

Book review

Seed health testing. Progress towards the 21st century. Edited by J.D. Hutchins and J.C. Reeves. 1997. 263 pp. CAB International. Wallingford, Oxon OX10 8DE. UK. ISBN 0 85199 179 3.

The book presents the proceedings of the second symposium on seed health testing organized by the Plant Disease Committee (PDC) of the International Seed Testing Association (ISTA) held in Cambridge, UK during 5–8 August 1996. The symposium was organized into five sections and the book is organized accordingly. Especially the last two sections are closely related to the duties and work of the PDC and they follow-up on problems dealt with at the first PDC symposium held in Ottawa in 1993.

In his address to the symposium the president of ISTA, Simon Cooper briefly describes the duties and former activities of the PDC and emphasizes the need for further methods for seed health testing for inclusion into the ISTA Rules. He strongly supports the cooperation with other bodies in the development of new seed health testing methods as well as initiatives to develop quality assurance systems for seed health testing.

The ten papers in section one deal with new and priority seedborne diseases in different geographical regions of the world. Some give a general review of the situation of important seed borne diseases while others concentrate on one or a few diseases. In section two dealing with policies of seed health testing the chairman of PDC, C.J. Langerak reviews the earlier and coming activities of the PDC. He finds that the overwhelming participation in earlier comparative tests and workshops has slowed down the progress in standardization of methods, and in view of this slow process it is not surprising that the seed industry through its International Seed Health Initiative (ISHI) will cooperate with PDC to speed up the process. One paper in this second section describes the organization and purpose of the ISHI formed due to enormous financial consequences of disease epidemics in modern

vegetable production. The objectives are to secure the delivery of healthy seed, to assess test protocols, to establish thresholds and information on disease control and to seek recognition and cooperation with official national and international regulatory and accreditation authorities. Several papers discuss national approaches in relation to policies of seed health testing. One paper reviews the initiatives taken by the International Rice Research Institute to assess the importance of seed health in rice production.

The eight papers in the third section primarily deal with problems related to seed health testing for fungal, bacterial and viral pathogens using variations of polymerase chain reaction (PCR) techniques. The PCR techniques appear to be able to make very quick tests which is most important for the seed trade. When sufficiently developed these methods will give qualitative results and are therefore most suited for zero-tolerance pathogens. Several technical problems need to be solved before the PCR techniques can be used in routine seed health testing in general. Section four on international comparative seed health testing consists of three papers. The ISTA/PDC Bacterial Working Group reports on its activities during 1991–1996. A second paper describes the outcome of cooperative tests to detect *Xanthomonas campestris* pv. *campestris* on cabbage seed organised in the framework of ISHI. The last paper reports on comparative tests with the osmotic blotter method for detection of *Drechslera* spp. on barley seed carried out by a ISTA-PDC sub-working group. The fifth section dealing with quality assurance in seed health testing consists of four papers. One paper summarizes the ISTA accreditation standard and the necessary duties of PDC to implement this standard in the field of seed health testing. In another paper a quality assurance system for seed health testing laboratories in function in the Netherlands is described. A third paper draws attention to the importance of the production and preservation of homogenous and well defined microbiological reference materials as tools in quality assurance systems.

The last paper discusses standardization of detection techniques for seedborne viruses.

The broad spectrum of topics dealt with in the book have been selected in such a way that they together give a useful illustration of the type of problems with seedborne diseases that the PDC and the seed trade have to tackle and the book will be an important source of information and reference for everybody interested in seed trade, seed health testing and research on seedborne diseases. The book is supplied with a useful

subject index and is well printed and organized. However, it would have been an advantage if each of the five sections had been given a relevant heading and if all papers had been supplied with brief conclusions or a summary.

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