R. Kenneth Horst

Field Manual of Diseases on Fruits and Vegetables



Field Manual of Diseases on Fruits and Vegetables

R. Kenneth Horst

Field Manual of Diseases on Fruits and Vegetables



R. Kenneth Horst Plant Pathology and Plant Microbe Biology Cornell University Ithaca, NY, USA

ISBN 978-94-007-5973-2 ISBN 978-94-007-5974-9 (eBook) DOI 10.1007/978-94-007-5974-9 Springer Dordrecht Heidelberg New York London

Library of Congress Control Number: 2013935123

© Springer Science+Business Media Dordrecht 2013

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

The information in this manual is taken in large part from the records of the Plant Disease Survey as given in the *Plant Disease Reporter*, *Plant Disease*, and from the *Index of Plant Diseases in the United States*, *Agriculture Handbook 165*, U.S. Department of Agriculture. There are a great many records that bring in new reports every day, and any such list is out of date by the time it is published, and is sure to be far from complete. This check list is offered as a helpful guide, a foundation on which to build. It is by no means the last word.

Hosts are listed alphabetically by common names except where the scientific names mean less confusion. The diseases are those mostly reported from North, Central, and South America.

Contents

Part I	
Illustrations	3
Part II	
Disease Control and Management	13
Part III	
Host Plants and Their Diseases	19
A	21
В	29
C	39
D	51
Е	53
F	55
G	57
Н	61
K	63
L	65
M	67
N	71
0	73

viii Contents

P	77
Q	95
R	97
S	101
T	111
V	117
W	119
Y	123
Part IV	
List of Land-Grant Institutions and Agricultural	
Experiment Stations in the United States	127
Glossary	131

Part I

Illustrations



Plate 1 Late Blight on Potato



Plate 2 Late Blight on Tomato



 $\textbf{Plate 3} \ \ \text{Root-Knot Nematode; pear-shaped female with egg sac; encysted young larva; and worm-like adult male}$

Illustrations 5



Plate 4 Corn Smut

6 Illustrations



Plate 5 Apple Scab on Leaf and Fruit



Plate 6 Ringspot on Tomato Fruit caused by Cucumber Mosaic Virus