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Master Gardener Training: Plant Pathology

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Homework Assignment: 1) Read and study a minimum of two topics listed below; 2) submit a brief (2 to 6 sentences) summary and response (e.g., how might this information apply to local businesses, property owners, city, county, state, etc.) to your County MG Coordinator before the end of this MG Training series.

All assignments are found at this website: http://www.apsnet.org

From the home page menu (across the top), these lessons are found either in EDUCATION, then INTRODUCTORY. To locate an article, click on the categories below. A few topics are also available in Spanish, Portuguese, or Chinese. The ILLUSTRATED GLOSSARY will be useful when you encounter an unfamiliar word.

Introductions to the Major Pathogen Groups

Bacteria as Plant Pathogens. Anne K. Vidaver and Patricia A. Lambrecht, Department of Plant Pathology, University of Nebraska, Lincoln, NE [*Las Bacterias como Patógenos Vegetales. Anne K. Vidaver and Patricia A. Lambrecht, Trans. Ana María Romero, 2006*.]

Fastidious Vascular-Colonizing Bacteria. Jacqueline Fletcher and Astri Wayadande, Department of Entomology and Plant Pathology, Oklahoma State University, Stillwater, OK [*Bacterias Fastidiosas Colonizadoras Vasculares. Jacqueline Fletcher and Astri Wayadande, Trans. Jose Carlos Ureta R., 2009*.]

Why are Phytophthora and other Oomycota not true Fungi?. Amy Y. Rossman and Mary E. Palm. 2006.

Introduction to Parasitic Flowering Plants. Daniel L. Nickrent and Lytton J. Musselman, Department of Plant Biology, Southern Illinois University, Department of Biological Sciences, Old Dominion University

Introduction to Plant-Parasitic Nematodes Kris Lambert and Sadia Bekal, University of Illinois, Department of Crop Sciences, Urbana, IL

Introduction to Plant Viruses, the Invisible Foe Rose C. Gergerich and Valerian V. Dolja, Department of Plant Pathology, University of Arkansas, Fayetteville, AR and Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR [*Introducción a los Virus Vegetales, el Enemigo Invisible Rose C. Gergerich and Valerian V. Dolja, Trans. Silvina L. Giammaria, 2008*.]

Plant Disease Lessons

FUNGI AND FUNGUS-LIKE ORGANISMS

- o Ascomycetes/Imperfect Fungi
  - + Brown rot of stone fruits
  - + Ergot of rye
  - + Rice Blast
  - + Take-all root rot of small grains and turfgrass
- o Basidiomycetes
  - + Coffee rust
  - + Common smut of corn
  - + Rhizoctonia diseases of turfgrass
  - + Southern blight
  - + Stem rust of wheat and barley
  - + Stinking smut (common bunt) of wheat
- o Oomycetes
  - + Downy mildew of grape
  - + Late blight of potato and tomato
    - # Requeima (míldio, pt) da batateira e tomateiro (Portuguese)
    - # 马铃薯和番茄晚疫病 (Chinese)

NEMATODES

- + Pine wilt disease
- + Root-knot nematode

PROKARYOTES

- + Bacterial leaf scorch
- + Bacterial spot of pepper and tomato

+ Crown gall

+ Fire blight of apple and pear

VIRUSES

+ Cucumber mosaic

+ Tobacco mosaic

+ Tomato spotted wilt

Case Studies

Ineffective Fungicides: A case study on problems in selection and use of fungicides for disease management. Riley, M.B., Department of Entomology, Soils, and Plant Sciences, Clemson University

Hosta Takeover: A Plant Disease Management Case Study. Edmunds, B.A., P.H. Flynn, and M.L. Gleason

Naughty Peat: A case study in plant pathology, with emphasis on Koch's Postulates and disease etiology. Mathre, D. E. and W. E. Grey, Montana State University

APSnet Feature Articles

Fungi and fungal-like organisms

* Black Sigatoka of Banana: The Most Important Disease of a Most Important Fruit

* Bunts and Smuts Revisited: Has the Air Been Cleared?

Bacteria and other prokaryotes

* Antibiotic use for plant disease management in the United States

* Burkholderia cepacia: Friend or Foe?

* Phytoplasma Casts a Magic Spell that Turns the Fair Poinsettia into a Christmas Showpiece

Viruses and viroids

* Transgenic Virus Resistant Papaya: New Hope for Controlling Papaya Ringspot Virus in Hawaii