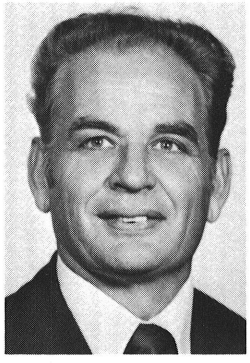
# Fellows

Thirteen members of The American Phytopathological Society were elected Fellows of the Society at the 1988 Annual Meeting in San Diego, California. Election as a Fellow of the Society is a reflection of the high esteem in which a member is held by his colleagues. The award is given in recognition of outstanding contributions in extension, research, teaching, or other activity related to the science of plant pathology, to the profession, or to the Society.

## Alois A. Bell



**Alois Adrian Bell** was born on January 25, 1934, near Bloomfield, NE. He received a B.Sc. degree in agricultural extension education in 1955 and M.Sc. and Ph.D. degrees in botany (plant pathology) in 1958 and 1961 from the University of Nebraska, Lincoln. He was an assistant professor in the Botany Department at the University of Maryland from 1961 to 1965. Dr. Bell then joined the USDA at Beltsville, MD, as a research plant pathologist. In 1970, he was promoted to research leader of the USDA National Cotton Pathology Research Laboratory (NCPRL), College Station, TX, where he organized the program and staff. Dr. Bell served as its only research leader until 1985 when it was combined with three other units to form the Southern Crops Research Laboratory (SCRL). He then served as the research leader of its Cotton Pathology Research Unit until December 1987, when he returned to full-time research. He has been a member of the graduate faculty of the Department of Plant Pathology and Microbiology, Texas A&M University, since 1970.

Dr. Bell has made numerous research contributions on mechanisms of plant resistance to diseases and pests. In early studies, in cooperation with Dr. J. M. Daly at Nebraska, he characterized respiratory changes in diseased plants and showed that enhanced activity of glucose-6-phosphate dehydrogenase and pentose phosphate metabolism is characteristic of hypersensitive resistance to microorganisms. His pioneering studies of cotton phytoalexins provided models to show the importance of time and spatial relationships in understanding the role of phytoalexins in resistance to fungal diseases. At the NCPRL he assembled and led a team that used chemical, histochemical, and genetic techniques in a comprehensive approach to show how 12 different phytoalexins and more than 20 constitutive antibiotics are involved in the resistance of *Gossypium* spp. to various diseases, nematodes, and insects. This team was the first to qualitatively change phytoalexin structure by transferring genes from wild species of cotton into a cultivated species. These studies have been described in more than 20 national and international symposia and 10 book chapters.

Dr. Bell also led another NCPRL research team that elucidated the pentaketide pathway of melanin synthesis in fungi. The team developed a series of melanin-deficient mutants and used biochemical and electron microscopy techniques to establish that melanins in ascomycetes and related deuteromycetes are synthesized from a pentaketide, with scytalone, 1,3,8-trihydroxynaphthalene, vermelone, and 1,8-dihydroxynaphthalene as sequential intermediates. Before this research, fungal melanins were thought to originate from L-dopa or catechol. The team further demonstrated that the key intermediates of the pathway are formed by two unique enzymes: a reductase and a dehydratase. These studies have stimulated extensive research on the role of melanin in virulence and on the use of melanin inhibitors for disease control.

Dr. Bell is internationally recognized for his knowledge of fungal wilt diseases, cotton diseases, and natural products of cotton. He is coeditor of the book, "Fungal Wilt Diseases of Plants," and the monograph, "Verticillium Wilt of Corn." He helped organize, write, and edit the "Compendium of Cotton Diseases" and has written several other book chapters on cotton diseases. He has prepared several chapters for workshop reports and symposium books, describing the biological activities of natural products produced by pathogens, plants, and beneficial microorganisms.

Dr. Bell taught introductory plant pathology and principles of disease control and supervised research for graduate students and honors research for undergraduate students at the University of Maryland. He has served on 12 graduate committees at the University of Maryland and Texas A&M University. Several of his students have established prominent careers in research, teaching, and administration of plant pathology.

Dr. Bell is a member of APS and has served on the Disease and Pathogen Physiology, Program, Editorial, and Membership committees. He has organized several symposia and has served as sectional chairman for APS meetings on several occasions. He is a member of the Cotton Disease Council, serving on several committees, and also has served on the editorial board of *Molecular and Physiological Plant Pathology*. In the USDA, he has served on the Byssinoisis Task Force, Pilot Test Committee, and Personnel Evaluation Committee.

## Douglas W. Burke

**Douglas W. Burke**, born April 27, 1920, was raised in Lovell, WY. He served in the U.S. Army during World War II. He received B.S. and M.S. degrees in agronomy from the University of Wyoming in 1947 and 1948, respectively, and a Ph.D. degree in plant pathology from Washington State University in 1955. Dr. Burke has been a research plant pathologist with the USDA-ARS since 1954, first at Greeley, CO, and in 1957 at the Irrigated Agriculture Research and Extension Center in Prosser, WA, until his retirement in June 1984. From 1972 to 1982 he served as research leader of the Vegetable Crops Production Research Unit and also as location leader.

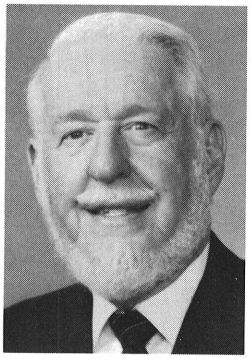
During his career with the USDA-ARS, Dr. Burke carried on a very productive research program on root diseases of beans. He contributed much to the knowledge of the ecology of Fusarium root rot of beans and the effects of various cultural practices on this

disease. His pioneering work as a graduate student showed the importance of the chlamydospore to survival of *Fusarium* in soil. He obtained the first evidence for the existence of favorable and unfavorable soils to *Fusarium solani* f. sp. *phaseoli.* Direct observations of the fungus in soils showed that chlamydospores developed rapidly and abundantly in favorable soils, while more abundant hyphae lysed rapidly, leaving fewer and smaller chlamydospores in the unfavorable soils. This work ranks among two or three of the classic studies that gave rise to the general recognition of *Fusarium*-suppressive soils. He showed that the severity of Fusarium root rot of beans is a function of damage to the total root system, not just damage to the hypocotyl, and that loosening the soil by subsoil tillage to permit deeper penetration of roots provided significant control of this disease. This concept was later extended to other root diseases. He showed that even in fields severely infested with *Fusarium solani* f. sp. *phaseoli*, near-normal yields of dry bean can be obtained using *Fusarium*-resistant cultivars and minimizing plant stress caused by drought, low temperatures, temporary lack of soil aeration, and root impedance. His elucidation of the ecological factors in the development of bean root rot has promoted more effective methods for selecting beans, peas, and other crops for resistance to root rots, and new approaches to root disease research.

Dr. Burke has been a major contributor to the dry bean industry through the development of 20 new dry bean varieties and 12 germ plasm releases that have multiple disease resistance. Twelve of these varieties are currently used extensively by the dry bean industry, and eight are the only commercial cultivars developed with quantifiable levels of resistance to Fusarium root rot. He showed that with certain *Fusarium*-resistant bean cultivars in subtilled soil the intervals between irrigations could be extended to allow soil-surface drying and thus reduce the incidence of *Sclerotinia* white mold. His varieties also include the first curly top virus-resistant red kidney and pea bean types, which combine early maturing short vines with high-yielding ability. His red Mexican and pink bean releases have replaced older varieties throughout the Northwest. Three new pinto bean varieties are gaining in popularity in the West and Midwest.

In recognition of his work on ecology and control of soilborne pathogens, he was invited in 1967–1968 to be a visiting professor at the University of Wisconsin to conduct similar studies on Aphanomyces root rot of peas. In 1977, he received the Meritorious Service Award of the International Bean Improvement Cooperative. In 1978, he received the O. A. Vogel Washington State Crop Improvement Faculty Award.

## Urban L. Diener



**Urban L. Diener** was born May 26, 1921, in Lima, OH. He received a B.A. degree in botany from Miami University, Ohio, in 1943, and an M.A. degree in mycology from Harvard University in 1945. He worked 2 years for the Sindar Division of Givaudan, Inc., in New York, NY, as an industrial mycologist. In 1947 he conducted seed treatment research at Clemson University. He returned to graduate school at North Carolina State University in 1948, receiving his Ph.D. degree in 1953.

In 1952, he was appointed assistant plant pathologist in the Botany and Plant Pathology Department at Auburn University. He was promoted to associate professor in 1957 and to professor in 1963. His early research career was oriented to controlling diseases of vegetables and fruit crops. He was one of the first to demonstrate the use of captan and dodine mixtures for the control of bacterial spot of peach, the use of PCNB for control of southern blight of pepper, and the control of pecan scab and improvement in pecan nut quality when dodine and fentin hydroxide sprays were used.

Following a severe drought in 1954 and 1955 that resulted in poor quality in peanuts throughout the southeastern United States, his research attention turned to the role of fungi on deterioration of peanuts in storage. The collaborate research project with H.S. Ward, Jr., and N. D. Davis established Dr. Diener as a world authority on the relationship of environment to infection, colonization, and aflatoxin formation by *Aspergillus flavus* and *A. parasiticus* in peanuts and maize. During his career he and his co-workers detailed the role of mycoflora in maintaining peanut quality in storage, the relationship of peanut maturity and environment to *A. flavus* infection, and numerous details of aflatoxin formation in products. He also contributed highly significant research on ochratoxin A, citrinin, tenuazonic acid, and other toxic metabolites of fungi. This research has been published in 20 book chapters or published symposia, including a recent chapter in the "Annual Review of Phytopathology," and 61 refereed papers published chiefly in *Phytopathology, Applied Microbiology, Journal of American Oil Chemists Society, Mycopathologia, Journal of the Association of Analytical Chemists,* and *Journal of Applied Biochemistry.*

He and Davis guided 16 students in receiving advanced degrees dealing with mycotoxicology. Professor Diener maintains an extensive file of mycotoxin literature that is accessed by scientists worldwide. He was one of the founders of the Interdisciplinary Mycotoxin Information Network, an important database for mycotoxin researchers in many disciplines.

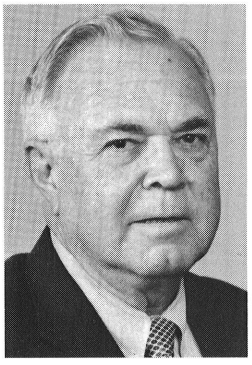
Dr. Diener also excelled as a teacher. During his career at Auburn, he developed and taught the following courses: principles of plant disease control, principles of plant pathology, and mycotoxicology. He was consistently noted as a "thorough and dedicated teacher."

Dr. Diener has served APS in many ways, including the Postharvest Pathology-Mycotoxicology Committee and the editorial board of *Phytopathology*. He was a contributor to the "Compendium of Corn Diseases" and the 1976 APS Mycotoxicology Symposium with the paper "Environmental factors influencing mycotoxin formation in the contamination of foods." He was chairman of the CAST Task Force that produced Report No. 80, "Aflatoxin and Other Mycotoxins: An Agricultural Perspective." He was also program committee chairman for the Regional Project S-175 symposium, Aflatoxin and *Aspergillus flavus* in Corn, in Atlanta, GA, in 1982, and senior editor of "Southern Cooperative Series Bulletin 279," in which the symposium papers were published.

Dr. Diener has been an international resource in the area of mycotoxicology, having served on the National Academy of Science and the National Research Council Advisory Team to Thailand in 1984, 1985 and 1987. He was a Fulbright Research Scholar and Lecturer at the University of Campinas in Brazil in 1985 and most recently was an invited speaker at the Second International Conference on Mycotoxins in Bangkok, Thailand. He has served on the USDA Food Safety Task Force and the Mycotoxin Committee of the International Society of Plant Pathologists.

Dr. Diener has received many honors during his distinguished career. He was elected a fellow of the American Association for the Advancement of Science in 1967, received the Golden Peanut Research Award for Distinguished Achievement from the National Peanut Council in 1972, and served as chairman of the Research Committee of the Alabama Academy of Science for 10 years and as its president in 1976–1977. He has remained an active researcher and contributor in the areas of mycotoxicology since his retirement on October 1, 1987. Throughout his career at Auburn, Dr. Diener has been an active contributor to his community through Boy Scouts, of which he is a 50-year veteran at the district and council levels; the Lion's Club; United Fund; Shrine Club; Men's Camellia Club of Auburn (president two times); and a member of the Auburn United Methodist Church choir for 35 years.

## Eddie Echandi



**Eddie Echandi** was born November 21, 1926, in San Jose, Costa Rica. He received a B.S. degree from the University of Costa Rica in 1950, a Master of Agriculture degree from the Inter-American Institute of Agricultural Sciences, Turrialba, Costa Rica, in 1952, and a Ph.D. degree in plant pathology from the University of Wisconsin in 1955.

Returning to the University of Costa Rica in 1955, he was appointed professor of plant pathology. His responsibilities included teaching and a research program on coffee diseases. He identified three new coffee diseases for Central America and developed effective methods for their control. Four of the 12 students whose theses he directed obtained Ph.D. degrees in plant pathology.

Dr. Echandi joined the Inter-American Institute in Turrialba in 1961. From 1961 to 1962 he was responsible for plant pathology research of bean and coffee diseases and graduate teaching; from 1962 to 1964 he was head of the Department of Plant Industry and Soils but continued to do research and to teach and advise graduate students. In 1965 he was a visiting scientist at the University of California, Berkeley, working on *Rhizoctonia* with Dr. J. R. Parmeter. Returning to Turrialba, he became head of the Central American Basic Food Crops Program.

In 1967, Dr. Echandi joined the faculty of the North Carolina State University Mission to Peru. His initial responsibility was to organize and develop a national bean and pulses program for Peru. He also served as a visiting professor at Universidad Agraria La Molina, Lima.

Since 1969, Dr. Echandi has been an on-campus professor at North Carolina State University where he leads a vigorous and innovative research program. His studies, with Paul B. Shoemaker, on the epidemiology of bacterial canker of trellised tomatoes in North Carolina led to the development of seed treatments that virtually eliminated bacterial canker from western North Carolina for many years. He also differentiated 10 types of the causal agent, which advanced understanding of the epidemiology of the disease and called attention to problems related to breeding for resistance.

Dr. Echandi and co-workers have studied bacteriocins from important plant pathogens including the conditions for production and the properties and characteristics of bacteriocins from *Corynebacterium michiganense, Erwinia carotovora, E. chrysanthemi*, and *Pseudomonas solanacearum*. The bacteriocin typing schemes for *C. michiganense, E. chrysanthemi,* and *P. solanacearum* have been valuable tools in epidemiological studies of these pathogens.

Dr. Echandi has identified many sources of resistance and has developed resistant cultivars of beans and pulses. Currently he is collaborating with tomato and potato breeders in the development of resistant cultivars to bacterial canker of tomato and black leg and bacterial soft rot of potato.

Dr. Echandi has conducted studies in biological control. His interest in this area is currently centered on the role of certain binucleate *Rhizoctonia*-like fungi (BNR) in protecting bean seedlings against *Rhizoctonia*. A BNR-induced metabolite appears to suppress *Rhizoctonia* at the infection site. His published research is reported in about 100 papers.

One of Dr. Echandi's greatest contributions is as a graduate instructor and advisor in plant pathology. He taught a core course that covered principals and methods of plant pathology from 1974 to 1985. About 200 students completed this course. He also served as the major advisor for some 37 M.S. and Ph.D. students.

Dr. Echandi is an active member of the Asociacion Latinoamericana de Fitopatologia and of the Caribbean Division of APS. He was a pioneer in the organization of the Caribbean Division, in which he served as vice-president (1960–1963), president (1963–1964), and councilor (1965–1967); he has served as associate editor of *Phytopathology* (1971–1974), a member of the editorial board of *Turrialba, Revista de Biologia Tropical*, and *Plant Disease Reporter*, and as a member of several APS committees.

The Award of Merit for Distinguished Service to Tropical Plant Pathology from the Caribbean Division was presented to Dr. Echandi in 1973. Dr. Echandi's program embraces important aspects of both basic and applied plant disease research, and he is in demand as a consultant on Latin American agriculture. He was a leader in 1964 of the Pan-American Union Study Team to explore the possibility of establishing an agronomy school in the Dominican Republic. In 1972, he was chairman of a multidisciplinary group sponsored by USAID-University of California that studied and made recommendations for crop protection in Brazil, Uruguay, Bolivia, Ecuador, and the Dominican Republic.

## Gian L. Ercolani

**Gian Luigi Ercolani** was born in Bologna, Italy. After receiving his Doctor of Agricultural Science degree from the University of Bologna in 1959, he joined the university's Institute of Plant Pathology, first as postdoctor, then as research officer for the National Research Council of Italy. In 1964 he accepted a position at the Experiment Station for Food Preservation in Parma, where he worked for 2 years as research officer in the Laboratory for Industrial Sterilization of Food and 2 years later as the person responsible for the newly established Laboratory of Plant Pathology. In 1968 he was appointed assistant professor of plant pathology under Professor Antonio Ciccarone at the University of Bari, where he was named professor of microbial ecology.

Dr. Ercolani spent study leaves outside Italy, including 9 months as an Italian Ministry of Education fellow at East Malling Research Station, 4 months as a NATO senior postdoctoral fellow and 18 months as a visiting professor in the Department of Plant Pathology, University of Wisconsin, and 3 months as visiting professor in the Department of Plant Pathology, University of Minnesota. Consequently, several foreign colleagues have chosen Dr. Ercolani's laboratory for their study leaves.

After an early start in the epidemiology of fungal diseases and side effects of fungicides on fruit crops, Dr. Ercolani extended his research interests to phytobacteriology, with special emphasis on the conceptualization of plant infection by bacterial pathogens. The most significant part of his work has been on multiplication of phytopathogenic and other bacteria in vivo, titration of infectivity of bacterial plant pathogens, characterization of disease progress in bacterial infections of plants, and modeling of plant resistance to bacterial infection. Other subjects studied included effect of plant and weather factors on bacterial colonization of the phylloplane, importance of alternate hosts in the overwintering of epiphytic bacteria, role of aerosols in the establishment of bacterial colonization of the phylloplane, resistance of epiphytic bacteria to antibiotics and heavy metals, colonization of leafy vegetables by bacteria of medical significance, the numerical taxonomy of epiphytic bacteria, and problems associated with the diagnosis and nomenclature of bacterial plant pathogens.

Dr. Ercolani's teaching responsibilities have included basic courses in phytobacteriology (for which he published a 456-page textbook in 1968), agricultural microbiology, and microbial ecology. Dr. Ercolani has also taught postgraduate courses in Italy

and abroad. He presented invited lectures at American universities, including the universities of Wisconsin, Missouri, Minnesota, and California-Davis, and at Pennsylvania State University.

Dr. Ercolani has made invitational presentations and convened and chaired sessions at international meetings, including the first and second International Congresses of Plant Pathology and the first, second, fifth, and sixth International Conferences on Plant Pathogenic Bacteria. He served as secretary general for the 1970 NATO Advanced Study Institute of Phytotoxins in Plant Diseases and as a member of the Program Subcommittee for the Bacteriology Section of the Fourth International Congress on Plant Pathology. In 1977–1979 he was a member of the Steering Committee in the Laboratory of Radiobiology and Plant Ecophysiology of the National Research Council of Italy. As a member of the Committee on Biological and Integrated Control of the Commission of the European Communities, he was responsible for the development of the first CEC-sponsored program in biological control of plant pathogens, launched in 1981. In 1985 he was elected a member of the International Society for Plant Pathology Committee on Taxonomy of Phytopathogenic Bacteria. He is frequently consulted by national and international granting agencies about phytobacteriology research programs.

Dr. Ercolani is a member of the Association of Applied Biologists, American Society for Microbiology, Society for Applied Bacteriology, Society for General Microbiology, American Association for the Advancement of Science, and APS. He was associate editor for *Phytopathology* in 1978–1980.

## Chuji Hiruki

**Chuji Hiruki** was born on June 16, 1931, in Fukue, Nagasaki-ken, Japan. He received his B.Sc. and Ph.D. degrees from Kyushu University in 1954 and 1963, respectively. From 1954 to 1965 he served as a plant pathologist at the Hatano Tobacco Experiment Station, where he investigated several viruses that infect tobacco, among them the virus that causes tobacco stunt, a serious disease of tobacco in Japan.

His first and continuing research interest, which began in 1954, is fungus transmission of plant viruses. He and his colleagues discovered in 1956 that soil treatment with certain fungicides terminated soil transmission of tobacco stunt virus (TSV), whereas insecticides had no appreciable effect, suggesting that the virus was vectored by a fungus, a new concept at that time. These results stimulated further research by Dr. Hiruki and his colleages, which demonstrated a constant association of the chytrid fungus, *Olpidium brassicae*, with tobacco stunt. In 1964, Dr. Hiruki reported that zoospores of *O. brassicae* from roots of TSV-infected tobacco acquired tobacco necrosis virus, a known *Olpidium*-transmitted virus, in vitro, and that they transmitted both viruses to test plants. His definitive publication on transmission of TSV was published in 1965. Subsequent publications provided evidence of host specificity in TSV transmission of the fungus, as well as evidence for dual transmission of TSV and lettuce big vein virus by a lettuce isolate of *O. brassicae*.

After a postdoctoral fellowship at the University of Wisconsin, Dr. Hiruki accepted a faculty position at the University of Alberta, Edmonton, Canada, with responsibility for developing a graduate program in plant virology. He was closely involved in the development of a virus-free potato scheme, and his continuing interest in potato viruses culminated in the recent development of a viroid detection method employing RNA probes. Dr. Hiruki also developed an interest in viruses of leguminous forages in Alberta. An extensive investigation of sweet clover necrotic mosaic virus by him and his group of graduate students and postdoctoral fellows was instrumental in defining the dianthoviruses, a new group of soilborne plant viruses, in 1981.

Dr. Hiruki has also developed a keen interest in diseases caused by mollicutes, and was instrumental in developing histopathological methods of detecting these pathogens in woody hosts.

His efforts to utilize modern techniques in plant science have attracted young scientists from Canada and other countries to his laboratory. His research program, one of the most active in Canada, has been supported by federal, provincial, and industrial research grants. Dr. Hiruki and his group have published more than 100 research papers. During his tenure as chairman of the Graduate Studies Program in the Plant Science Department, which includes plant breeding, weed science, plant physiology and biochemistry, horticulture, range science, and plant pathology, the program has grown, and he has successfully fostered increasing interaction between the different subdisciplines. He was also instrumental in establishing the interdepartmental plant protection program at the undergraduate level in the Faculty of Agriculture and Forestry, of which he was the first chairman.

Dr. Hiruki, a member of APS since 1958, is also a member of several other scientific societies and working groups. He is an active member of the Plant Virology Committee of both APS and the Canadian Phytopathological Society. He has organized or chaired many sessions at international conferences and symposia and has presented numerous invitational papers on his research. He is a contributor and editor of "Tree Mycoplasmas and Mycoplasma Diseases" and recently published two reviews, one on the dianthoviruses and the other, with D. S. Teakle, on soilborne plant viruses. His excellence as a research scientist has been further recognized by his peers as he was a recipient of the Arthur Gilbert McCalla Research Professorship at the University of Alberta in 1987, the British Council Interversity Fellowship in Biotechnology in 1987, the Australian Government Visiting Senior Professorship in 1984, the Japan Society for the Promotion of Science Senior Research Professorship in 1978 and 1988, the Netherlands International Agriculture Center Senior Research Fellowship in 1972, and a Fulbright Exchange Fellowship in 1958.

## Sung M. Lim

**Sung Man Lim** was born in Sewon, Korea, July 13, 1934. He received a B.S. degree in agronomy in 1957 and an M.S. degree in 1959 from Seoul National University. From 1959 to 1961, he was a crop protection agronomist for the Korean Ministry of Agriculture and Forestry. He earned an M.S. degree in seed technology and botany from Mississippi State University in 1963 and a Ph.D. degree in crop science and plant pathology from Michigan State University in 1966. In 1967, he joined the Department of Plant Pathology, University of Illinois, Urbana, as a research associate, and was subsequently promoted to professor. In 1977 he joined the USDA-ARS as a research plant pathologist with the Crop Protection Unit at the University of Illinois.

During his 10 years with the University of Illinois, Dr. Lim conducted research on the genetics, physiology, and epidemiology of corn leaf diseases. His research on the host-pathogen relationships of corn and *Helminthosporium maydis* was instrumental in minimizing losses caused by the southern corn leaf blight epidemics of 1970 and 1971. One of his coauthored

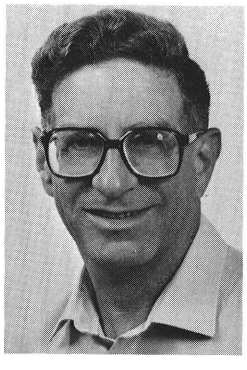
publications on southern corn leaf blight was named a Citation Classic of Current Contents as it was one of the most cited scientific papers in agricultural journals. Dr. Lim and his colleagues identified the susceptibility of *Cms*-T cytoplasm corn to *H. maydis* race T during the winter before the 1970 epidemic. Dr. Lim's discovery that southern corn leaf blight involved a host-specific pathotoxin produced by *H. maydis* race T led to a seedling bioassay that distinguished susceptible *Cms*-T cytoplasm corn in blended commercial seed lots. His isolation of a phytoalexin produced in monogenic resistant corn infected with *H. turcicum* provided the first evidence of a fungal-inhibitory chemical defense mechanism in monocotyledonous plants.

Since 1977 Dr. Lim's research has focused on genetic and epidemiological aspects of foliar, pod, and seed diseases of soybean. His research on the epidemiology of brown spot and bacterial blight of soybeans, the genetics of resistance to soybean mosaic virus and downy mildew, and integrated soybean pest management have defined the economic importance of these soybean diseases, and has provided methods by which they can be managed most efficiently and economically. Dr. Lim conceived and developed a soybean disease monitoring system in Illinois to define risk areas for prevalent diseases and to detect new diseases and new races of pathogens. He and his students uncovered serious defects in models used extensively by plant pathologists to characterize disease progress, and subsequently proposed new parameters to characterize more accurately the development of epidemics.

As a teacher, Dr. Lim developed and taught the first course on plant disease epidemiology at the University of Illinois. He is especially dedicated to the service of students and colleagues. In the past 5 years, he has served on the graduate student committees of 30 Ph.D. and 18 M.S. students in plant pathology and agronomy. He has a unique ability to instill in others a determination to make research in plant pathology useful in solving disease problems.

Dr. Lim has served as associate editor of *Plant Disease* and associate and senior editor of *Phytopathology*. He has received the Distinguished Scientist Award from the Korean Ministry of Science and Technology and the Soybean Researcher's Recognition Award from the American Soybean Association and ICI Americas.

## Gad Loebenstein



**Gad Loebenstein** was born on February 17, 1929, in Berlin, Germany. He studied in the Faculty of Agriculture, Hebrew University, Rehovot, from 1949 to 1953 and obtained an M.Sc. degree in agriculture (with distinction) in 1954. In 1960 he was awarded a Ph.D. degree from Hebrew University for his research on virus diseases of sweet potato and was subsequently appointed head of the Virus Laboratory at the Volcani Institute of Agricultural Research at Bet Dagan. From 1981 to 1986 he was director of the Agricultural Research Organization and chief scientist of the Ministry of Agriculture. He is currently head of the Department of Virology at the Volcani Institute.

A member of APS since 1959, Dr. Loebenstein's contributions to plant pathology and plant virology have been significant and diverse. He was one of the early workers who studied the phenomenon of virus-induced acquired resistance. This form of resistance is expressed in hypersensitive plants previously inoculated with a necrosis-inducing virus. Challenge inoculation of leaves expressing local lesions usually results in a marked decrease in susceptibility in a narrow band of tissue surrounding these lesions (local acquired resistance) or to a reduction in size and/or number of local lesions induced upon inoculation of leaves above previously inoculated leaves (systemic acquired resistance). An important paper coauthored with A. F. Ross in 1963 associated systemic acquired resistance to tobacco mosaic virus (TMV) in *Nicotiana glutinosa* and *Datura stramonium* with a proteinlike compound that could be extracted from uninoculated leaves following inoculation of lower leaves with TMV. Subsequent studies by Dr. Loebenstein and his group established that the induction of induced resistance could be inhibited by treatment of leaves with actinomycin D and chloramphenicol, neither of which inhibited TMV replication, indicating that induced resistance required transcription of host genes.

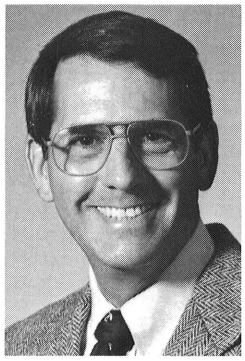
More recently, Dr. Loebenstein and his group have concentrated on the characterization of an inhibitor of replication (IVR), which can be extracted from leaves (or released from protoplasts into the growth medium) of hypersensitive plants (e.g., *N. tabacum* cv. Samsun NN) that have been inoculated with TMV. IVR does not affect the infectivity of TMV; it is a true inhibitor of TMV replication in infected cells. Its production in hypersensitive plants inoculated with TMV is inhibited by actinomycin D and chloramphenicol. Properties of an IVR from cucumber mosaic virus-infected tobacco are currently under investigation. The research on IVR may portend new approaches to the control of plant virus diseases as well as provide the opportunity to investigate the basis of resistance to viruses in plants.

Aside from fundamental contributions to the literature on virus resistance, Dr. Loebenstein has been instrumental in the development and application of ELISA for rapid diagnosis of virus diseases of horticultural and floricultural crops in Israel. A marked achievement was control of citrus tristeza, a major disease of citrus. In 1964 Dr. Loebenstein initiated studies on the virus, its concentration and distribution in host plants, and vector transmission. The resulting publications laid the foundation for the development of suppression programs that limited spread of the virus in Israel. Dr. Loebenstein and his colleagues collaborated with the Floriculture Division of the Volcani Institute to establish a major flower industry in Israel, using virus-tested starting material. Other contributions have resulted in the application of ELISA to the detection of nonpersistent viruses in their aphid vectors with the objective of understanding the epidemiology and ecology of these viruses in Israel.

Dr. Loebenstein has published more than 90 research papers in English-language journals, including *Phytopathology* and *Plant Disease*, and another 60 papers have been published in Hebrew, primarily in *Hassadeh*. As one of his colleagues has eloquently stated, "Gad Loebenstein is one of the fathers of plant virology in Israel, its guiding spirit and principal builder." He has truly exemplified the possibility of developing a balanced program of both basic and applied research.

Dr. Loebenstein has been singularly honored many times in his illustrious career. He received the Rothschild Prize in Agriculture in 1982. He has been invited to speak at numerous international symposia (EMBO, NATO, UCLA), congresses, conferences, and virus laboratories worldwide on the subject of virus resistance in plants. He is the author of a review on the subject and has contributed chapters to five books on plant virology and plant resistance to pathogens. He has participated on many awards and grant review bodies, including the Israel Binational Agricultural Research and Development Fund. He recently completed a 5-year term on the Scientific Council of the Istituto di Fitovirologia Applicata, Torino. He holds the rank of adjunct professor at Tel Aviv University (microbiology) and at Hebrew University (agriculture). He is currently a member of the editorial board of *Physiological and Molecular Plant Pathology*.

## Donald C. Ramsdell



**Donald C. Ramsdell** was born December 28, 1938, in Yuba City, CA. He was raised near Biggs, CA, where he worked on his parents' prune and walnut orchard. He completed his undergraduate education at the University of California, Davis, where he obtained a B.S. degree in pomology in 1960. He continued his graduate study at the university, where he completed his M.S. and Ph.D. degrees in plant pathology in 1970 and 1971, respectively. His dissertation was on the systemic movement of benomyl and its breakdown products in almond blossoms in relation to the control of brown rot. This research was conducted under the guidance of Professor J. M. Ogawa.

He worked as an agricultural chemical sales representative for 4 years and farmed orchard crops for 3 years before beginning his graduate education. Following graduation he was appointed assistant professor in the Department of Botany and Plant Pathology at Michigan State University in 1972. He was promoted to associate professor in 1975 and to professor in 1980. Dr. Ramsdell has a dual research and extension position and is responsible for diseases of small and stone fruit crops and especially their viral diseases.

A sabbatical leave in 1978–1979 was spent with Dr. Richard Stace-Smith at the Agriculture Canada Research Station, Vancouver, where they characterized blueberry shoestring and blueberry leaf mottle viruses. In cooperation with the Michigan Department of Agriculture, he established a virus-tested raspberry and blueberry clean stock program. For these accomplishments, Dr. Ramsdell became the first recipient, in 1980, of the APS Lee M. Hutchins Award for excellence in fruit virus and viruslike disease research.

Dr. Ramsdell has continued to achieve recognition for his research and extension activities. On the blueberry shoestring disease, he and his colleagues developed an ultrasensitive serological test and demonstrated that the aphid, *Illinoia pepperi*, is a vector. Using radioimmunoassays of aphids following experimental feedings on diseased plants, they showed that the virus probably has a semipersistent relationship with its aphid vector. To locate the shoestring virus in its aphid vector, they used the scanning electron microscope autoradiography technique, a procedure that could have broad application in other biological studies. As a result of these studies, well-timed aphicide sprays in the field have greatly reduced disease spread. This virus research resulted in his writing three CMI/AAB descriptions: 1) blueberry shoestring virus (no. 204); 2) the blueberry leaf mottle virus (no. 267) (coauthored with Dr. R. Stace-Smith), which is a putative nepovirus of immense interest in that it was shown to be both within and on the surface of pollen grains (this led to the demonstration of bee-mediated field transmission); and 3), the blueberry red ringspot virus (in press) (coauthored with J. M. Gillett), a caulimolike virus with a dsDNA genome.

Dr. Ramsdell and his colleagues' comprehensive research on mummyberry disease (*Monilinia vaccinii-corymbosi*) of highbush blueberry related dynamics of spore liberation to host susceptibility at different phenological stages to provide appropriate timing of fungicide applications. Other diseases of this crop that were studied with the development of control measures were Phomopsis canker and Fusicoccum canker.

On grape, Dr. Ramsdell is recognized for his research on the epidemiology and control of the peach rosette mosaic disease of the Concord grape cultivar. A nematode (*Xiphinema americanum*) was found to be the vector and the virus was shown to be seedborne in both dandelion and grape. This finding halted the processor practice of giving the growers grape pomace to spread in their vineyards. He and Dr. G. W. Bird also developed the use of deep and shallow soil fumigation after removal of diseased vines to prevent further spread of the disease. As a result of research with Eutypa canker of grapevine, he and colleagues showed that ascospores of the causal fungus are ejected during the winter when snow melts or light precipitation occurs and that new pruning wounds are susceptible to infection during the entire winter season. In other research, inoculum release and infection periods of the black rot fungus have been developed and used as disease predictors to aid in the application of effective control measures.

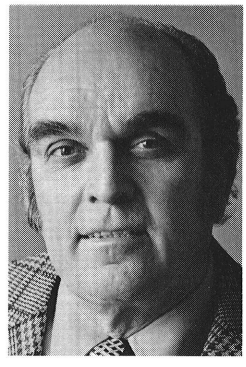
The most recent accomplishment of Dr. Ramsdell and his colleagues was the development of an antiserum to the flexuous rod virus (closterovirus) from green ring mottle disease of cherry and peach, which will facilitate ELISA detection of this virus on a worldwide basis.

Dr. Ramsdell has authored or coauthored more than 110 research articles including feature articles for *Plant Disease*, a chapter in the "Compendium of Grape Diseases," book chapters on "Replication, Translation and Assembly of Nepoviruses," "ELISA Tests for Pome Fruit Viruses," and "The Nepoviruses of the Americas." He was also the "Vacinnium" section editor of the USDA Handbook No. 631, "Virus and Virus-Like Diseases of Small Fruits."

Dr. Ramsdell has participated in the teaching of a plant virology course that is recognized for its rigor and excellent laboratory exercises. He also has been a visiting lecturer in several plant pathology courses in other states. He has trained 15 graduate students who are currently distinguishing themselves in their respective specialties.

Dr. Ramsdell's university and public service encompasses activity in the departmental and campus committees and national and international groups. He has served on the APS Epidemiology and International Cooperation committees, was chairman of the Virology Committee, served as associate editor of *Plant Disease*, and was elected to serve 3 years as councilor-at-large on the APS Council. He is secretary of the Small Fruit Crop Virus Working Group and is on the board of the Tree Fruit Virus Working Group of the International Society for Horticultural Science.

## John F. Schafer



**John Francis Schafer** was born February 17, 1921, in Pullman, WA. He attended Washington State University, receiving a B.S. degree in plant pathology in 1942. He served in the U.S. Army from 1942 to 1946, and then attended the University of Wisconsin where he received a Ph.D. degree in plant pathology and agronomy in 1950.

He was appointed assistant professor, Department of Plant Pathology, Purdue University, in 1949, advancing to associate professor in 1952 and professor in 1958. He was visiting professor at Duquesne University in 1965–1966, became professor and head of the Department of Plant Pathology, Kansas State University, in 1968 and chairman of the Department of Plant Pathology, Washington State University, in 1972. He took a temporary assignment in 1980 as integrated pest management coordinator, Science and Education Administration, USDA; became acting national research program leader in plant pathology and nematology, Agricultural Research Service, USDA, in 1981; and supervisory research plant pathologist and research leader, Cereal Rust Laboratory, ARS, with adjunct appointment as professor in the Department of Plant Pathology, University of Minnesota, beginning in 1982. Dr. Schafer retired from the USDA-ARS in 1987 but continues to serve as collaborator on special projects for

the Cereal Rust Laboratory.

Dr. Schafer's contributions to research have been largely in the development and understanding of resistance to rusts in small grains. During his 19 years at Purdue, he was co-leader of a team that released 30 disease-resistant cultivars of small grains. These releases, which included cultivars of barley, oats, and wheat, contributed greatly to the increase in acreage and production of small grains in the eastern United States. Wheat cultivars for which he participated in the development of, including widely grown Arthur and Redcoat, occupied 82% of the soft red winter wheat acreage in the United States by 1974 and were resistant to stem rust, leaf rust, powdery mildew, loose smut, soilborne wheat mosaic, and hessian fly.

Dr. Schafer helped pioneer the concept of cultivar diversity and regional deployment to increase durability of resistance against development of new pathogen races and the use of host-plant tolerance as a means to limit the effects of disease. These strategies were used effectively in the wheat and oat releases from the Purdue program and are now widely accepted as fundamental for increasing durability of deployed resistance. Dr. Schafer also demonstrated that certain broadly effective genes in wheat for leaf rust resistance could be combined to obtain higher levels of resistance than expressed in either parent.

His work on cereal smuts showed how various genes for resistance in wheat were expressed histologically, providing an important tool for identifying genes in breeding lines. He demonstrated with barley covered smut that hormonal effects on seedlings were independent of resistance or susceptibility and helped show that leaf rust has a hormonal-like effect that contributes to mobilization of nutrients at infection sites. While on sabbatical leave at Duquesne University, he participated in ultrastructural investigation of stem and leaf rusts, showing that lomasomes formed in host cells in response to infection. At the Cereal Rust Laboratory, Dr. Schafer resumed research on wheat leaf rust and coauthored a paper that established a theoretical basis for pyramiding genes for durable resistance to stem rust.

Dr. Schafer briefly taught undergraduate plant pathology at the University of Wisconsin and Kansas State University. He also taught the general graduate course in plant pathology at Purdue University for many years.

At Kansas State University, Dr. Schafer served as chairman of the Cereal Crops Task Force of the Kansas Agricultural Experiment Station, generating a program on wheat streak mosaic resistance and coordinating the work at Manhattan and Hays, KS, among pathologists, breeders, and entomologists to develop disease- and insect-resistant wheats. A remote-sensory program was also initiated by Dr. Schafer at Kansas State, providing a new research thrust into aerial and satellite surveys of wheat disease and other crop conditions. At Washington State, Dr. Schafer obtained initial funding for new research programs on barley yellow dwarf virus, dwarf bunt of wheat, leaf rust of wheat, and biological control of skeleton weed; faculty positions were established in plant virology and plant bacteriology with appropriate laboratory facilities. Through his role as research leader of the ARS Cereal Rust Laboratory at the University of Minnesota, the laboratory's research in wheat leaf rust was enlarged; he facilitated new initiatives in molecular biology of rusts, obtained increased funding from ARS, and took a leading role in coordinating cereal rust research in the United States.

Dr. Schafer served as APS councilor-at-large from 1973 to 1976, vice-president from 1976 to 1977, and president from 1978 to 1979. One of his accomplishments as president was to help launch *Plant Disease* as a new journal of the Society. He served the North Central Division as vice-president from 1962 to 1963, president from 1963 to 1964, and councilor from 1970 to 1972. He has served on numerous APS committees, including Genetics, Public Responsibilities, and International Cooperation, and chaired local arrangements for the 1964 annual meeting and the program for the 1978 annual meeting. He also served as secretary and chairman of the Intersociety Consortium for Plant Protection.

## Hong-ji Su

**Hong-ji Su** was born on March 31, 1930, in Pingtung, Taiwan, Republic of China. He received a B.S. degree in 1954 and an M.S. degree in 1958 at the National Taiwan University under the guidance of Professor T. Matsumoto. He earned a Ph.D. degree in plant pathology from Michigan State University in 1963 under Professor W. J. Hooker. Dr. Su joined the Department of Plant Pathology and Entomology at the National Taiwan University in 1958 as instructor and became associate professor in 1964 and professor in 1970. From 1965 to 1972 he held a joint appointment with the Sino-USA-Joint Commission on Rural Reconstruction as senior specialist in charge of solving the disease problems affecting Taiwan's agriculture. Recently he has been appointed head of the Department of Plant Pathology and Entomology.

His more than 70 research articles cover a broad range of diseases on a variety of crops, including banana, citrus, rice, and vegetables. His contributions to plant pathology and agriculture in Taiwan included the establishment of the Taiwan Banana Research Institute in which he became intimately involved. On bananas, an important export commodity, Dr. Su diagnosed the cause of yield reduction, considered by horticulturists to be a natural senescence process, as the black Sigatoka disease (*Mycosphaerella fijiensis* var. *difformis*). This discovery led to the development of an effective control program using aircraft fungicide applications based on a forecasting system involving weather conditions and inoculum density. Dr. Su also discovered a new biotype (race 4) of *Fusarium oxysporum* f. sp. *cubense* that attacks the Cavendish cultivar, which is resistant to other races. He developed a rapid monitoring system for detection of race 4 by using banana plantlets from tissue culture and a specialized medium for culturing. Effective disease control was attained by rotation of bananas with paddy rice. A *Plant Disease* feature article on "Fusarial wilt of Cavendish bananas in Taiwan" provides an excellent example of the research done by Dr. Su and his co-workers. The cause of another banana disease he investigated, a disorder showing bunchy top symptoms, had eluded researchers since 1889 and had become the most destructive disease of this crop. Under the supervision of Dr. Su, a luteovirus was purified and identified as the causal agent. A diagnosis and indexing method was primarily accomplished by him and his co-workers through preparation of monoclonal antibodies against the bunchy-top virus. In recognition of this distinguished research accomplishment, Dr. Su was awarded the Distinguished Research Award in 1986 by the National Science Council in Taiwan.

Dr. Su also developed a forecasting system to combat rice blast as well as diseases caused by viruses and mycoplasmalike organisms by establishing stations in each of 50 counties. He introduced a coordinated control program that involved the use of helicopter-applied pesticides. Dr. Su was the first to isolate a spiroplasma from the green leafbug, bees, and beetles in Taiwan. He showed that citrus decline, or Likubin, was caused by fastidious bacteria rather than by the tristeza virus as previously believed. Antibodies for the new spiroplasmas were developed from tumorous ascites of mouse intraperitoneally immunized with spiroplasmas; these antibodies had a higher titer and were more specific than those produced in rabbit serum. An egg yolk medium for mass production of spiroplasmas for serological and physiological studies was also developed. Dr. Su was awarded the Outstanding Research Achievement Award in 1983, given by the Ministry of Education in Taiwan for his distinguished accomplishments in spiroplasma research.

Dr. Su has participated actively in the academic program of the National Taiwan University where he teaches two courses per

semester on a broad range of subjects, including general plant pathology, plant pathological technqiues, plant pathogenic organisms, and plant virology. He has supervised the research of 25 M.S. and 10 Ph.D. degree candidates in addition to several undergraduate students.

Dr. Su has been very active in professional societies, both national and international. He has served as president of the Plant Protection Society of the Republic of China in 1967. He organized the ROC-USA Cooperative Seminar on Mycoplasma Diseases of Plants held in Taipei in 1978 and the ROC-USA symposium and workshop on Hybridoma Technology in Agricultural Sciences held in Taipei in 1984.

Scientists and students have gained the distinct impression that Dr. Su, one of the preeminent Asian plant pathologists, has come to be looked upon as a father figure in plant pathology in Taiwan, perhaps succeeding his teacher, the late and much respected Professor Matsumoto, in this regard.

## Ivan J. Thomason

**Ivan J. Thomason** was born in Burney, CA, on June 27, 1925. He graduated from the University of California, Davis, in 1950 with a B.S. degree in plant science, majoring in agronomy. His M.S. and Ph.D. degrees, both in plant pathology, with additional emphasis in plant breeding, were earned at the University of Wisconsin in 1951 and 1954.

Dr. Thomason began his career in plant pathology while he was an undergraduate laboratory assistant at the University of California, Davis. His employment on March 1, 1954, at the University of California, Riverside, was initially as a senior lab technician in the Department of Plant Pathology, but upon award of his Ph.D. degree in June 1954 he was promoted to junior nematologist. On July 1, 1954, the first Plant Nematology Department in the United States was established by the University of California, and he was transferred to that unit. He then advanced rapidly through the academic ranks to full professor in 1967. Dr. Thomason holds a joint professorial appointment in the departments of nematology and plant pathology.

Dr. Thomason's contributions to science have been in a broad spectrum of nematology and plant pathology. Much of his early work was on the biology and ecology of nematodes, including the effects of temperature, moisture, and other factors on the development, reproduction, and survival of plant-parasitic species. For many years, he was the only scientist assigned to nematode problems on field and vegetable crops in southern California. His research on these crops led to the development of effective and economical chemical control procedures for root-knot and other nematodes. Dr. Thomason is especially well known for his work on the behavior of nematicides in soil and their mode of action.

He assisted plant breeders in identifying new sources of nematode resistance and in developing important new cultivars with resistance. His work on resistance included the detection of "resistance-breaking" pathotypes and clarification of the nature of resistance to nematodes. He developed an effective management scheme for control of the sugar beet nematode in the Imperial Valley, which has also been applied to other areas of California.

Dr. Thomason served as chairman of the Nematology Department from 1963 to 1969. He also served in other administrative roles, including assistant state director of the Cooperative Extension Service from 1976 to 1979, and assistant director of the Statewide Experiment Station and program director of the Statewide Integrated Pest Management Program for the Division of Agricultural Sciences of the University of California from 1978 to 1982. He is known worldwide for his many contributions to the area of pest management.

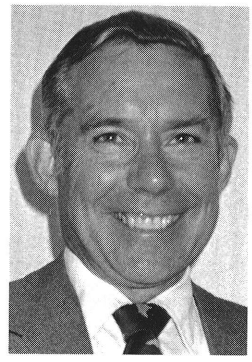
Dr. Thomason has served plant pathology extensively in numerous national and international capacities. He served on the USDA-CSRS sponsored reviews of plant pathology at Cornell, Texas A&M, and Arizona State universities. He was elected vice-president (1974–1975) and president (1975–1976) of the Society of Nematologists. He has served on the new Fungicides and Nematicides Committee and has chaired several APS committees: Nematology, Advisory Committee to American Type Culture Collection, and Plant Disease Losses. From 1972 to 1975 he was chairman of the Society of Nematologists committee to develop nematicide testing methods. He was invited to participate in committees of the International Society of Plant Pathology (Disease Losses, 1977–1979, Disease Appraisal and Loss, 1973) and the Intersociety Consortium for Plant Protection (ISCPP) (1979–1980). In the fall of 1971 he served on a USAID-sponsored study team that prepared a report on the status of pest management research and education in Southeast Asia. Later he chaired a University of California study team to investigate pest management research in Egypt. He has served as chairman of a doctoral examining committee at Hassan II University, Rabat, Morocco.

Additional professional service includes participation on the National Academy of Sciences subcommittee on nematodes (1964–1967), chairman of the research subcommittee of Governor J. Brown's pest response task force (1971–1972), and service in the CAST task force on sources of pollution due to agricultural activities (1973–1974). He was a co-organizer of the International Citrus Symposium in Riverside, CA. He is a member of APS, Society of Nematologists, European Society of Nematologists, Organization of Tropical American Nematologists, American Society of Sugarbeet Technologists, Gamma Sigma Delta, Sigma Xi, and Alpha Zeta.

The contributions of Dr. Thomason to graduate education have been very significant. He developed and taught courses on nematode diseases of plants as well as in plant pathology and pest management. He chaired the pest management M.S. program at UCR for 5 years. He served on the graduate affairs committee of the Plant Pathology Department for many years and chaired this committee in the Nematology Department. He served as advisor for a number of graduate students and worked with several postdoctoral fellows and visiting scientists at Riverside.

Dr. Thomason's scientific contributions to the ecology and management of nematodes are described in a list of publications that contains over 100 full-length communications. In recognition of his many accomplishments, Dr. Thomason was elected a fellow of the Society of Nematologists in 1983.

## Billy G. Tweedy



**Billy G. Tweedy** was born on December 31, 1934, in Cobden, IL. He was awarded the B.S. degree in horticulture from Southern Illinois University in 1956. He undertook graduate studies in plant pathology at the University of Illinois, receiving an M.S. degree in 1959 and a Ph.D. in 1961.

From 1961 to 1965, Dr. Tweedy served as research plant pathologist with the Boyce Thompson Institute, undertaking studies on the biochemistry and physiology of fungal disease and on mechanisms of action of fungicides. During that time he also taught general biology at Hunter College of the City

University of New York.

Dr. Tweedy joined the faculty in plant pathology at the University of Missouri, Columbia, as an assistant professor in 1965 with extensive undergraduate and graduate teaching responsibilities. He also initiated a significant program of research pertaining to the mechanisms of action of fungicides and for the fate of pesticides in the environment. Dr. Tweedy was promoted to associate professor in 1968 and to professor in 1973. He is the author of 23 publications in refereed journals and books, and he has made more than 50 presentations in university seminars and national and international meetings.

While on leave from the University of Missouri in 1971–1972, Dr. Tweedy joined the Cooperative State Research Service of the USDA in Washington, DC, as principal plant pathologist. While in this position he served on the President's Task Force on Polychlorinated Biphenyls, as liaison person to the Office of Pesticide Programs of the Environmental Protection Agency, and as a member of the Federal Working Group for Pesticides.

In 1973, Dr. Tweedy was appointed manager of residue investigations, Department of Biochemistry, CIBA-Geigy Corporation, Greensboro, NC. He advanced to the position of director of the Department of Biochemistry in 1978, a position he still holds. He is responsible for directing studies pertaining to the nature of and levels of pesticides in plants, animals, and soil.

Dr. Tweedy is a member of APS and has served on a number of subject matter and standing committees, including Chemical Control, Epidemiology, New Fungicide and Nematicide, and Sustaining Associates (chairman). He presently serves as vice-chairman of the board of directors, member of the Executive Committee, chairman of the Annual Giving Programs, and chairman of the "Genesis" Award Program of the APS Foundation. In addition, Dr. Tweedy has served as a member of the Diamond Jubilee Special Committee and as associate editor of *Phytopathology*. He also is a member of the American Chemical Society and the Weed Science Society of America.

Dr. Tweedy has served as a member of the standing committee of the International Congress of Plant Protection since 1979. From 1975 to 1979 he served as a member of the Executive Committee and was chairman of the Organizing Committee for the IXth International Congress of Plant Protection in Washington, DC, in 1979. He was the project leader for the US/USSR Exchange Program on integrated pest management for more than 9 years and visited the USSR six times in that capacity. He also led the Integrated Pest Control Delegation to the People's Republic of China in 1980.

In 1979, Dr. Tweedy received the U.S. Secretary of Agriculture's Agriculture's Adventurers Award, and he was named Outstanding Alumnus of the College of Agriculture of the Southern Illinois University in 1980.