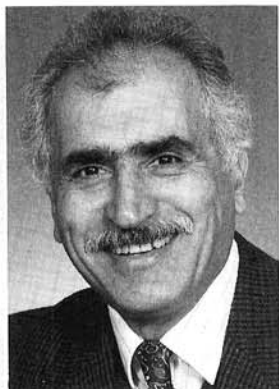


# Fellows

Eleven members of The American Phytopathological Society were honored as Fellows of the Society at the 1993 Annual Meeting in Nashville, TN. Election as a Fellow is a reflection of the high esteem in which a member is held by 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.

## George S. Abawi



**George S. Abawi** was born in Iraq. He received a B.Sc. degree in agricultural sciences at the College of Agriculture, University of Baghdad. He attended Cornell University where he received his M.Sc. and Ph.D. degrees in plant pathology. In 1972 he joined the Department of Plant Pathology at the New York State Agricultural Experiment Station, Cornell University, Geneva.

Dr. Abawi has developed a nationally and internationally recognized research program on diseases of vegetable and food legume crops and their management, especially on diseases of beans. His major contributions have been in the areas of ecology and biology of soilborne fungal pathogens and plant-parasitic nematodes and the integrated management of root diseases. His recent projects emphasize microbial interactions, biological control, and identification of resistant germplasm sources.

Although Dr. Abawi has no official teaching or extension responsibilities, he has contributed to both activities. He has served as the major advisor to nine graduate students and as a member of the graduate committees of several other students.

Dr. Abawi has always been interested in international agriculture and has developed special interests in tropical diseases and their management. Three of his graduate students have conducted their Ph.D. thesis research abroad, and he is a member of the graduate faculty of the Field of International Agriculture and Rural Development.

After spending 15 yr in the United States, Dr. Abawi decided some time ago to return to his native Iraq and thought he was doing very well speaking his native language, Arabic. However, several weeks later his sister informed him that for the first 2 wk of his visit, she could hardly understand a word he had said in Arabic. We haven't had any trouble understanding Dr. Abawi's science, and APS proudly presents this Fellow Award.

## Donald E. Aylor



**Donald E. Aylor** was born in Hunt, NY. He earned his B.S., M.S., and Ph.D. degrees from the State University of New York at Stony Brook. He has spent his notable career in research as a scientist at the Connecticut Agricultural Experiment Station, New Haven, and since 1984 as chief plant pathologist.

Dr. Aylor is a preeminent scientist in both plant pathology and meteorology. His main research interest has been the aerial dispersal of pathogens.

How spore concentration decreases with distance determines the hazard

a source of spores in one field presents to the neighboring crop. Combining observation with physical reasoning, Dr. Aylor showed that actual spore gradients are formed by combinations of two processes. Near the source, spores decrease in exponential

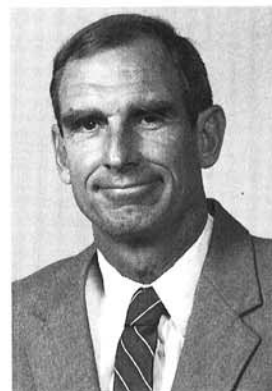
gradients. As spores escape above the canopy, their concentration decreases as a power of the distance. The hazard of sources of spores to neighboring crops is, therefore, greater than that calculated solely from an exponential decrease with distance.

Dr. Aylor also has studied the aerial transmission of insects and their pheromones, as well as highway noise and how it is influenced by roadside vegetation, the thickness of the foliage, and the shape and size of the leaves.

Although Dr. Aylor has published largely in *Phytopathology*, the American Meteorological Society has recognized his contributions to the study of atmospheric turbulence, awarding him both a fellowship and its Award for Outstanding Achievement in Biometeorology.

Don Aylor was educated as an engineer, wrote his dissertation about the mechanics of stomata, first studied the acoustics of plants and their muffling of noise, but eventually found his true love in the dispersal of plant pathogens. He has been a leader in aerobiology, and we are pleased to present this Fellow Award to a lover and leader of plant pathology.

## D. Michael Benson



**D. M. Benson** was born in Dayton, OH. He received a B.S. degree from Earlham College in Richmond, IN. His M.S. and Ph.D. degrees in plant pathology were awarded by Colorado State University, Ft. Collins. In 1974 he accepted a position as an assistant professor in the Department of Plant Pathology at North Carolina State University, Raleigh. His comprehensive and balanced research program encompasses the etiology, epidemiology, and management of root diseases. Related facets of his work include biological control and ecology

of soilborne pathogens, damage functions and thresholds for key plant-parasitic nematodes and fungi, and the application of modern and traditional disease diagnostic techniques.

His innovative approaches to developing crop-pest management could become model systems for sustainable agriculture. For example, combinations of potting media and irrigation regimes that favor plant growth and limit the activity of various root-infecting fungi have been developed by Dr. Benson and his students.

Through collaborative research, Dr. Benson delineated the damage thresholds and functions of plant-parasitic nematodes on major woody ornamentals. For instance, *Meloidogyne arenaria* devastates *Helleri holly* even at low pathogen levels. He also developed two new techniques for nondestructive assessment of plant growth. Currently, he is coeditor of a forthcoming book on the epidemiology and management of root diseases.

Just as his interest in science is serious, Dr. Benson is also a serious long-distance runner, frequently winning his age group in road races. It's been reported, however, that he was a little upset that his training partner beat him in a couple of recent races. Dr. Benson has served the Society and the science of plant pathology well with his many years of editorial service; he has spent many hours beside his pool reviewing your papers. He probably will not have time to savor this Fellow Award because he will be running down the road too fast!

## John R. Edwardson



**John R. Edwardson** was born in Kansas City, MO. He received his B.S. and M.S. degrees in agronomy from Texas A&M University, College Station. His Ph.D. degree in biology is from Harvard University, Cambridge, MA. He joined the Department of Agronomy at the University of Florida, Gainesville, in 1953.

His formal training was in agronomy and plant genetics, but Dr. Edwardson has made outstanding contributions to the knowledge of plant viral inclusions, the use of properties of inclusions for virus classification, and the synthesis and systematic organization of information on potyviruses.

His interests in the cytology of male sterility led him to make comparative studies on the cytology of plant virus inclusions and, thus, began an involvement with the cytology and taxonomy of plant viruses that has persisted throughout his career. In a classic paper in 1966, Dr. Edwardson established that "bundle" and "pinwheel" inclusions are associated with plant infection by potyviruses. Dr. Edwardson's research on inclusions helped speed development of the concept that these inclusions are products of the viral genome.

With the assistance of Richard Christie, Dr. Edwardson extended his investigations to inclusions formed by other viruses. They utilized this information to develop highly practical diagnostic techniques based on light microscopy, which are frequently the first step used by clinics doing diagnostic work on plant viruses.

Dr. Edwardson has conducted numerous exhaustive searches of the literature that have led to books, monographs, reviews, and book chapters on subjects such as plant virus inclusions, potyviruses, potexviruses, viruses infecting legumes, and cytoplasmic male sterility in plants. These publications have been of immense value to plant pathologists and plant geneticists throughout the world. Dr. Edwardson is currently preparing a monograph on viruses affecting pepper.

To relax from the strenuous review of literature, one of Dr. Edwardson's hobbies is collecting arrowheads from the Gainesville, FL, area. He is also a combat veteran of the European Theater of Operations and includes the Purple Heart among his decorations. Speaking of decorations, some of the rooms in his house are wallpapered with labels from liquor bottles, and reportedly, some of those labels were donated. We are proud to present this Fellow's certificate to take its place on your wall!

## Clarence Kado



**Clarence Kado** was born in Santa Rosa, CA. He received his B.S. degree in soil chemistry and his Ph.D. degree in plant pathology from the University of California, Berkeley. Dr. Kado joined the faculty of the Department of Plant Pathology at the University of California, Davis, in 1968 and is currently head of the Davis Crown Gall Group.

As a postdoctoral fellow, Dr. Kado was the first to locate the coat protein gene in the tobacco mosaic virus genome, long before molecular techniques were available. When he joined

the Department of Plant Pathology at Davis, his research was redirected to the study of bacterial pathogens and, most notably,

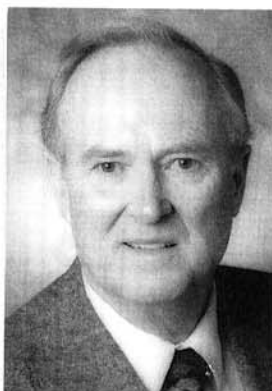
to the study of the tumor-inducing principle of *Agrobacterium tumefaciens*. Focusing on the detection of DNA of *A. tumefaciens*, Dr. Kado and coworkers estimated that it is present in tumor cells at a level of less than 0.01% of the total DNA. He showed that genes conferring host range specificity in *A. tumefaciens* are located on the Ti plasmid and that the genes required for the synthesis of indoleacetic acid also are located on this plasmid.

During the last 10 yr, Dr. Kado has shown that the virulence genes on the Ti plasmids also are regulated by a chromosomal gene. He reported that the virulence gene-inducing factor is sinapinic acid, a precursor of the lignin biosynthetic pathway. His work on the virulence region of the Ti plasmid culminated in the complete sequencing of over 29 kb of DNA representing the entire virulence region.

Dr. Kado also has pioneered work on the use of bioluminescence to track phytopathogenic bacteria during infection of the living host.

In 1984 Dr. Kado was appointed director of the Fallen Leaf Lake conferences, and in 1993 he was elected a Fellow of the American Academy of Microbiology. Dr. Kado is an astute campus politician. One of his platforms is that faculty who bring in a million dollars in grants should have an assigned parking place! Well, we don't have a million dollars or an assigned parking place, but we have a certificate to put on your wall and proudly present you with this Fellow Award.

## Melvyn L. Lacy



**Melvyn L. Lacy** was born in Henry, NE. He received his B.S. degree in agricultural education and his M.S. degree in plant pathology from the University of Wyoming, Laramie. After receiving his Ph.D. degree from Oregon State University, Corvallis, he joined the Department of Botany and Plant Pathology at Michigan State University, East Lansing.

Dr. Lacy has received national and international recognition for his research and extension activities on vegetables grown in organic soils. He has demonstrated that somaclonal

variation can contribute significantly to varietal development and has developed cultivars of celery resistant to vascular wilt.

Dr. Lacy developed a disease forecaster for Botrytis leaf blight of onions and was the first to show that conditions favoring sporulation of *Botrytis squamosa* on decaying onion tissue also favor infection and disease development. He also produced a forecasting model for downy mildew of onion and improved a disease predictor for early and late blight of potato. For asparagus, he demonstrated that a no-till cultural system reduces levels of Fusarium crown and root rot by reducing storage root damage incurred during tillage operations.

In addition to his accomplishments in a balanced research and extension program, Dr. Lacy also teaches very successful courses on plant disease control and diagnosis. He is a caring mentor for younger faculty and is always there to listen and offer sound advice.

Mel and his wife, Shirley, are avid tennis players. They take their tennis very seriously and play doubles on a regular basis. If Mel is not in the office or an onion field, he most probably can be found, racket in hand, at the tennis court, sitting in front of the T.V. watching national and international tennis tournaments, or at MSU watching the women's tennis team, which Mel avidly supports. He also avidly supports plant pathology, and it is for that support that we present him with this Fellow Award.



## Ralph L. Nicholson



**Ralph L. Nicholson** was born in Lynn, MA. He earned his B.S. degree in botany at the University of Vermont, Burlington, his M.S. degree in plant pathology from the University of Maine, and his Ph.D. degree in plant pathology from Purdue University, West Lafayette, IN. In 1972 he was appointed to the faculty of the Department of Botany and Plant Pathology at Purdue University.

Dr. Nicholson's research has dealt with the biochemistry of the host response to infection, fungal adhesion and recognition, and initiation of the

fungal infection process. His work is a model of both the scientific and practical value of approaching plant disease problems by probing the biochemical basis of disease processes.

Dr. Nicholson and his students discovered the production of pigmented fungitoxic phytoalexin in sorghum tissue in response to fungal infection. In a surprise practical twist, Dr. Nicholson found that an elicitor of sorghum phytoalexin synthesis also caused related weed species, such as Johnsongrass, to synthesize the phytoalexins, which, in turn, caused the plants to die. This finding is currently being carried further, toward development of a selective herbicide for these weeds.

Ralph is a strong supporter of the Big Brother/Big Sister program and has contributed positively to the lives of several young men. He spends quality time nearly every weekend with George, his current "little brother" who lives with his single mother. They go to football games, art galleries, parades, and all kinds of activities that enhance George's life. Ralph receives a lot of satisfaction from this activity, but the young men he has "brothered" throughout the years benefit immeasurably through their experiences with him. The science of plant pathology also has benefited from the work and influence of Dr. Nicholson, and it is a pleasure to present this Fellow Award.

## John G. Shaw



**John G. Shaw** was born in Canada. He received a B.S.A. degree in botany at the University of British Columbia, Vancouver, and received his Ph.D. degree in plant pathology at the University of Wisconsin. Dr. Shaw served as research officer at the Plant Research Institute, Agriculture Canada, Ottawa, and joined the Department of Plant Pathology at the University of Kentucky, Lexington, in 1968.

Throughout most of his career, Dr. Shaw has pursued the study of the early events that occur when plants

are infected by viruses. This is an inherently difficult area of research because complex interactions occur very rapidly within the cell, which frequently can only be studied or measured by indirect means. Dr. Shaw began these studies in 1967 with the demonstration that coat protein molecules are removed from tobacco mosaic virus (TMV) particles immediately after mechanical inoculation of leaves. He subsequently teamed with colleagues to refine the "cotranslational disassembly" theory. Dr. Shaw has continued to pursue this area of research and is currently looking at the rate of virus particle disassembly in inoculated cells, the mechanism of uncoating the 3' end of TMV RNA, and the disassembly and early gene expression in plants transformed with viral genes.

A second major area of research by Dr. Shaw has been elucidation of the genetic composition and organization of potyviruses and a detailed series of studies to map and determine the strategy of expression of the genome of tobacco vein mottling virus. He and his colleagues were the first to produce infectious transcripts of a potyvirus from cloned cDNA.

While working in Ottawa, John Shaw was thought by his contemporaries to be too much of a "lab rat," not putting enough time into field experience. To prove their point, one day his colleagues lifted and carried him, chair and all, to deposit him in the middle of a field. John never became accomplished in field research, but his other contributions to plant virology have his mark of excellence for which this Fellow Award is presented.

## James B. Sinclair



**James B. Sinclair** was born in Chicago. He received a B.S. degree from Lawrence University, Appleton, WI, and a Ph.D. degree from the University of Wisconsin. He joined the faculty at Louisiana State University in 1956 and rose through the professional ranks. Dr. Sinclair joined the Department of Plant Pathology at the University of Illinois at Urbana-Champaign in 1968, with responsibilities for soybean diseases and international program development.

Dr. Sinclair has done pioneering research on root and stem diseases of soybeans, and on the ecology, epidemiology, and control of seedborne microorganisms associated with soybean seeds. In collaboration with computer scientists, he developed a highly successful computer-based program for the diagnosis of soybean diseases.

Dr. Sinclair and his colleagues were the first to show the uptake and translocation of systemic fungicides and streptomycin in soybean seedlings; the production of phytoalexins by soybean roots; the root-pruning effect of *Phytophthora sojae*; the host-parasite relationship of *P. sojae*, using histopathology and electron microscopy; and how high atmospheric moisture affected seedborne *Colletotrichum* in the epidemiology of anthracnose and *Phomopsis* in seed decay in soybeans.

Dr. Sinclair discovered that desiccant herbicides, like paraquat, can aid detection of latent infections of fungal pathogens in soybean tissues. This technique has been widely used by diagnosticians and researchers.

Dr. Sinclair is a long-standing member of the Friends of the Library at the University of Illinois, where he contributes much of his time and resources to helping maintain the university library in the United States. Dr. Sinclair avidly collects materials for the archives section to maintain permanent records of the University of Illinois Department of Plant Pathology. Thus, it is with pleasure that we present him this well-deserved Fellow Award for his own personal archives.

## Ram P. Thakur



**Ram P. Thakur** was born in India. He obtained his B.Sc. degree in agriculture from Banaras Hindu University, Varanasi, Uttar Pradesh, India; his M.Sc. degree in plant pathology from G. B. Pant University of Agriculture and Technology, Pantnagar, Uttar Pradesh; and his Ph.D. degree in plant pathology from the Indian Agricultural Research Institute, New Delhi.

Dr. Thakur has distinguished himself as a productive plant pathologist at the International Crops Research Institute for the Semi-Arid Tropics,

Hyderabad, India, through novel and pioneering research on ergot and smut of pearl millet.

At ICRISAT, Dr. Thakur's research on the panicle diseases of pearl millet has involved pathogen biology, ecology and epidemiology, genetics and mechanisms of disease resistance, and cultural and biological control. Among his outstanding contributions is the development of screening techniques for resistance to ergot and smut. Development of these techniques made possible rapid progress in identification of resistance to both pathogens among world germplasm collections and development of resistant cultivars.

Dr. Thakur is perhaps best known for his seminal work on understanding the nature of the interaction between pollen and tissue-replacing panicle diseases in pearl millet. His discovery that rapid pollination prevents ergot and smut infection was a major breakthrough. Dr. Thakur also identified *Fusarium semitectum* var. *majus* as a mycoparasite on ergot and demonstrated its potential use as a biocontrol agent.

Dr. Thakur was elected a Fellow of the Indian Phytopathological Society in 1989.

Ram Thakur is an exceptionally methodical scientist who plans each research step carefully. His conduct of research is akin to computers, with well-thought-out routines and subroutines of planned activities and possible outcomes. Without effecting the "airs" of the brilliant scientist that he is, Ram is respected and liked by all who have come in contact with him. It is with this same respect that this Fellow Award is given.

## Roy D. Wilcoxson



**Roy D. Wilcoxson** was born in Columbia, UT. He earned his B.S. degree in botany at Utah State Agricultural College, Logan, and his M.S. and Ph.D. degrees in plant pathology at the University of Minnesota, St. Paul. Dr. Wilcoxson retired in 1991 after 35 yr of service as a member of the faculty of the Department of Plant Pathology, University of Minnesota. During his years on the faculty, he taught courses on the ecology of plant pathogens, insects in relation to plant disease, disease diagnosis and control, disease

resistance, introductory plant pathology, and diseases caused by fungi. Trained in both plant pathology and entomology, insect transmission of plant diseases was a favorite class of Dr. Wilcoxson.

Dr. Wilcoxson undertook a variety of research projects on diseases of corn, forage legumes, grasses, and small grains. His cooperation with plant breeders led to the development and release of six oat, three wheat, two barley, and one cultivar each of brome grass and alfalfa. But perhaps Dr. Wilcoxson's greatest contribution to plant pathology was as a mentor and advisor to graduate students. During his career, he was the advisor for 29 M.S. and 35 Ph.D. students. He exhibited a special skill and patience in teaching and working with young graduate students, especially those from developing nations.

Familiar with the consequences of plant diseases on a global scale, Dr. Wilcoxson took a pragmatic approach to their control. He worked on diseases that he considered to be important and in need of immediate attention. His epidemiological approach to the study of slow-rusting resistance in cereals stimulated pathologists to reconsider the importance of environment on disease development.

Two of Roy's interests, both personal and professional, have been students and international agriculture. He enjoys working with students and encourages them with his enthusiasm and personal interest in their research. He has truly made the graduate experience the "golden years" of a student's life for all of his students.

Roy also has given of his time, energy, and health, both as a researcher and administrator, to advance agriculture in developing countries. It is in appreciation of this service that APS presents this Fellow Award.