

Book review

K. Heinze (Ed.), 1983. Leitfaden der Schädlingsbekämpfung. Band IV. Vorrats- und Materialschädlinge. Fourth edition, revised by H.W. Frickhinger. Wissenschaftliche Verlagsgesellschaft MBH. 348 pp., 152 figures. ISBN 3-8047-0622-3. Price DM 170.

This book is the fourth volume in a series of handbooks on pests and diseases of horticultural and agricultural crops, formerly known as 'the Frickhinger'. The first volume is on horticultural crops, the second on fruits and grapes (see Neth. J. Pl. Path. 86: 44), the third one deals with agricultural crops. This fourth volume is divided into four chapters:

I : Biology of storage insects, comprising more than half of the book.

II : Measures to control damage to stored products.

III: Fungi causing damage to stored materials and products.

IV: Organisms that damage all kind of materials, from wood to metals.

Six pages of references, alphabetically ordered by author are listed at the end of the book. Relatively speaking, this is considerably less than the 75 densely printed pages to be found in volume 2. The references have numbers which are grouped together at the end of each paragraph instead of being given directly at the site of citation. It is the usual practice in this series but it is impossible for the reader to discover which part of the material is referred to in the publications mentioned.

The biology of noxious storage insects is treated extensively. Page 37 shows for instance a photograph of bottle corks attacked by caterpillars of *Nemapogon granellus*, that can cause trouble in cereals, especially when the grains are not well-dried.

Much of the referred literature is in German. The onus of that decision is left to the editors and is not discussed here: however, one may wonder why some German authors of international reputation have not been quoted. In this respect it is of interest to read the section on special control measures against storage insects. The use of cooled, dry air is mentioned, circulation of nitrogen or carbon dioxide is not. The use of pheromones to attract pests of stored products in order to signalize their presence and estimate their activity is discussed. Not mentioned is the combined use of traps and fumigation, the integrated approach of H.Z. Levinson, to reduce damage by insects, which, with the present knowledge, would be feasible.

This volume is richly illustrated, as most figures comprise a number of drawings or photographs. They are of high quality and illustrate the peculiar habits of organisms attacking our goods. The one but last photograph shows the etching tracks of *Penicillium funiculosum* on glass, whereas the last picture is of a leaden pipe, gnawed by rats. The rats may not have enjoyed an excellent health thereafter, the pipe certainly looked damaged.

This book can be especially recommended to those interested in the biology of bacteria, fungi and insects threatening anything from food to fuel.

P. Harrewijn