property of plant cells of accumulating ions against the concentration gradient seems to demand this treatment. Again, there are certainly some workers who would prefer to use the terms protease and peptidase rather than to employ pepsin and erepsin, on the grounds that the latter terms are not necessarily applicable to the majority of proteolytic enzymes in plants. The reference to cytochrome may possibly be regarded as somewhat brief, and the paragraphs dealing with sexual reproduction suggest that reference to recent work on sex differences might also be included. These features, however, detract from neither the broad scope nor the general utility of the book, and might well be allowed to be matters of individual preference. W. H. P.

Biological Control of Insects

The Biological Control of Insects: with a Chapter on Weed Control. By Prof. H. L. Sweetman. Pp. xii+461. (Ithaca, N.Y.: Comstock Publishing Co., Inc., 1936.) 3.75 dollars.

MUCH that has been written on the subject of biological control is of a scattered and rather fragmentary character. Some of these writings record successful application of the method; others are biological studies more or less incidental to practical issues; while a few are attempts to formulate the general biological principles involved The factors governing success or failure, where biological control is put into practice, are generally manifold and complex. We do not understand the operation of these factors sufficiently to be able to forecast an end-result with any certainty. Each project is of the nature of an experiment in itself which may, or may not, give the desired practical outcome.

The amount of information and data now available fully justifies judicious sifting and embodiment in book form. Prof. H. L. Sweetman is, consequently, to be congratulated on being the writer of the first text-book solely devoted to biological control. It had its inception, he tells us, in some teaching courses on the subject which he gave at the Massachusetts State College. The book is essentially scientific in outlook and acquaints the reader with the life-cycles, habits, methods of manipulation and of utilization of various organisms employed, or likely to be utilized, in schemes of biological control. It is, therefore, not wholly devoted to parasitic and predaceous insects. The general principles of parasitism and other phenomena come in for discussion, while the biological control of noxious plants forms the subject of a separate chapter.

Without going further into detail, the book is to be recommended as a sound introduction to the subject, which is treated from a broad point of view. It is both well arranged and well illustrated, while the literature is adequately covered in the 30 pp. of bibliography. Admirable as the book is, one cannot overlook the fact that it has been compiled to some degree by lifting whole paragraphs bodily from the writings of others. These excerpts bear neither parentheses nor reference numbers to the literature concerned. They are either copied verbatim or with some trivial alterations only. Such practices do not militate seriously against the undoubted value of the book, but they are disconcerting, and so is one of the portraits, which is not that of the person it is stated to represent.

A. D. IMMS.

Principles and Practice of Fruit-Growing

Hardy Fruit Growing By Sir Frederick Keeble and A. N. Rawes. Pp. xi+334+21 plates. (London: Macmillan and Co., Ltd., 1936.) 16*s*. net.

THIS is not a text-book, and it is certainly not a scientific treatise, but it is nevertheless one of the most valuable additions to horticultural literature we have had for some time. It is merely an unusually lucid, explanatory account of the practice of fruit-growing and an exposition of the scientific principles underlying the art. Chapter and verse for the statements made are not given, indeed only one reference to an original paper is quoted in the whole book, but so thorough and complete is the knowledge and so authoritative its presentation that one is left with the feeling that, even in subjects where controversy does exist, the methods advocated by the authors will at least give excellent results. The Worshipful