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INTRODUCTORY COMMENTS

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This IOBC Bulletin is the first prepared by the working group 'Use of models in integrated crop protection' formed at the EPPO Conference at Paris in 1976. The group aims at the co-ordination, initiation and development of models, systems analyses and data bases for use in integrated pest and disease control. In furtherance of this aim, individuals from the group have been involved with symposia, courses and services to other crop or subject-orientated groups within the IOBC. Formal meetings of the group have been held in Giessen, West Germany (1977), Wageningen, the Netherlands (1978), Wye, United Kingdom (1979), Versailles, France (1980) and Stuttgart, West Germany (1982); the main activities have been the formation of a Septoria sub-group involved in the development of forecasting models for winter wheat, the compilation of an 'Inventory of Models', and the preparation of this bulletin.

The aims of this bulletin are to provide a comprehensive introduction to the range of models and techniques of modelling likely to be found in crop protection, to appraise critically the reasons and justifications for modelling (the 'why' and 'when'), to consider some of the wider implications of modelling, to provide a guide to the terminological differences that abound in the literature, and to encourage participation in the group by crop scientists and other interested parties. The bulletin is complementary to the 'Inventory of Models' which is also to be published as an IOBC Bulletin.

The contributions to the bulletin fall into three main areas, although these overlap to some extent. In the first, an overview of mathematical modelling in relation to the various objectives and activities of crop protection is given (Jeger). The second consists of three approaches to modelling that stem from the view points of population dynamics (Rabbinge & Carter), crop physiology (Rabbinge) and decision theory (Norton). The third is concerned with the status of models in crop protection; the extent to which they are, or are likely to be, used for practical purposes (Jeger & Tamsett), and the provision of this information as part of a data base system. Reports on

the biometeorological inputs and support required to operationalise models have already been presented to the working group by Müller at Versailles in 1980. The bulletin concludes with recommendations of the sub-group responsible for the preparation of this report but responsibility for the views expressed in the individual chapters lies with the authors, and these views do not represent any concensus on the part of the sub-group.