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Book Reviews

G. Loebenstein, P. H. Berger, A. A. Brunt and R. H. Lawson (eds): Virus and Virus-like Diseases of Potatoes and Production of Seed-Potatoes. Kluwer Academic Publ., Dordrecht (The Netherlands), 2001, 460 pp.

This excellent book edited and written by internationally well-known editors and 35 authors give not only the most detailed knowledge but due to its greater volume, as compared to the previous edition is the best out of those books (J. A. de Bokx in The Netherlands, 1972; J. A. de Bokx and J. H. P. van der Want in The Netherlands, 1996; and L. F. Salazar in Peru, 1996) have been published in similar theme in the past three decades. Regarding the new scientific results produced in the last years, potato growing with its 300 million tons per year covers essential demands in the food supply of world population.

The book has 460 pages including 36 tables, 103 individual figures (69 figures are coloured), and more than 1800 literary data, more than 800 entries in the subject index and consists of 18 chapters with the following chapters: *(1)* The economic importance of the potato (M. F. Askew), *(2)* Biology and physiology of the potato (H. D. Rabinowitch and D. Levy), *(3)* Important potato cultivars (D. L. Corsini and C. R. Brown), *(4)* Historical perspectives of potato virus research (R. H. Lawson and R. Stace-Smith), *(5)* The main viruses infecting potato crops. Potato leafroll virus (G. Loebenstein), Potyviruses (A. A. Brunt), Potato virus X (G. Loebenstein), Potato mop-top virus (G. Loebenstein), Potato virus M (A. A. Brunt), Potato virus S (A. A. Brunt), Potato latent virus (A. A. Brunt), Other possible carlaviruses (A. A. Brunt), Potato aucuba mosaic virus (G. Loebenstein), Tobamo- and Tobamo-like viruses (A. A. Brunt), *(6)* Viroids (L. F. Salazar, L. Bartolini and A. Hurtado), *(7)* Phytoplasma diseases (M. Klein), *(8)* Transmission of viruses. Mechanically transmissible viruses of potatoes (G. D. Franc and E. E. Banttari), Potato viruses with soil-borne vectors (D. P. Weingartner), Aphid transmission of potato viruses (Y. Robert and D. Bourdin), Transmission of viruses by leafhoppers and thrips (M. Klein), *(9)* Epidemiology and field control of PVY and PLRV (D. W. Ragsdale, E. B. Radcliffe and C. D. DiFonzo), *(10)* Detection and identification of viruses in potatoes (A. Gera and S. Marco), *(11)* Isolation and purification (P. E. Thomas and W. K. Kaniewski), *(12)* Operation of a commercial ELISA and Seed-testing Laboratory (Y. Alon and I. Ben Zeer), *(13)* Resistance. Genetics and breeding of virus resistance: traditional methods (C. R. Brown and D. Corsini), Biotechnology and resistance in potato viruses (P. Berger and T. German), *(14)* Control of potato viruses using meristem and stem-cutting cultures, thermotherapy and chemotherapy (G. Faccioli), *(15)* Rapid propagation of virus-teted potatoes (A. A. Watad, C. Sluis, A. Nachmias and R.

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Levin), *(16)* Seed certification as a virus management tool (G. D. Franc), *(17)* Common seed potato certification schemes (O. A. Gutbrod and A. R. Mosley), *(18)* Emerging potato viruses that confront regulations.

The "Virus and Virus-like Diseases of Potatoes and Production of Seed-Potatoes" is a fundamental book and a useful reference work for potato virologists, research specialists of virus-like diseases of potato, teachers, Ph. D. students, producers, in short, for anyone interested in being informed on problems of potato in the world.

The editors and authors deserve credit for publishing this book and thanks are due to the Kluwer Academic Publishers, Dordrecht, The Netherlands.

J. Horváth and G. Kazinczi

László Nowinszky (ed.): The Handbook of Light Trapping. Savaria University Press, Szombathely, 2003.

This book is the outcome of several decades of research by Dr. habil. László Nowinszky Ph. D. and 15 co-authors. The book fills a long standing gap in scientific literature, and in that sense the appearance of such a book is a red-letter day for entomologists and plant-protection specialists alike. The central question running through the publications in this book is this: what are the main factors modifying the activity of nocturnal insects regarding their flight to light, and to what extent do these impacts influence the results of our calculations aimed at making the most perfect plant protection prognosis. Over and above, in a pioneering way, the book gives the first comprehensive summary of Hungarian and international scientific publications on light trapping. Comprised of 276 pages and 4 tables in colour – in an attractive hard cover - this volume is an enlarged and updated version of Dr. Nowinszky's former book (Light Trapping, Savaria University Press, 2000). It is in fact the English translation of the Hungarian original published a few weeks earlier.

The authors discuss their subject in nine chapters.

In the *first chapter* the editor gives a brief overview of the history of trapping insects by light – around the world and especially in Hungary. The reader is introduced to the Hungarian national as well as the Hungarian forestry network of light-traps that had supplied the authors with an enormous amount of insect catch data. Used for plant protection purposes, the Hungarian national light trap network, unique by international standard, has been working since 1952, the date when the first trap was put into operation. In 1970, the backbone of the network was already comprised of 20 central, 87 regional and 18 specific light traps. Equipped with Jermy-type traps, the network is running from 1st April to 31st October every year. The absence of a similar data source in the world makes the use of this treasure trove of data in the research described in the book absolutely invaluable. These data form the basis of the statistical calculations that have made the attempt to determine the modifying effect of the different influences possible.

The *second chapter* seeks an answer to the question of why nocturnal insects fly to light. Although no definite answer can be given, the author informs us about the existing major theories, expounding every known opinion found in scientific literature.

The *third chapter* is about the technical construction of light traps. After a general introduction to automated light-traps the author gives us a detailed description of 36 light-trap types used in different parts of the world. What follows is a short discussion about the advantages and shortcomings of light-trap use, according to the quality and nature of the types of data it supplies.

In the *fourth chapter* we can read about the many ways of utilizing light trap catch data. We can find advices on data use in research areas like faunal investigations *(1),* zoo-geographic investigations *(2),* taxonomic investigations *(3),* cenologic investigations *(4),* ethological investigations *(5),* investigations of distribution and abundance *(6),* research into swarming phenology *(7),* investigations in the field of population dynamics *(8),* research into insect ecology *(9),* plant protection prognostics *(10),* ecosystem research *(11)* and obsevations on migration *(12).*

The *fifth chapter* seeks to solve the methodological problems of processing light-trap data. The sub-chapters deal with the methods of investigating mass relations in space *(1),* of examining swarming phenology *(2),* of examining trends in hypercyclic movement *(3),* of assessing biodiversity *(4),* of correcting catch data *(5),* of investigating the combined effect of environmental factors *(6)* and of measuring daily changes in the catch *(7).*

The *sixth chapter* informs the reader about the efficiency of a light trap. In the first place we get to know what the catch of the light trap represents. That is followed by a discussion of the international definitions of light trap efficiency, and the theoretical bases and method of calculating the degree of efficiency regarding the species caught.

The *seventh chapter* contains the main research theme, and is in fact the central and most comprehensive part of the book. It offers a list of the observed factors that may modify the degree of light trap efficiency, and discusses the effect of each factor in full detail. The chapter can be divided into 3 sub-chapters.

The *first sub-chapter* deals with the factors of the light trap itself, such as the effect of light-trapping, as an extracting method on the catch, the spectral composition of the light applied and the structure of the light trap, light intensity and killing device.

In the *second sub-chapter* the abiotic enviromental factors are taken into account. These are: solar activity, UV-B radiation, effects of solar activity, interplanetary magnetic field sector boundaries, cosmic radiation, tropopause, gravitational potential generated by celestial bodies, geomagnetic field strength, illumination of the environment and twilight polarization phenomena, light pollution, moon, different types of macrosynoptic weather situations, local weather types, weather fronts and dividing surfaces, air masses, meteorological events, weather elements, athmospheric electricity, the ozone content of the air and earthquakes.

The *third sub-chapter* is devoted to biotic factors, namely the effect of the vegetation around the light trap and that of natural enemies, the mass of populations generally present in the environment, the sensitivity of the different species to the trap stimulus, the vagility of the different species, the circadian rhythm of the flying activity, total solar

eclipse, the ratio of males and females in the catch, security of orientation, the vertical dispersion of insects, the mechanics of the flight of insects and the behaviour of insects in the vicinity of the source of light.

Finally in the last two chapters the author presents some combined effects of the various enviromental factors and makes recommendations regarding the use of data obtained from the light trap network, with special regard to the needs of plant protection.

Originally written for students, this is more than a university handbook. While useful for entomologists and in fact anyone interested in the problem of the flight to light of nocturnal insects, this volume by Dr. habil. Nowinszky Ph. D. has great practical advantages. Namely it can help plant protection specialists in their daily work and give food for thought regarding further research.

G. Petrányi