

Book review

F. Schütte, 1979. Integrierte Bekämpfung von Rapsschädlingen durch Vermeidung des Zusammentreffens mit ihren Wirtspflanzen. Monographs to applied entomology No 22. Paul Parey Verlag, Hamburg & Berlin. 63 pp., 15 figs. English summary. Price DM 38.

This is the report of a large scale trial on integrated control of the main insect pests in rape seed in northern Germany.

The trial was based on the desynchronization of the pests and the host plant. This desynchronization was realized by refraining from rape seed growing on a relatively large area (800 ha) for one year. Another form of desynchronization was to delay flowering and thus to deny the pest its most suitable host plant stage.

The rationale of the approach by desynchronization is explained and discussed by the author on the basis of his own experimental data and a large amount of information from the literature. Hence, the report is supported and illustrated by reviews of such relevant aspects as the economic significance of rape seed growing (chapter 2.1.), the pest species and their relative damaging potential (chapter 2.2), the population dynamics of the main pests with their interrelations, their parasites and predators (chapter 2.3). The work hypothesis has been developed and discussed in chapter 3. The sampling methods and techniques used have been derived from the biology of the main pest, *Dasineura brassicae* Winn., and are described and discussed accordingly (chapter 4.1.). A description is given of the various developmental stages of the host plant, *Brassica napus* (chapter 4.2.).

The most consequent form of desynchronization, viz. by interruption of rape seed growing for one year on a large area, is discussed in chapter 5. The layout of the trial, the preparations and the results with the three most important pests (*Dasineura brassicae* Winn., *Ceutorhynchus assimilis* Payk. and *Meligethes aeneus* Fabr.) are given. The next chapter deals with the delay of the development, especially the flowering, of the rape seed plants by mechanical or chemical means and their effects on yield, infestation and flowering time. Chapter 7 contains the discussion of both desynchronization approaches and their effects. Summaries in German and English precede the long list of references.

The object of this study is one of the principles of integrated control: the disruption of the harmony between pest and host plant, both in time and in place. For various reasons the principle has received little attention in the past. One reason is the necessity to manipulate both host plant and pests in a way which is biologically, technically and economically sound. Especially the last condition determines the acceptance of the applied method by the farmers and their advisers. Proven long term benefits are usually a prerequisite. Another reason is the necessity to operate on a large scale to achieve some impact on local pest populations, which is especially difficult when the concerted cooperation of farmers is vital. This has been the bottle-neck in the application of various forms of integrated control including genetic control.

Although the most interesting results of this experiment apply to the German situation only, the set-up of and the reasoning behind the desynchronization approach can be valuable for and applicable to control in other pest-crop combinations.

This report is packed with information and experimental results. Because of its merits the experiment should be repeated against the background of practical rape seed growing, mainly to eliminate the effects of unsuitable experimental conditions and to obtain more evidence for an economic feasibility of application. A choice between organized discontinuation of rape seed growing and application of plant growth regulators shall be less difficult for farmers than for researchers. Anyway, this study is highly recommendable material for everyone who is interested in practical applications of integrated control principles.

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