

## TOWARDS THE CONTROL OF EMERGING BLUETONGUE DISEASE

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This volume is not strictly a monograph, but rather a glossy summary of Prof. Roy's work on the bluetongue virus, published by the company Oxford Virology, which sponsored much of her research. It consists of a brief review of the disease and the virus (Chapter 1), which was obviously written as an introduction and not meant to be exhaustive, either in a historical sense or in scientific detail. This is followed by an outline of previous genetic studies on the virus, again very brief and rather superficial. The main part of the text is contained in Chapters 3 and 4, on the structure of the bluetongue virus genome and on the structural-functional analysis of the viral proteins, respectively.

After a brief discussion of the molecular cloning strategies that were followed, the results of sequence studies on the 10 RNA segments of mainly BTV type 10 are presented. A very useful attribute of the book is the way in which this data is presented in tables, e.g. Table 3 summarising the non-coding end sequences, lengths and coding assignments of the BTV-10 RNA species. The complete nucleotide sequence of all 10 segments as well as restriction maps of each is given in an addendum. A short discussion of each segment and its function in terms of the protein it codes for, follows. There is some unnecessary duplication in this discussion with that of the various proteins in the following chapter.

The author's most important contribution to bluetongue virus research is the development and application of baculovirus recombinants to study the function of BTV proteins. The efficient production in relatively large quantities, of the individual proteins in the baculovirus system, enabled her to confirm conclusively many of the functions previously determined by others, and to extend previous results. The most elegant application of the technology, however, lies in the production of virus-like particles in insect cells infected with 2 double recombinants containing 2 inner capsid and 2 outer capsid genes respectively. These viral-like particles, which closely resemble natural varions lacking RNA, have been shown to possess considerable potential as safe second generation vaccines in collaborative studies with researchers at Onderstepoort and in Australia. These ongoing studies could lead to vastly improved vaccines and diagnostic tests.

A confusing aspect of the text is the fact that it was necessary to include the results obtained by many other workers in order to give a logical summary of the author's research. Although references are given, it is often impossible to determine the original source of much of the information. On the whole, however, the book presents a very readable and well illustrated overview of the present state of bluetongue virus research.

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