

BOOK REVIEW

Bockus W.W., Bowden R.L., Hunger R.M., Morrill W.L., Murray T D., Smiley R.W. (Eds.). 2010. Compendium of Wheat Diseases and Pests. Third Edition. APS Press – The American Phytopathological Society, St. Paul, MN, USA, 171 pp. ISBN 978-0-89059-385-6

As indicated in the "Preface" (p. III) by Professor W.W. Bockus from the Kansas State University over 70 authors have been invited to contribute to the third edition of this very useful compendium which currently has over 30 new chapters and over 200 more illustrations as compared to the first edition published in 1987.

In "Introduction" (p. 1–4) it is emphasized that wheat is grown on over 20% of the world's arable land area because it is considered the most nutritious crop as compared to maize and rice. For this reason the wheat is a staple food for over 40% of the world's human populations and provides 20% of the calories consumed. However, it is estimated that 25–30% of the wheat crops or yields are lost due to weather conditions or infestation by pests and pathogens during vegetation season and some losses during storage.

In part "Diseases caused by bacteria" (p. 5–14) the following diseases are characterized with their causative agents: (1) aster yellows, (2) bacterial leaf blight – *Pseudomonas syringae* pv. *syringae*, (3) bacterial sheath rot – *Pseudomonas fuscovaginae*, (4) bacterial streak and black chaff – *Xanthomonas campestris* pv. *undulosa*, (5) basal glume rot – *Pseudomonas syringae* pv. *Atrofaciens*, (6) gumming (*Rathayibacter iranicus*), (7) pink seed (*Erwinia rhapontici*), (8) stem melanosis (*Pseudomonas cichorii*).

In part "Diseases caused by fungi and fungus-like organisms" (p. 15–97) over fifty diseases are characterized among which are caused by species belonging to genera *Alternaria*, *Ascochyta*, *Cephalosporium*, *Dilophospora*, *Fusar-*

ium, *Phoma*, *Platyspora*, *Puccinia*, *Pythium*, *Rhizoctonia*, *Tilletia*, *Urocystis*, *Ustilago*, *Microdochium*, *Typhula*, *Sclerotium*, *Staganospora*, *Gibellina*, *Ophiobolus* and others.

In part "Diseases caused by nematodes" (p. 87–97) the following groups of nematodes are characterized: cyst nematodes (*Heterodera* spp.), root-gall nematodes (*Subanguina* spp.), root-knot nematodes (*Meloidogyne* spp.), root-lesion nematodes (*Pratylenchus* spp.), seed-gall nematodes (*Anguina* spp.), stem nematodes (*Ditylenchus* spp.), stubby-root nematodes (*Trichodorus* spp., *Paratrichodorus* spp.) and stunt nematodes (e.g. *Geocenamus* and *Nagelus* genera).

In part "Diseases caused by viruses and virus-like agents" (p. 98–119) twenty three types of virus diseases have been characterized and well supported with color photographs e.g. *Agropyron* mosaic, European wheat striate mosaic, winter wheat (Russian) mosaic, flame chlorosis, maize streak, wheat yellow leaf and many others.

In part "Damage caused by insects and mites" (p. 120–137) fifteen types of damage caused by arthropod species belonging to *Lepidoptera*, *Aphididae*, *Chrysomelidae*, *Acrididae*, *Cecidomyiidae*, *Acarina*, *Thripidae*, *Eurytomidae*, *Chloropidae*, *Cephalidae*, *Scarabaeidae* and *Tenebrionidae* are characterized and are well supported by excellent photos.

In part "Other pests and disorders" (p. 138–158) the interested readers will find information on twenty damage types caused by polluted air with chlorine, sulfur, ozone, ethylene and by other agents such as birds, parasitic plants, cold and heat stress, and hail.

Of special value is part "Glossary" (p. 159–165) which contains over 500 terms and definitions.

Without question this Compendium is the best available source of information on protection of wheat during vegetation and in storage and I recommend it to the attention of all plant protection specialists and to all agricultural libraries.

Jerzy J. Lipa
Institute of Plant Protection – National Research Institute
Department of Biological Control and Quarantine
W. Węgorzka 20, 60-318 Poznań, Poland
J.J.Lipa@iorpib.poznan.pl