1959 - 1968



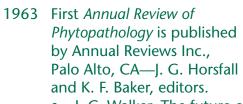
- 1959 First effective chemical control for *Pythium* released commercially—fenaminosulf (Dexon, Lesan)
- Discovery of the first resistance to fungicides by plant-pathogenic fungi. Strains of Penicillium italicum (citrus blue mold) found to be resistant to biphenyl fungicide (sodium orthophenylphenate).
- 1959 First curative and systemic fungicide is discovered—benomyl. This fungicide was first marketed as Benlate in 1970 as a wettable powder.
- 1959 Demonstration that biological factors involved in suppressive soils can be transferred to conducive soils—suppression of potato scab



- 1960 The Publications Committee is formed
- 1960 Caribbean Division formed
- 1960 First phytoalexin, pisatin, is isolated from pea pods. This work ignites a flurry of interest in disease resistance; however, it is only later that genetic proof for phytoalexin importance is obtained in plants.
- 1960 Severe stripe rust (*Puccinia striiformis* f. sp. *tritici*) epidemic hit the western U.S. in 1960 and again in 1961. This wheat disease was present for decades, but it had never caused substantial plant damage and was not considered a threat to wheat production in the west. This epidemic stimulated research interest in this pathogen, which had been neglected for years.
- 1960 First demonstration that a virus could be transmitted by a soil fungus—Tobacco necrosis virus transmitted by Olpidium brassicae. This stimulated research on the transmission of viruses by other chytrid and plasmodiophorid plant pathogens.
- First electron micrographs of rust-infected plant tissue—*Uromyces caladii*. The work promotes interest in the fine structure of plant-pathogen interfaces.
- APS initiates a review series *Phytopathology* Monographs and Reviews—G. W. Bruehl, Barley Yellow Dwarf, Monograph No. 1
- Systemic acquired resistance described. TMV infection that resulted in a hypersensitive response on tobacco provided systemic resistance, resulting in reduced symptom severity against secondary infections.
- Society of Nematologists is established



- 1962 Plant-pathogenic bacteria resistant to streptomycin—natural populations of Xanthomonas vesicatoria are identified to be resistant via selection
- 1962 Publication of the book *Silent Spring*, documenting the detrimental effects of pesticides on the environment. This book stimulated great interest and activity toward minimizing harmful chemicals in the environment.
- 1962 Tobacco necrosis virus is shown to support the replication of an unrelated satellite virus
- 1962 First phytoalexin structure determined—pisatin from *Pisum* sativum L.
- 1962 APS forms the International Cooperation Committee
- 1962 APS forms a Special Committee on Awards and Honors



- J. C. Walker, The future of plant pathology.
- L. Sequeira, Growth regulators in plant disease.
- G. H. Hepting, Climate and forest diseases.
- J. R. Parmeter, Jr., W. C. Snyder, and R. E. Reichle, Heterokaryosis and variability in plant-pathogenic fungi.
- R. G. Owens, Chemistry and physiology of fungicidal action.
- W. A. Kreutzer, Selective toxicity of chemicals to soil microorganisms.
- J. D. Menzies, The direct assay of plant pathogen populations in soil.
- C. H. Cadman, Biology of soil-borne viruses.
- K. W. Mundry, Plant virus-host cell relations.
- T. O. Diener, Physiology of virus-infected plants.
- L. R. Krusberg, Host response to nematode infection.
- D. Park, The ecology of soil-borne fungal disease.
- M. Shaw, The physiology and host-parasite relations of
- K. Tomiyama, Physiology and biochemistry of disease resistance of plants.
- B. Norkrans, Degradation of cellulose.
- I. A. M. Cruickshank, Phytoalexins.
- D. C. Erwin, G. A. Zentmyer, J. Galindo, and J. S. Niederhauser, Variation in the genus *Phytophthora*.
- N. Okabe and M. Goto, Bacteriophages of plant pathogens.
- 1963 First demonstration of biological control. Cut pine tree stumps were treated with *Phleviopsis gigantea* (=*Peniophora* gigantea), protecting them from root and butt rot caused by Heterobasidion annosum (=Fomes annosus).
- 1963 First chloronitrile fungicides are discovered—chlorothalonil
- 1963 Plant Diseases: Epidemics and Control by J. E. Vanderplank of vertical and horizontal resistance was introduced. This publication opened up the field of plant disease



