

Fellows of The American Phytopathological Society

Eleven members of The American Phytopathological Society were elected Fellows of the Society at the 1973 Annual Meeting in Minneapolis, Minnesota, held during the Second International Congress of Plant Pathology. Election as a Fellow of the Society is a reflection of the high esteem in which each is held by his colleagues. The award is given in recognition of outstanding contributions in extension, research, teaching, or other related activity to the science of plant pathology, to the profession or to the Society.



ERNEST VICTOR ABBOTT was born in Ashland, Oregon, in 1889. He served in the US Army during WWI. Later he obtained his BS degree with honors from Oregon State University and his MS and PhD degrees were earned from Iowa State University in 1923 and 1925, respectively.

Subsequently he held positions at the Louisiana Agricultural Experiment Station, Iowa State University and the La Molina Experiment Station in Lima, Peru.

In 1930 he was appointed Research Plant Pathologist at the US Sugar Cane Field Station, Houma, Louisiana. Sugar cane diseases were ravaging the sugar cane industry and some plantations could be bought for taxes. Dr. Abbott developed techniques for conducting disease resistance tests on thousands of hybrid seedlings produced in the USDA's sugar cane breeding program, from which commercial types resistant to mosaic, red rot and root rot were selected that restored the industry. Some years later, when mosaic appeared in the commercial canes originally highly resistant to the disease, he identified new strains of sugar cane mosaic virus involved, and screened a wide range of forms of *Saccharum* to find sources of resistance for use in breeding.

Dr. Abbott's studies of red rot disease showed the existence of races of the causal fungus and their relation to varietal failures. The disease was brought under control by replacing susceptible with resistant varieties. He identified chlorotic streak and ratoon stunting diseases of sugar cane in the US and developed control measures. The results of his work were used in many other countries. In 1957 he received the USDA Superior Service Award.

Because of his own research on sugar cane diseases, because of his influence on the research of others and because of his co-authorship of two books on sugar cane diseases, Dr. Abbott was recognized as a world authority on the subject. During his career his advice on technical aspects of growing sugar cane was sought by the governments of Peru, Colombia, British Guiana, Mexico, Formosa and the Philippines.

From 1950 until retirement in 1966 Dr. Abbott served as Superintendent of the Houma Station.



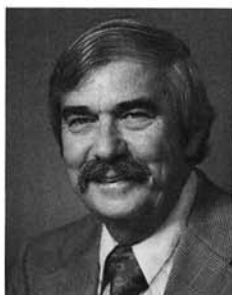
GEORGE MILLER ARMSTRONG was born November 13, 1893 in Appleton, South Carolina. He received the BS degree from Clemson College, the AM from Wisconsin, and the PhD from Washington University in St. Louis. He was Assistant Pathologist, USDA from 1918-19 and Assistant Professor in the Shaw School of Botany,

Washington from 1921-24 before he joined Clemson College in 1924. He served as Head of the Department of Botany and Plant Pathology at Clemson from 1928-56, and retired as Professor Emeritus in 1958. He has remained active and since July 1969 has been Research Associate, Department of Plant Pathology, Georgia Agricultural Experiment Station.

Dr. Armstrong is a recognized authority on *Fusarium* wilt diseases of plants. His work, which has extended over a period of more than 40 years, has clarified the complex interrelationships among host cultivars and races of *Fusarium*. He served as Head, Department of Botany and Plant Pathology, at Clemson for 28 years. Under his leadership the number of staff members quadrupled and a graduate program was initiated. In addition, he served from 1924 to 1928 as Head, Division of Boll Weevil Control, South Carolina Experiment Station.

Over a period of 30 years, Dr. Armstrong taught courses in plant physiology, vegetable diseases, field crop diseases, general plant pathology, and research methods. Before the inception of a graduate program at Clemson, six of his students obtained PhD degrees in plant pathology at other institutions.

Dr. Armstrong has served several scientific organizations in many capacities. He has been President of the Southern Division of APS, a member of the APS Council, and served two terms on the editorial board of *Phytopathology*. He has been Chairman of the Cotton Disease Council, which he helped to organize, Chairman of the Tobacco Workers Conference, and President of the South Carolina Academy of Sciences. He participated as a panelist at an International *Fusarium* Workshop, University of Manchester, in 1968. He is listed in *Who's Who*, *Leaders in American Science*, *Who's Who in American Education*, and the *National Register of Prominent Americans and International Notables*.



GORDON A. BRANDES was born January 29, 1915 in LaMoure, North Dakota. He received the BS degree from North Dakota State Agricultural College in 1938 with a major in Botany. He was employed as a Range Examiner and Conservationist by the US Soil Conservation Service for five years following his graduation. He was Warehouse

Manager for Potato Sales Company, East Grand Forks, Minnesota for two years and from 1945 to 1947 he was Research Director for Agsco Chemical Company, Grand Forks, North Dakota.

From 1947 to 1972 Gordon Brandes was employed by Rohm and Haas as a member of its Agricultural and Sanitary Chemical Department, and there became Agricultural Product Development Manager. In 1972 he retired from Rohm and Haas and accepted the position of Manager of the Morris Arboretum of the University of Pennsylvania, Philadelphia.

Gordon played an active role in the development of the Dithane fungicides and Karathane as well as several herbicides and insecticides. He has been particularly concerned with aerial application of fungicides and pioneered this method of utilization. He is the author of numerous articles on aerial spraying and of a manual on the aerial application of Dithane fungicides and of a herbicide for rice. He was the Senior Editor of *Compendium of Plant Diseases*, an unusual reference in plant pathology with 125 four-color plates, published by Rohm and Haas. Recently, he has contributed a chapter "Advances in Fungicide Utilization" to the Annual Review of Phytopathology, Volume 9, 1971. In this article he cites a number of his publications.

Gordon Brandes has been unstinting in the time and effort he has given to the affairs of our Society. He was a discussion leader at our Golden Jubilee Meeting in 1958. He served as Secretary-Treasurer 1958, Vice President 1959 and President 1960 of the Northeast Division and Society Counselor 1961-62.

Since 1958, Gordon has served continuously on one or more of the committees of our Society as follows: Extension, Industry Representative 1958-68; New Fungicide and Nematicide Data 1960-66; Awards and Honors 1962-63; Sustaining Associates 1967-70; Industry, Chairman 1967-72; Program 1967-71; Building, National Headquarters 1970-71; Finance, National Headquarters 1971-72; and Local Arrangements for the Philadelphia Meeting, Banquet Chairman 1971. Currently Mr. Brandes has continued his service to plant pathology as a member of Committees of the 2nd International Congress of Plant Pathology St. Paul, Minnesota in 1973 and as Chairman of one of the symposia. Gordon has devoted much time and effort to applied plant pathology. He has participated in a number of Extension Pathologist's Workshops, in international conferences on fungicide research and development in Europe, Canada and the United States and has been an invited speaker at numerous meetings of plant

pathologists and other plant scientists such as the Inter Regional Conferences of wheat workers and corn workers.



THEODOR OTTO DIENER was born February 28, 1921, in Zurich, Switzerland. His formal education in Switzerland included the Diploma of Natural Sciences in 1946 and the Doctor of Natural Sciences in 1948 from the Swiss Federal Institute of Technology. He held a position as Plant Pathologist in Wädenswil, Switzerland in 1948-49. In 1949

he came to the United States to serve as Assistant Professor of Plant Pathology at the State College of Rhode Island at Kingston. From 1950 to 1959 he was Plant Pathologist at the Irrigated Agricultural Research and Extension Center, Washington State University, Prosser, Washington. In 1959 he joined the staff of the newly-formed Plant Virology Pioneering Research Laboratory, US Department of Agriculture, Beltsville, Maryland.

Dr. Diener's outstanding research is directed toward problems of viral pathogenesis. His many contributions have included studies on interaction of stone fruit viruses with their hosts, diagnostic tests for latent virus infections, nucleic acid metabolism of virus-infected plants, effect of virus synthesis on plant enzyme systems, and development of methods for isolating plant constituents produced in response to virus infections. His recent work has provided a key that could unlock many of the mysteries surrounding some serious diseases of plants and animals. This work shows that the agent of the potato spindle tuber disease, called "viroid", is a replicating RNA with a molecular weight much lower than that of viruses. Similar unique agents have now been identified for other plant diseases, such as citrus exocortis and chrysanthemum stunt.

Dr. Diener has served on the APS virology committee, and currently he is completing a 5-year term on the editorial committee of Annual Review of Phytopathology. From 1964 to 1971 he was Editor of Virology. In 1968 he shared the AIBS-Campbell Award for research on the potato spindle tuber disease. The US Department of Agriculture presented him its Superior Service Award in 1969. Because of the clarity of his presentations and the importance of his message, Dr. Diener has been invited to discuss his innovative research at many institutions around the world. His appearances have ranged from that of a Regents' Lecturer at the University of California to that of a visiting scientist at the Max-Planck Institute for Virus Research, Tubingen, Germany.



RICHARD MALCOLM LISTER, Professor of Plant Pathology, Purdue University, was born in Sheffield, England, in 1928. After obtaining a BS from the University of Sheffield and diplomas in agricultural science at Cambridge and Trinidad, he worked for four years in West Africa on cocoa swollen shoot. Later he did research in Cadman's laboratory

which led to a PhD from the University of St. Andrews in 1964. He joined Purdue immediately afterwards.

Dr. Lister's studies in Scotland established the important correlation between seed and nematode transmission in a group of polyhedral viruses. At Purdue he succeeded in the mechanical transmission of apple viruses to herbaceous plants and in isolating and characterizing the main groups of filamentous viruses of apple. He exploited rapid serological diagnostic methods for these viruses in indexing programs and demonstrated that one group of the apple viruses had unique structural properties. Dr. Lister also showed that tobacco streak virus is composed of spherical particles of different sizes; this provided the first demonstration of size differences in particles of a spherical plant virus and yielded significant information on virus structure.

Dr. Lister's most outstanding contribution has been development of the multicomponent concept of plant viruses. It was clear in the early 1960's that tobacco rattle virus usually produced long particles and short particles in each infection but the significance of this was not understood. Dr. Lister demonstrated that inoculations with only the long particles produced infections in which copies of the RNA of long particles were replicated—but without coat protein. Although inoculations with only the short particles produced no infections, he showed that the inclusion of short particles in inoculum was necessary to produce coat protein and coated virus particles of both lengths. He suggested that the RNA of the long particles lacked the genetic information required for coating viral RNA and that the RNA of short particles contained such information but lacked information essential for initiating infection. His hypothesis, advanced in 1966, contains the essential elements of our current understanding of several kinds of multicomponent plant viruses in which genetic information necessary for complete virus expression is normally present in two or more nucleoprotein particles. Later he carried out a series of genetic experiments with components of different strains of tobacco rattle virus which established the location of other genes on the short and long particles and provided convincing evidence of the validity of his hypothesis. Essentially confirmatory results have been obtained by others with the same and other viruses. Until Dr. Lister's work on tobacco rattle virus, discussions of similar phenomena in various plant viruses were based on the concept of the normal virion as a single, uniform, infective particle and particles departing from this were regarded as defective. The various nucleoprotein particles of multiparticulate plant viruses are now widely regarded as normal particles of a virus species with positive rather than defective attributes.



ROY LEONARD MILLAR was born on March 24, 1924, in Calgary, Alberta, Canada, where he attended public schools. He served as a pilot in the Royal Canadian Air Force and the Royal Naval Fleet Air Arm from 1943-46. At the University of Alberta he earned the BS degree in 1950 and the MS degree in 1952. His PhD degree came from Cornell

University in 1955 where he specialized in bacterial diseases under the direction of Professor W. H. Burkholder. Dr. Millar served in the Canadian Department of Agriculture from 1955 to 1959, when he returned to Cornell University to assume his current responsibilities in teaching and research. Since 1969 he has been Professor of Plant Pathology.

Dr. Millar is a master teacher, an outstanding researcher, and an active participant in affairs of APS. His imaginative, enthusiastic approach to teaching has attracted students to plant pathology both at the undergraduate and graduate levels. He developed a unique undergraduate course on biological aspects of disease in plants that makes plant pathology relevant to a general biology curriculum. He and his students have made important contributions to our knowledge of disease resistance in plants. Examples of the contributions include discovery that some plant pathogens are capable of degrading phytoalexins, discovery and characterization of the phytoalexins medicarpin, sativan, and vestitol, and characterization of a cyanide hydrolase which functions as a detoxification mechanism in *Stemphylium loti*, a pathogen of the cyanogenic plant birdsfoot trefoil.

Dr. Millar has served on several APS committees, on the Board of Editors of Phytopathology, and recently he completed a term as Senior Editor of Phytopathology. His leadership of the short course for college teachers of introductory plant pathology, held at Cornell in August 1968, did much to make this innovative APS-NSF project worthwhile for all participants. Dr. Millar's balanced excellence in teaching, research, and service stands as an example for all plant pathologists.



MICHAEL SHAW was born February 11, 1924 in Barbados, British West Indies. He received the BS in 1946, the MS in 1947, and the PhD in 1949 from McGill University. While at McGill he was awarded three National Research Council scholarships. During 1949-50, he was a National Research Council Postdoctoral Fellow at the Botany School, Cambridge,

England. In 1950, he was appointed Associate Professor of Biology at the University of Saskatchewan where he

became Professor in 1954. After a sabbatical year at Reading University, England, he was appointed Head, Department of Biology, University of Saskatchewan in 1961. In 1967, he was appointed to his present position of Professor of Agricultural Botany and Dean of Agricultural Sciences at the University of British Columbia.

Dr. Shaw has made major contributions to plant pathology in research, teaching, editing, and administration. He has published more than 65 papers, most of which deal with the physiology or biochemistry of host-parasite relations. Much of his work has involved the *Triticum - Puccinia* and the *Linum - Melampsora* host-parasite systems. Detailed studies have been carried out on respiration, growth regulators, nitrogen and carbohydrate metabolism, and fine structure in infected and healthy, resistant and susceptible, host plants. Recently emphasis has been placed on nucleic acid metabolism in early stages of infection.

Dr. Shaw has taught courses in general biology, plant physiology, plant morphology, and physiology and biochemistry of host-parasite relations, and still does some teaching in spite of heavy administrative responsibilities. Twenty-five recipients of advanced degrees and fifteen postdoctoral fellows have worked under his direction. Since 1964, he has been Editor of the Canadian Journal of Botany which regularly publishes papers dealing with plant pathology. He is also a member of the Editorial Boards of Physiological Plant Pathology and Science Forum.

His honors and awards include a Lalor Foundation Fellowship and election to Fellowship in the Linnean Society of London and the Royal Society of Canada. He was admitted *ad eundem gradum* PhD, University of Saskatchewan, in 1971 and in the same year awarded the Gold Medal of the Canadian Society of Plant Physiologists. He was President of the Canadian Society of Plant Physiologists in 1963-64 and of the Biological Council of Canada in 1972-73.



ROBERT JAMES SHEPHERD was born June 5, 1930, in Clinton, Oklahoma. He earned his BS degree in 1954 and his MS degree in 1955 at Oklahoma State University and was in military service 1950-52. He had a year of study and experience in the laboratory of Dr. Kenneth Smith, Cambridge, England as a Fulbright Scholar. Resuming

his graduate study at the University of Wisconsin, he received his PhD degree in Plant Pathology in January 1959. He remained at Madison on a postdoctoral appointment and later as an Assistant Professor. In 1961, he accepted an appointment as Assistant Professor in the Department of Plant Pathology, University of California, Davis and there has advanced to full Professor.

Early in his career, Dr. Shepherd became interested in

the problems of purifying and characterizing unstable plant viruses. His continued study and research in this area has led to many improvements in virus technology. He and his students have greatly advanced our knowledge of biochemical characteristics of several viruses of the potato virus Y group and certain polyhedral viruses such as pea enation and cauliflower mosaic viruses. Most outstanding in his contributions has been the first identification of DNA as the nucleic acid of a plant virus, found in cauliflower mosaic virus. He provided an early identification of what has come to be known as maize dwarf mosaic virus and defined its carry-over reservoirs and insect vectors. He has made other substantial contributions to the solution of applied plant virus problems. His studies on the epidemiology of sugar beet viruses provide the basis for an area-wide host-free period for a successful virus disease control program.

Dr. Shepherd has developed into an outstanding teacher not only in the classroom but with graduate students in problems of virology. He has taught introductory plant pathology, plant virology for graduate students and most recently he has developed an advanced course in plant virology. He has trained eight students in plant virology who earned their PhD degree and has others in his laboratory.

Robert Shepherd served on APS Committee on Virology from 1966-71, as chairman 1968-71. He was Associate Editor of Virology 1966-69 and is currently Editor of the Journal. He has served on the Plant Virus Subcommittee of the International Committee on Virus Nomenclature and is presently its Chairman. Dr. Shepherd has participated as a speaker at various international meetings dealing with virology and has aided with the program for the 2nd International Congress of Plant Pathology.



HUGH D. SISLER was born November 4, 1922 in Friendsville, Maryland. After three years of service in the US Navy, he enrolled in the University of Maryland from which he received the BS, MS, and PhD degrees. In 1953, he joined the faculty of the Botany Department of the University of Maryland and since 1964 has been Professor of Plant

Pathology in that department. During 1966, he was an N.I.H. Postdoctoral Fellow at the Organisch Chemisch Instituut in Utrecht, The Netherlands.

Hugh Sisler is recognized internationally for his twenty years of research on the mode of action of fungicides. Major accomplishments of the research group he led include determination of the specific site of action of cycloheximide, the chemical basis for the toxicity of captan, and the nature of activity of benomyl. One result of this work has been the general acceptance of cycloheximide as a classical inhibitor of protein synthesis. He and his associates recently found that the activity of

the systemic fungicide, benomyl, is related to a decomposition product that interferes with DNA synthesis and mitosis. He has postulated resistant forms will develop against fungicides which have single biochemical sites of action whereas such resistance will not develop when fungicides with multiple sites of action are employed.

In addition to his work on fungicides, Dr. Sisler has been active in plant virology. He directed a National Science Foundation Seminar in Advanced Plant Virology at the University of Maryland and was Co-Editor of the book "Plant Virology" based on lectures delivered at that seminar.

Dr. Sisler teaches a graduate course in fungal physiology and participates in courses in general botany and disease physiology. He has directed the research of 17 recipients of advanced degrees. He has served as visiting lecturer to the Greek Atomic Energy Commission, the School of Public Health at Johns' Hopkins University, and the Environmental Protection Agency. He has served both as Chairman and Vice-Chairman of the Gordon Research Conferences.

In service to The American Phytopathological Society, Dr. Sisler has been an Associate Editor of Phytopathology and a member of the Chemical Control Committee. He has been Vice-President and President of the Potomac Division of APS.



ARNOLD J. ULLSTRUP was born in Milwaukee, Wisconsin on January 24, 1907. He received the BS, MS, and PhD degrees from the University of Wisconsin. After two years with the Rockefeller Institute at Princeton, New Jersey, he spent two years at Clemson University, South Carolina. In 1938, he became Corn Pathologist for the USDA,

stationed at Purdue University, Lafayette, Indiana. Upon retirement from the USDA in 1967 he joined the Department of Botany and Plant Pathology at Purdue University as Professor of Plant Pathology.

Dr. Ullstrup has had a long and distinguished career in plant pathology. Except for a brief period at Clemson University where he worked on cotton diseases, his research has been concerned with the etiology, genetics, and nature of resistance in corn diseases. Early in his career he identified *Helminthosporium carbonum* as a new species causing a leaf disease of corn and later he found that *Sclerospora macrospora* was the causal agent of crazy top in the United States. He developed inbred lines resistant to *H. turcicum* and pioneered research on resistance to *H. maydis*. Following the outbreak of southern corn leaf blight in 1970, he was one of the principle speakers at a national symposium at Beltsville, Maryland called by the Secretary of Agriculture.

Dr. Ullstrup is recognized internationally as an authority on leaf and stalk diseases of corn. He has traveled extensively in foreign countries serving as a technical consultant for the USDA and the Rockefeller and Ford Foundations. In 1967, he participated in an international symposium sponsored by the Indian Phytopathological Society and in 1971 he helped organize the Second International Symposium on Plant Pathology held at New Delhi, India. On this trip he also participated in the Inter-Asian Crop Improvement Conference in the Philippines.

In addition to his outstanding research, Dr. Ullstrup has taught both undergraduate and graduate courses in plant pathology. He has also guided the research of a number of graduate students. He has served the society as an Associate Editor of Phytopathology.



CYNTHIA WESTCOTT was born in North Attleboro, Massachusetts on June 29, 1898. Following graduation from Wellesley in 1920, Dr. Westcott taught high school for a year and then became Assistant Plant Pathologist at Cornell University, where she earned her PhD degree in 1932. In 1933 she became the first professional plant pathologist

to go into private practice when she opened her office in Glen Ridge, New Jersey, and began her renown career as plant doctor. During her career she also did research at the New Jersey Experiment Station and spent two winters in Alabama to develop a control for azalea flower blight on a temporary assignment with the USDA.

Dr. Westcott spent more than 25 years managing some 50 gardens a week for clients in the vicinity of New York City. She has advised countless home gardeners and has lectured to garden clubs and other groups from coast to coast. While most members of APS merely have been discussing problems of communication with the public, Dr. Westcott has been busy communicating in her unique way to make the concepts of plant disease meaningful to many gardeners.

Dr. Westcott's books and articles have provided guidance for numerous horticulturists. Her articles frequently are seen in the New York Times and in leading garden publications. Her "Plant Disease Handbook" appeared in its third edition in 1971. Other books include "The Plant Doctor, The Gardener's Bug Book, Anyone Can Grow Roses, Garden Enemies, and Plant Doctoring is Fun". Honors received by Dr. Westcott include the Gold Honor Medal of the American Rose Society in 1960, and the Garden Writers Award from the American Association of Nurserymen in 1963. The Northeast Division of APS presented the Award of Merit to her in 1969.