suppliers and full script of the video is also provided. With the growing emphasis on training new research staff, instructional aids such as this videotape are always welcome and, overall, the program will be useful to course organizers and tutors.

The tape commences with brief overview of the principles of asepsis, and then proceeds to give an outline of anaesthetic techniques for rats. Induction of anaesthesia with ketamine/xylazine, methoxyflurane and isoflurane are all demonstrated. It was good to note that the use of an assistant was recommended and that this recommendation was repeated on several occasions throughout the program. The need for effective gas scavenging when using volatile anaesthetics is emphasized, and isoflurane delivery using a precision vaporizer is recommended. This is followed by a brief but helpful description of anaesthetic monitoring. Surgical preparation and clipping of the animal is then demonstrated, although little explanation is given as to the correct techniques for using electric clippers. The procedure for preparing and sterilizing a glove pack is then described, followed by the technique for scrubbing hands prior to surgery.

The surgical procedure itself is then briefly discussed, with emphasis given to the importance of a clear operative field, and techniques for draping the surgical site. The need for using sterilized instruments is explained, and use of a hot-bead sterilizer is illustrated. Finally, the video emphasizes the importance of post-operative care, and the need for continued monitoring of the animal for several days following surgery; regrettably, it makes no mention of post-operative analgesia.

The main problem that will be encountered when using this tape in training courses, is that local practices vary considerably between different research institutes. For example, the surgeon may choose to wear a hat and gown, as well as the mask and gloves shown in the program, and in many units sterile gloves will be purchased pre-packed. The scrub-up procedure illustrated is not carried out at a sink with correctly sited elbow taps. While these may be unavailable in some units, perhaps mention could have been made of their advantages. Although the video illustrates techniques for coping with more than one surgical site in a single animal, the problems posed when surgery is to be carried out on several animals in succession are not dealt with.

In summary, this is a well-produced video, which may be of use as part of a training programme for new research workers who intend to carry out surgical procedures in rodents. Course tutors must, however, be prepared to provide their own commentary if local practices differ from those shown.

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Attack of the Genetically Engineered Tomatoes

N Hamilton (1998). Whittet Books Ltd/Nemesis Press: Stowmarket. 143pp. Paperback. Obtainable from the publishers, Hill Farm, Stonham Road, Cotton, Stowmarket, Suffolk IP14 4RG, UK (ISBN 1873580398). Price £7.99.

I was immediately attracted by the book's cover, depicting giant tomatoes causing havoc to vehicles and pedestrians in a high-rise-lined street. Even the neon sign flashed 'Panic'! I wondered how this would square with the cover notes that promised '...a balanced overview of the latest advances'. The acknowledgements, presentation and cartoons have a homely, if somewhat amateur, feel to them – but there is an endearing quality too. These were the

impressions gained when first encountering this book, but what of the content? This is arranged in seven chapters with an introduction and epilogue. The introduction is a well-written and fairly succinct context-setting piece which explains about DNA, chromosomes and genes and their relationship to one another. There are tasters for themes that are followed up in later chapters, such as 'imprinted genes' and an explanation of mutations.

The text is highly readable and addresses a lay audience without making too many assumptions about their understanding of science. Early chapters rush through the origin of the universe, cell structure and the homogeneity and continuity of DNA, DNA fingerprinting and the Human Genome Project. All of this is achieved before Chapter 3, which is eponymous with the book title and where the real meat begins.

The author makes some rather extravagant and unsubstantial claims for genetic engineering, for example that it can make recipient organisms exhibit any features we want it to, however, later sections do concede the current difficulties of genetic engineering. Writing for a lay audience should not mean a loose use of terminology or misrepresentation of the current position. In contrast, the description of genetic engineering assumes quite a specialized knowledge of scientific vocabulary and would have benefited from diagrams to illustrate the process. Widespread examples are given of the products of genetic engineering in plants, complete with a comprehensive discussion of both direct and indirect effects. Potential advantages are made clear. There is an element of balance in that both advantages and disadvantages are presented, however, these are not given equal space and the reader is left with a clear impression of the author's doubts about genetic engineering.

There is major discussion of the use and transmission of antibiotic resistance marker genes and the potential danger of transferring these from genetically engineered plants to bacteria. Eating 'foreign' DNA in genetically engineered food is interestingly contrasted with eating human DNA via dead skin cells from a waiter (or fellow diner) falling onto a plate of food!

The implications for animal welfare are addressed in Chapter 4 which focuses on genetic engineering in animals. It begins by asking if there is not sufficient diversity of animals already. The process of getting permission to produce transgenic animals is explained and some of the less palatable consequences of such actions are raised. For example, the possibility of unforeseen, long-term consequences having detrimental effects on the animals themselves or on the products they are designed to produce. The ethics of using animals in this way are also discussed. As with the chapter on plants, that on animals is well illustrated with up-to-date examples.

A further chapter centres on human genetic diseases and clearly distinguishes between inherited and non-inherited disorders. There is a detailed focus on cystic fibrosis and muscular dystrophy. Although there is some minor discussion of gene therapy, from Chapter 5 onwards the book is focused more upon aspects of genetics than upon genetic engineering. There is a further section on changes in DNA that can arise at any time in a person's lifetime and lead to cancer. The role of smoking in such cases is discussed, and its link to lung cancer is explained. There are also sections on breast and skin cancer. There is some brief discussion of genetic screening for predictive purposes, but the bulk of Chapter 6 is devoted to healthy lifestyles without a clear link to genetic engineering.

The final chapter provides a 'potted' evolution story and Darwinian theory complete with the evidence to support it: the fossil record, comparative embryology and biochemistry. The epilogue stresses the proximity of the use genetic manipulation in the human race and encourages readers to develop their own opinions.