

The contributions vary from the general and philosophical to the specific and scientific, leaving no stone unturned in the great river of information on alternatives now flowing from laboratories worldwide. Our knowledge of possible alternatives has increased extraordinarily since the days of, for example, Pomerat C M and Leake C D 1954, *Annals of the New York Academy of Sciences* 58: 1110-1128, 'Short term cultures for drug assays: general considerations'. It should not be forgotten, however, that these and other early works were written to demonstrate that the teachings were sound, scientific methods in their own right, and this was before the whole field was swamped by the concept of them solely as alternatives.

The meeting opened with a well-presented account of the development of the concept of alternatives by Professor Andrew Rowan, and continued with the descriptions of the attitudes of regulatory authorities in various countries. It is pleasing to find so many countries now concerning themselves with alternatives, and not only that but cooperating as shown by the presentation of Marafante and Balls.

There were only two papers on computers, I imagine that this number will increase in future meetings as I have the impression that the pharmaceutical industry realizes the possibilities of this approach in refining drug design. Further papers were specific examples of methods and applications, until the concluding one which describes attitudes of the Swiss regulatory authorities.

The book is well worth reading.

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Humane Slaughter – Taking Responsibility: An Open Learning Package

Produced and published by the Humane Slaughter Association (HSA) (1995). Trainee Workbook 90pp. Helpful Hints for Trainers 19pp. Colour VHS video 80 min. Obtainable from HSA, 34 Blanche Lane, South Mimms, Potters Bar, Herts EN6 3PA, UK (ISBN 1 871561 09 4). Price £35.

There have always been competent stockmen working to transport animals to the lairages of abattoirs and to look after them once there. These men have been trained by the example of their seniors and by their own experience over the years. There have always been competent slaughtermen, again trained by their seniors and by their own experience and in this case also examined for competence by the Local Authority. The skills of these men, stockmen and slaughtermen alike, have in general not been appreciated, perhaps because their image has been tarnished by a percentage of incompetent persons who have little understanding of animal psychology and needs. These persons, mainly of the macho variety, believe for example that it is proper practice to walk into a lairage before dawn, to switch on the lights and then to bang loudly on the metalwork and to whistle shrilly to wake the animals up. They then wonder why they spend the rest of the day in fractious and exhausting physical confrontation with the animals.

The recent reorganization of the meat inspection service has replaced several hundred local regulatory and advisory bodies with the single national Meat Hygiene Service (MHS). The Official Veterinary Surgeons employed by the MHS in each abattoir are already required

to sign certificates of competence for slaughtermen wishing to renew their licences. Each abattoir is now obliged to designate a welfare officer. The time is therefore ripe for an upgrading in training to produce a uniform standard as high as the existing best. The training package reviewed here, produced by the Humane Slaughter Association, will be considered as a potential part of this training programme.

The package consists of a video, a student workbook and printed guidance for the trainer. It is of a uniformly high standard. The video consists of 15 units. It starts with a discussion of the importance of animal welfare, the psychology of animal behaviour, analysis of the handler and an understanding of the flight zone. It then deals with specific incidents such as arrival at the lairage and comfort in pens, and concludes with technical descriptions of stunning and sticking the various species.

The programme is to be especially commended for quite rightly taking the view throughout, that the handling of animals and their humane slaughter is a highly skilled and responsible business, not something which can be done by any untrained person. It presents us with a succession of role models, persons whose competence is plain to see and whose professionalism the student will wish to emulate.

The opening sequence of a marksman cleanly killing with a low calibre rifle a calm and unsuspecting deer on its own pasture, sets the standard of the absolute humanity to which we should aspire. The delightful scene of the school teacher persuading her class of young children to quietly form a line to move out of the classroom was a nice touch, emphasizing the similarities of human and animal behaviour. The description of an animal's flight zone and the importance of the point of balance was particularly helpful. The man controlling the single steer in an open space, without sound or stick, by merely changing his position relative to the animal was a good example of calm competence. The animal did not even know it was being controlled. This might make a good class exercise. But perhaps the best piece was the demonstration of the bad handler – hot and bothered, noisy, in some danger of having stock turn and knock him down. We can all see our own shortcomings in him. Human nature being what it is, we shall no doubt all take a mischievous delight in remembering his discomfort and hopefully we shall all learn to avoid his mistakes. No one can watch this film without admiring the calm professionalism of the competent stockman, sure of himself, quite relaxed in his environment, quite prepared to direct other staff who are interfering with his work, completely in control of the stock.

The second part of the film dealing with the slaughtering process is equally good. The technical description of the mechanism of stunning by captive-bolt, electricity and carbon dioxide is comprehensive. The maintenance and use of the equipment and the safety of the operator are fully described. Similarly the technique and importance of good sticking is thoroughly dealt with. Again it was a pleasure to see the calm competence of all the staff.

The film is divided into 15 units, each of which will make a lesson if backed with discussion, demonstration and use of the workbook. It does not hesitate to repeat the important lessons which must be learnt. The repetition is not boring. It is in fact possible to watch the film right through without the repetitions becoming obtrusive. This is a credit to the producers.

The student workbook accompanying the film is methodical and comprehensive. It is designed to relate to the particular working environment of the student. Thus, for example, there is included in the pack a clear plastic target which can be used to measure the accuracy

of the shooting position on cattle heads, introducing a spirit of competition into the class.

The needs of the trainer are not forgotten. He may be highly competent and a role model, but he may not have done any teaching before. The pack addresses this thoroughly and if the trainer carefully studies the booklet written for him he will avoid the major pitfalls.

This pack deserves to be widely used as a training aid for all those handling and slaughtering livestock in abattoirs. The Humane Slaughter Association is to be commended for its conception and production.

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