesia, with a good chance that the velvet will be severely damaged in the process. There are very apparent animal welfare problems in such a case, quite apart from an economic consideration. There is therefore some demand from owners of these stags to be supplied with the drugs required to restrain the animals by immobilization.

On red deer farms in Australia it has been most common to harvest velvet from adult stags - there has been no suggestion that surgical polling has a place with red deer. There has been a recent tendency to cut yearling spikes while in velvet also, in an attempt to obtain a saleable product. As long as the velvet price is such that spikers are velvetted, the issue of the cost-effectiveness of achieving analgesia will be raised, especially if a veterinarian is employed to carry out the procedure. However, there is no basis for cutting spiker velvet without analgesia, any more than there is a case for doing so with older stags. It is the debate about the cost-effectiveness of using a veterinarian to cut all velvet which leads to the demand for deer farmers to be supplied with the drugs required to undertake the task on their own animals.

The animal welfare issues

It is necessary for the deer farming industry (which includes the veterinarians who work with deer farmers) to accept the well documented aspects of the animal welfare issues relating to antler removal. Failure to do so must be totally condemned, and the industry must be prepared to support a rigorous prosecution of those who are shown to have broken the law. There are Animal Welfare or Cruelty to Animals Acts in Australia which cover those who cut velvet antler without analgesia - and this includes those who cut spikers well before velvet rubbing in an attempt to obtain a saleable product. English (1990b) provided a veterinary perspective on the animal welfare aspects of velvet antler harvesting in Australia.

There are moral and ethical reasons for condemning such practices, with most owners concerned enough for the welfare of the animals they farm to ensure that no unnecessary pain or suffering is inflicted. Furthermore, there are very pragmatic reasons for also ensuring that the deer industry does not attract the attention of animal rights pressure groups, by a failure to enforce the highest standards of animal welfare. With the potential for non-tariff trade barriers to be swiftly imposed, the markets for venison could well be jeopardized by such folly, quite apart from the possibility that the pressures to ban velvetting could be rejuvenated, using the arguments that have been successful in Great

Britain and in some States in the USA.

In considering each of the options for antler removal from an animal welfare perspective, it is possible to identify the critical issues for the 1990s, and to examine the case for supplying farmers with the drugs required for specific procedures.

Removal of hard antler

If forced to remove hard antler from an adult stag (as is the case in Great Britain), the critical issue is the method of restraint which is possible, given the certain fact that a stag of any species is increasingly difficult and dangerous to handle as the rut approaches. With analgesia not an issue, there are animal welfare implications in how an adult male deer is yarded and handled at this time, including the risk of severe injury to other deer in the group due to fighting during the process. There is also a great risk of injury to handlers unless some form of chemical restraint is used, with most farms not having crushes which can accommodate an adult stag in full hard antler anyway.

Adult males as they approach and enter the rut are very much more readily stressed than they are when in velvet, and it will take a higher level of stockmanship, good facilities and well-trained deer to use hard antler removal as a routine method of dealing with antlers on adult deer.

The chemical restraint of an adult stag or buck at this time is potentially far more difficult than is the light sedation of an animal in velvet, prior to the application of local analgesia. For reasons of human safety the animal must invariably be more deeply sedated when in hard antler, and in the case of tropical stags immobilization would be required. There is thus a far greater potential for anaesthetic complications to occur, especially if the animal is stressed at the time of the procedure. There are therefore good reasons for stating that there is little to recommend the removal of hard antlers from adult males as a preferred option, and no viable case for supplying the drugs required for immobilization to lay owners of deer, even for use on their own deer. They are simply not in a position to make the decisions which are necessary, including a decision on whether to attempt to immobilize an animal on a particular occasion or not. They are certainly not able to deal with an anaesthetic emergency should one occur – whether it be with the deer in question or with an accidental human administration, particularly when using narcotic agents such as fentanyl or carfentanil.

It should be remembered that this rather unsatisfactory situation has been imposed by law in those places where velvetting has been banned, and this is a further reason for ensuring that no adverse attention is drawn to velvetting in Australia or New Zealand.

The cutting of hard spikes from yearling deer is much less of a problem, given that it can be done in most crushes if manual restraint is not possible. In the case of fallow bucks in particular it is necessary to yard them for this procedure as soon as velvet rubbing commences in January, because they become increasingly aggressive when confined in pens or yards from that time, and injuries become almost inevitable. However, given this consideration, and given good facilities and good stockmanship, spikers can be dealt with in this way without compromise to animal welfare, and without the use of drugs.

Castration

Given the aggression which develops in fallow bucks from about the end of January, it has become increasingly popular in this species to castrate those weaners which are destined for autumn or winter slaughter in the following year. Unlike entire males at the same time, the castrates are very easily yarded and transported for slaughter, and bruising of carcasses is most unlikely to occur. The economic advantages of castration of fallow bucks have been summarised elsewhere (English 1990). There has been less inclination to castrate young males of the other species in Australia, but this could well become common if velvet antler harvesting were to be banned – it would be a means of producing animals which could be transported before Christmas without the risks of velvet damage. In Great Britain it is in fact illegal to transport deer in velvet, and castration would be a means of avoiding this problem even with red deer.

The animal welfare implications of the castration of deer as a procedure come down to the age of deer and the method used, and the general level of handling skills which are used. Under the present legislation it is legal and acceptable to apply rubber rings to weaners without anaesthetic, as it is for cattle and sheep. Deer farmers can generally do this themselves without any problems, but veterinary advice should include the recommendation that such deer be vaccinated with polyvalent clostridial vaccine at weaning in March, with a second dose of vaccine given no later than the time of castration some 6–8 weeks later, in order to avoid tetanus.

If older males are castrated without anaesthetic, especially by an open method, there is a risk that a prosecution would be successful under cruelty legislation.

Surgical polling

The permanent prevention of antler growth in breeding stock by the surgical polling of young males has become reasonably popular for fallow deer in Australia, and is strongly recommended for chital deer. Given the limited individual production of velvet antler from the small species, polling will attract more attention if the price obtained for this type of velvet falls below a critical point – which is probably about $50/kg. Thus, the owner of this type of deer can avoid the annual task of removing antler from his breeding males, with the associated costs and difficulties.

It is necessary to emphasize that the surgery must be done in young deer, as soon as possible after the pedicles are palpable under the skin. The only acceptable procedure involves the use of general anaesthesia (such as can be achieved with xylazine/ketamine) and should be carried out by a veterinarian. Even in those States where it is legal for a veterinarian to prescribe such drugs there is little basis for doing so for this procedure, given the nature of the task. Deer farmers and their veterinarians should be able to achieve a rational, cost–effective approach to this once–only solution to antler removal. It should be noted that there has been a small proportion of fallow bucks which have been polled in which the procedure has "failed" on at least one side – sometimes up to 3 years after the surgery. This places some emphasis on the skills required to achieve a good result. Such failure has been rare in chital stags, in which the developing pedicle is a

much more sharply defined structure than it is in fallow bucks.

Velvet antler removal

It is the removal of velvet antler from farmed deer which has attracted the most heated debate – with a range of matters within the issue which warrant consideration.

Profit motive

There may be a philosophical point about the need to adopt velvetting as a means of preventing the development of full, hard antlers, versus the exploitation of such a procedure for profit. There is a very tenuous point to be made here, with a real dilemma in condemning velvetting in the face of our use of other animals for profit or pleasure. While respecting the right of individuals to oppose such exploitation in total, it seems necessary and indeed inevitable to accept that man has chosen to use animals for a variety of purposes, with velvetting merely being one of a number of procedures which some people consider to be objectionable. As with all such matters, it is incumbent upon those responsible for the development of such practices, and for those who use them, to ensure that all possible measures are taken to prevent pain and suffering on the part of the animals. If at the same time it is possible to remove the antlers at a time when a profit is possible, there is little basis for denying an owner the right to choose this option – if it is accepted that the antlers have to be removed at some stage anyway.

The removal of antler regrowth is a matter which affects the cost–effectiveness of the removal of velvet at 45–65 days, in order to achieve the best possible price for the product. Depending on the price being paid for such low quality antler, it may be economic to remove regrowth at an early stage – especially if the price obtained for the first cut is high. Conversely, it may not be economic to do so when prices are low, and this is especially likely to be the case with fallow deer. However, it is necessary to apply the same standards of analgesia to regrowth as are applied for first cut velvet, unless removal is delayed until velvet rubbing has commenced. It has in fact been common for fallow deer farmers to delay cutting of velvet until well past the 45 days at which best quality velvet is obtained, in order to avoid the need to cut regrowth. This is an acceptable solution for the small number of breeding bucks which most farmers retain, as long as an appropriate means of analgesia is used. A better solution in the long term is to use surgical polling on young bucks selected as replacement breeding stock.

Velvetting versus removal of hard antler

It is a fact that male deer are at their most amenable, and less likely to be stressed or injured by handling and restraint (and much less at risk from anaesthetic complications) when in velvet, compared to a few months later when in hard antler. This does provide further support for the removal of velvet antler as a preferred option for adult males which have not been polled.

Velvetting techniques

A range of options are available for the removal of velvet antler, with most variation being on the method of restraint which is adopted.

Physical restraint

It is becoming increasingly popular to use some form of physical restraint, with local anaesthetic being used to achieve analgesia. The advent of effective crushes or cradles for the restraint of deer has made this possible, and there is no basis for criticism, as long as the following points are noted:

a. The deer must be trained to the use of the facilities, and a good level of stockmanship is necessary to ensure that antlers are not damaged at any stage during the procedure. There is a great difficulty in achieving this with most chital and rusa stags, but it is entirely possible with red deer and fallow deer.

b. Local anaesthetic must be correctly applied, and sufficient time must be allowed for analgesia to develop.

c. In the case of large deer which require a tourniquet after cutting, sufficient time must be allowed for the tourniquet to be effective. If the stag is retained in the crush for that time it may not only be stressful for the unsedated animal, but it becomes a very slow process when there are a number to be done. With well trained deer and good yards it is usually possible to remove the tourniquet in a pen some time later.

Experience would suggest that there is a greater risk of damage to velvet using this method, compared to the use of sedation. This is especially so for fallow deer, with relatively untrained 2 year old bucks being very difficult to cut in this way without a high proportion of damaged antlers (Mulley and English, unpublished). Within these limitations, this is probably the most cost-effective way to harvest velvet antler for experienced farmers.

Any deer owner who cuts velvet antler in a crush without effective local analgesia must be subjected to the full force of the law, with deer farmer organisations strongly supportive of this stand. This is an entirely inhumane procedure, and must be totally condemned.

Chemical restraint

The most common means of achieving the removal of high quality velvet has been the use of some form of chemical restraint which can vary from light sedation with local analgesia to immobilization with recumbency.

Xylazine has been the most widely adopted drug for sedation, with a reasonably predictable dose-related response - at least for well handled red deer and fallow deer. At dose rates between 0.5-1.0 mg/kg IM it is suitable for sedation of penned animals, with subsequent manual restraint for the injection of local anaesthetic. It must be appreciated that there is insufficient analgesia at these dose rates to use xylazine alone for velvetting.

The addition of drugs such as pethidine or fentanyl at very low dose rates may appear to improve analgesia, but good data are lacking.

Xylazine alone is not a good choice when immobilization is required, especially in the open paddock. Very high dose rates may be required (up to 8 mg/kg for an agitated fallow buck), and in many cases repeat doses are needed. There are far more effective drug combinations available for immobilization, with a good appreciation needed of all the variables before adopting this option. These matters have been addressed elsewhere (English 1988).

When facilities are poor or non-existent it may be necessary to resort to immobilization for velvetting, and it may be the preferred method with rusa stags (English 1991). However, it has to be stressed that a projectile syringe is not an acceptable replacement for a good set of yards, and deer farmers who seek to obtain drugs because they cannot handle their deer any other way have a very poor case.

The drug supply debate

Having considered the animal welfare aspects of the options available for removal or prevention of antler growth in farmed deer, it remains to deal with the matter of who should be legally and morally responsible for the supply and use of the drugs concerned.

Many deer farmers in Australia and New Zealand have maintained for quite a long time now that they should be allowed to obtain the drugs to enable them to velvet their own deer. The reasons given for this have been summarised by Wilson (1989):

a. Cost - particularly for farmers distant from a veterinary surgeon (this will of course be even more so in Australia)

b. Difficulty in obtaining service when each stag needs cutting, such as at weekends.

c. Many deer farmers claim to have difficulty in finding a veterinarian who is able to cut velvet antler as well as they can themselves.

d. It is claimed the strangers have an unsettling effect on deer in yards, with an increased risk of damage to velvet when a veterinarian is present.

e. There is a belief that veterinarians are denying access to the drugs because of self-protective financial reasons.

Wilson (1989) further points out that it has been the veterinary profession's response in New Zealand that costs should not override welfare considerations, and that it is not the veterinary profession's obligation to ensure that a farmer's enterprise is economic.

Nonetheless, when looking at the Australian scene it must be accepted that there is some validity in the first 2 points above. Even though there are now a number of veterinarians here who are well able to manage the whole process of velvetting, it may indeed be difficult for all deer farmers to have access to such a service at all times.

If this is accepted, it becomes a matter of examining the legal and ethical aspects of one option, which is for the veterinarian to supply the drugs to the farmer for use on his own deer.

The drugs in question are xylazine and xylocaine (or other local anaesthetic), and in one state – New South Wales, the Veterinary Surgeons' Board has taken the view that such anaesthetics must only be administered by a veterinarian. The Board's policy stems from a belief that the giving of an anaesthetic is a highly skilled procedure requiring professional expertise and a knowledge of anatomy, pharmacology and physiology. Anaesthetics are considered to be drugs requiring special care in their handling and storage, and the Board therefore believes that they must be retained under veterinary control.

Thus, in New South Wales the Board has ruled that xylazine and local anaesthetics should not be prescribed by veterinarians, even though they are currently in Schedule 4, which is the Schedule under the Poisons Act which contains drugs which must be prescribed by a medical, dental or veterinary practitioner. Until such time as this position is varied, veterinarians in New South Wales have no option but to comply, with the certainty of disciplinary action if they ignore the Board's ruling. Equally, if deer farmers in New South Wales are found to be in possession of such Schedule 4 drugs without a prescription (which would now be the case), they are in contravention of the Poisons Act and can be prosecuted. There are strong indications that other Veterinary Surgeon's Boards may take a similar line to that in NSW – especially in South Australia, Tasmania and the Australian Capital Territory.

There is no way of knowing how many deer farmers in New South Wales do obtain the drugs illegally, or worse still who cut velvet without analgesia, but the temptations are obvious. It must be said that there are veterinarians in New South Wales who would support a return to the situation where these S4 drugs could be prescribed for use by deer farmers on their own deer, provided always that the veterinarian concerned remained fully responsible for how the drugs were used. Implicit in this is the training of the farmer in the use of the drugs, with clear written instructions on dose rates, withholding periods and storage conditions.

This is not to advocate a situation where there would be free access to these drugs. It merely places the responsibility on the veterinarian to work closely with a client, under defined conditions, with the right to prescribe drugs for animals under his or her general care. It would be the case in most practices that only a small number of clients would satisfy the requirements for supply of the drugs, with the correct emphasis being on well handled animals in good yards, velvetted by the veterinarian in a timely and economic fashion.

In most other states this is in fact the situation which applies, with the legal prescription of such drugs being permitted. As long as the drug can be prescribed under the relevant legislation, and as long as the proper conditions of prescription are applied, a deer farmer can approach a veterinarian and discuss the circumstances under which such a prescription would be possible. It would be illegal and unethical for a practitioner to supply such drugs to an owner with whom he was not familiar, and who was not known to be well trained in their proper use. It thus becomes a matter between each deer farmer and

veterinarian to resolve, within the law, with no obligation on the part of the veterinarian to supply the drugs. In the case of drugs required for immobilization of deer, especially the narcotic drugs which are in Schedule 8 (etorphine, fentanyl and carfentanil), there is no case for the supply of these to deer farmers – they are simply too dangerous to be in untrained hands.

There would therefore seem to be little problem in achieving a rational solution to the drug supply issue from the responsible farmer's point of view, including in New South Wales. In that state it will continue to be necessary for veterinarians to undertake all velvetting, with the deer farmer having the right of all citizens to seek a change to legislation by legal and democratic means.

Conclusion

The animal welfare aspects of velvet antler harvesting will continue to attract attention, to a greater or lesser extent as other issues wax and wane. There is now sufficient knowledge and expertise to provide correct advice on antler removal or prevention under all circumstances – and there is certainly no single solution to each owner's requirements. There must also be an education process which ensures that the industry is not seen to be condoning unsavoury practices, or sheltering members who act illegally. Velvetting can then be kept in perspective with the other procedures which are used in the management of livestock, and not singled out as something which is particularly objectionable.

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