

The chapter on riders' views is entertaining, but a chance was missed not to provide a lexicon of some of the phrases used, for example balance, level and so on.

There is a place for a book of this type but it should be written more to satisfy the market need. The welfare of the horse depends upon having sound, well-looked after and well-shod feet, and the horse owner needs to be informed on these matters.

In conclusion, I feel that this is a book which falls between two camps, it is neither simplistic enough for the simple, nor detailed enough for the amateur who already has an interest. I think that most students would want a somewhat meatier tone.

R N W Ellis

Veterinary Surgeon

Llanwrtyd Wells, Wales

Managing Vertebrate Pests: Rabbits

Kent Williams, Ian Parer, Brian Coman, John Burley and Mike Braysher (1995). Bureau of Resource Sciences/CSIRO Division of Wildlife and Ecology. Australian Government Publishing Service: Canberra. 284pp. Paperback. Obtainable from the publishers, GPO Box 84, Canberra, ACT 2601, Australia (ISBN 0 644 29623 2). Price AUS\$25.94.

This book provides national guidelines for managing the agricultural and environmental damage caused by rabbits (the European rabbit *Oryctolagus cuniculus*). To ensure acceptability, comment was sought from state and Federal agencies for agriculture, environment and resource management, other land managers, and community organizations, including the Australian Conservation Foundation, the National Farmers' Federation, the National Consultative Committee on Animal Welfare, and the Anangu Pitjantjatjara (Aboriginal) Land Council.

Despite the devastation that rabbits have caused in Australia, especially their contribution, in combination with overstocking of sheep, to erosion and soil drift, conflicting views are held regarding their management. Farmers would like rabbits to be eradicated, or at least maintained at an economically acceptable level, those involved in the commercial or subsistence use of rabbits do not wish their numbers to be reduced too dramatically, while the increasingly vocal animal welfare interests hope that better techniques will reduce the level of suffering involved in rabbit control.

Acknowledging that the rabbit is the most serious vertebrate pest in Australia, the book outlines its history, distribution and biology; economic and environmental impacts; community attitudes; management techniques; strategic rabbit management; and future developments. There are appendices on control techniques, on management in plantation forests and in conservation areas, and finally on criteria for eradication. While eradication can be achieved locally, with a sufficient outlay, it is not feasible countrywide.

An immense amount of relevant information is summarized, to produce an admittedly bulky handbook that no land manager in Australia will wish to be without. The need for rabbit management particularly in the rangelands, is an essential component of natural resource conservation programmes, while on the other hand community attitudes influence the success of any co-ordinated approach. Most Australians live in cities and towns, where it is easy to regard rabbits sentimentally. Some Aboriginal groups value wild rabbits as an important food item and need to be convinced of the adverse effects of high numbers. Times

have changed since the publication of Francis Ratcliffe's classic book *Flying Fox and Drifting Sand* (Chatto & Windus, London 1938), which emphasized the damage to vegetation caused by rabbits in drought-stricken pastoral areas, for example, by eating the seedlings of the mulga *Acacia aneura* so that this important scrub dies out. Much more attention is now paid to animal welfare, in teaching, research, domestic uses, and in the wild, so this must be considered in relation to wildlife management. Some methods of rabbit control are now accepted as inhumane, and it is urged that the 'gin' or 'leg-hold' trap should be banned, and that the fumigant chloropicrin should be phased out when a more humane alternative is found.

Emphasis is placed on the use of traditional techniques of rabbit control – poisoning, warren destruction, removal of surface harbour, fumigation (surprisingly, there is no mention of hydrogen cyanide).

Myxomatosis, which reduced rabbit numbers dramatically in the early 1950s, is now regarded as an enzootic disease, which is still a major limiting factor on numbers. It is interesting that the authors state (p 97) 'If the myxoma virus was not discovered until this decade, it is doubtful whether current public opinion in Australia would allow the deliberate release of the disease'. There is also reference to current studies of viral-vectored immunocontraception. The proposal is to use a relatively mild strain of myxoma virus as the carrier for genetic information coding for specific antigens derived from surface proteins of rabbit sperm, egg and reproductive tract; an immune response would block fertilization or embryo implantation. This has the potential to be a most humane technique, but it is accepted that a decision to release genetically engineered immunocontraceptive viruses can only be taken after much public debate.

There is also current research on the relatively new, and possibly humane rabbit calicivirus disease (RCD), also known as rabbit haemorrhagic disease (RHD). Laboratory research has been promising and (since this book went to press) a 'secure' field trial has been progressing on Wardang Island, off the coast of South Australia. As the authors stress, a decision to release this virus into the field would be a significant one, based on (p 143): '(1) RCD's effectiveness in controlling rabbit damage; (2) animal welfare; (3) public and animal safety; (4) commercial, Aboriginal and recreational use of wild rabbits and their products; (5) impacts on laboratory, pet and commercial rabbits; and (6) international trade'. In the event, the 'decision' has been pre-empted. In October, 1995, the virus was transmitted, probably by wind/bush flies to the mainland, killing some millions of wild rabbits in South Australia and western New South Wales. This has resulted in the collapse of Australia's commercial rabbit industry, which is seeking compensation from government agencies experimenting with the virus. Understandably, there have been political repercussions, and much speculation about effects on the rabbit, the plants on which it feeds, and its predators.

To summarize the book, its emphasis is on the management of damage by reducing rabbit density to low levels and holding it there by routine maintenance control.

Harry V Thompson
Effingham
Surrey