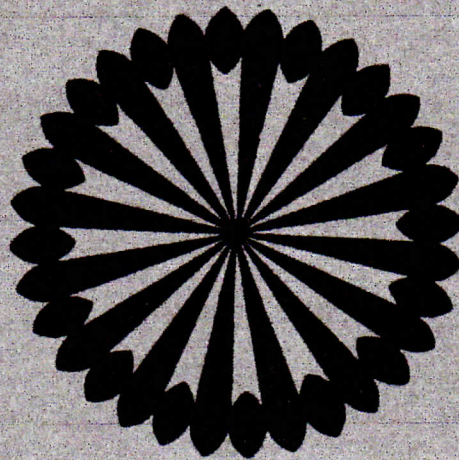


The Pennsylvania State University, College of Agriculture, Department of Plant Pathology

Plant Pathology Newsletter

December 1980



GREETINGS !!

It is a definite pleasure to once again provide you with our annual Departmental Newsletter. We look upon this as an opportunity to keep you up to date on Departmental activities and to provide you with news on your fellow Penn Staters.

Following the early retirement of Dr. D. H. Petersen to accept the position of Vice President for Production for Hilltop Nurseries we recruited and hired a new Extension Fruit Pathologist. This new faculty member is Dr. J. W. Travis from the North Carolina State University and he will be officially joining us on February 1, 1981. We have also been extremely fortunate in adding three new adjunct faculty. Our new adjuncts are Drs. M. Bonde and R. Shrum from the Plant Disease Research Laboratory at Frederick, Maryland, and Dr. L. Burgess from the University of Sydney, Australia. We are sure that you join us in welcoming our new faculty and in thanking Dr. D. H. Petersen for his many contributions to our Department as well as wishing him best wishes in his new position.


The Department continues to grow and expand due to the very dedicated efforts of its members and friends. With the new students arriving this past Fall Term we now have 49 graduate students enrolled in our Masters and Ph.D. programs. Working jointly with the Department of Agronomy and the USDA we have added another building to our Center for Cereals Research at Rock Springs. The Black Moshannon Potato Research Farm has once again almost doubled in size. We were also extremely fortunate in receiving over \$100,000 worth of new equipment during the last year.

Although I am sure that you are all quite aware that State College is not the easiest place for a traveler to reach, we were indeed fortunate to have numerous visitors over the last year. In addition to our usual guest and exchange seminars we had three large groups of distinguished visitors. We invited 12 scientists from around the U.S. to each spend a couple of days in the Department to participate in the teaching of our Plant Disease Control course. This course was conducted by Drs. H. Cole and D. R. MacKenzie and judged to be an outstanding success. We had an excellent Review Panel visit us this Spring to conduct our SEA-CR Comprehensive Review. The review went quite well thanks to the very fine efforts of the members of the Department who were heavily involved in preparing the necessary documents and organizing the program.

This past fall we were also fortunate enough to host the APS Diamond Jubilee Program Organizing Committee for a two-day planning session. As you can see we have been fortunate to have numerous guests and always welcome the opportunity to have visitors to the Department.

Although we are finishing a busy year we are looking forward to the new one. We trust that you will enjoy reading this Newsletter and hope that this Newsletter will keep you informed on the Department's activities and the news of your fellow Penn Staters.

With our best regards,


Samuel H. Smith

Faculty

Petersen retires

DON PETERSEN, who has devoted the past 12 years in service to Plant Pathology Extension in Pennsylvania, retired on June 30, 1980. Petersen was recognized for his many contributions to the fruit industry and Extension in Pennsylvania at a retirement celebration held in May. Many industry representatives as well as Department members joined in the send-off party for Petersen, who joined Hilltop Orchards and Nurseries, Inc. in Michigan as Vice President for Production beginning July 1, 1980. In addition to his service to the State, Petersen was recognized nationally as a member of the Technical Writing Committee on Integrated Pest Management Programs of the State Cooperative Extension Service (ESCOP) in cooperation with the U.S. Department of Agriculture, Science and Education Administration; and as the U.S. representative to the USSR in 1975 under the US-USSR Environmental Agreement for Integrated Pest Management. Don's new address is Hilltop Orchards and Nurseries, Inc., Rt. 2, Hartford, Michigan 49057. We wish him the best of luck in his new endeavor.

JAMES W. TRAVIS has been appointed as Assistant Professor of Plant Pathology, beginning February 1, 1981. Travis will fill the fruit pathology responsibilities formerly conducted by Don Petersen. Jim is a native Pennsylvanian, and received his M.S. in Entomology from Penn State. He will come to the Department from North Carolina State University after receiving his Ph.D. degree in Plant Pathology and Horticulture. We look forward to Jim's arrival.

The faculty traveled widely again in 1980, participating in symposia and conferences as invited speakers. DAVE MACKENZIE and DICK NELSON were among our world travelers this year, spending several days at CIAT in Cali, Colombia, visiting with rice scientists and presenting seminars. ALAN MACNAB also left the country, visiting Switzerland. Dr. MacNab's trip was taken as part of the CIBA-GEIGY Award which he received from APS last year for outstanding Extension contributions. SAM SMITH traveled to the Caribbean Division Meetings of APS, held earlier this fall in San Juan, Puerto Rico, to present an invited paper on meristem-tip culturing. Traveling to Germany, Holland and Switzerland was DICK NELSON, who participated as an invited speaker in a workshop on resistance in forest trees in Wageningen, presented a guest lecture at Honnehein, West Germany, and then went on to Zurich to consult with PADRUOT FRIED (Ph.D. '77) at the Swiss Federal Research Station.

The Department was also represented at several national symposia. SAM SMITH, RICK SCHEIN, and JOHN AYERS participated as moderators in the E. C. Stakman Crop Loss Symposium held in Minneapolis prior to the national APS Meetings this year, and DAVE MACKENZIE presented an invited paper. Several present and former Department members traveled to San Francisco last January to participate in a symposium sponsored by the American Association for the Advancement of Science. The symposium, chaired and organized by SAM SMITH, was entitled "The Role of Computing Sciences in Plant Disease Epidemiology and IPM." Drs. MACKENZIE and PENNYPACKER presented invited papers at the symposium, as did BOB SHRUM (Ph.D. '75), who is now an Adjunct Assistant Professor in our Department, and DOUG ROUSE (Ph.D. '79) who is now an assistant professor at the University of Wisconsin. STAN PENNYPACKER and DICK NELSON traveled back to California, where PENNYPACKER presented a paper at the University of California, Davis, on microclimate and disease at a symposium entitled "The Role of Biometeorology in Integrated Pest Management." NELSON attended the Gordon Research Conference on Chemical Aspects of Plant/Herbivore Interaction as an invited speaker on the "Analysis of Host-Parasite Interaction" early last February in Santa Barbara, California.

DAN ROYSE, PAUL WUEST and SAM SMITH attended the 2nd North American Mushroom Conference in Toronto in mid-August to present seminars, and rounding out the year's travel is JOHN BOYLE, who is now in SRI LANKA with the Penn State/US-AID program. John is due back home shortly before Christmas, and correspondence from him indicates that he is enjoying the experience, but will be glad to be home for the holidays.

Soon after Christmas, DAVE MACKENZIE will travel to China, to spend two weeks representing Penn State and exchanging information for the Penn State/China cooperative programs now being developed. Traveling with MacKenzie will be Ernest Bergman of the PSU Department of Horticulture, and Kenneth Goodwin of the Poultry Science Department.

Several changes in the Department faculty have occurred over the past year. We welcome to the Department several new adjunct members: MORRIS R. BONDE has been appointed Adjunct Assistant Professor of Plant Pathology, and will work cooperatively with the Department in administering the graduate programs of several of our students. Bonde is currently a Research Plant Pathologist at the Plant Disease Research Laboratory at Frederick, Maryland. LESTER W. BURGESS has been appointed as Adjunct Associate Professor of Plant Pathology, and will continue the cooperative work now in progress with the Fusarium Research Center and Drs. PAUL NELSON and T. A. TOUSSOUN. Burgess is a Senior Lecturer in Plant Pathology at the University of Sydney, Australia. We also welcome back Dr. ROBERT D. SHRUM, an Epidemiologist with the Plant Disease Research Laboratory at Frederick, Maryland. Shrum

received his Ph.D. from the Department in 1975, and has been appointed as an Adjunct Assistant Professor of Plant Pathology. He will cooperate with the Department on research and graduate student projects involving epidemiology.

WAYNE PEDERSEN, who served for several years on a post-doctoral position with Dick Nelson and Dave MacKenzie, was appointed as Assistant Professor of Plant Pathology at the University of Illinois, and left the Department for Champaign-Urbana in late August. PEDERSEN replaces Dr. Art Hooker and will be responsible for research on corn.

Department members maintain their high level of participation in both the Northeast Division of APS and in National Committees. Nationally, the Department is represented on committees as follows: Sustaining Associates - K. D. HICKEY; American Registry of Plant Pathologists - K. D. HICKEY; Illustrations of Plant Pathogens and Diseases - W. MERRILL, A. MACNAB; Phytopathological Classics - W. MERRILL; Plant Disease Management Coordinating Committee - K. D. HICKEY; Chemical Control - H. COLE; Epidemiology - D. R. MACKENZIE; Mycology - P. E. NELSON; Plant Disease Detection - D. PETERSEN; and Plant Diseases Losses - S. H. SMITH. In addition, SAM SMITH has been appointed Chairman of the Program Organizing Committee for the 1983 Diamond Jubilee Meetings of the Society to be held in Ames, Iowa.

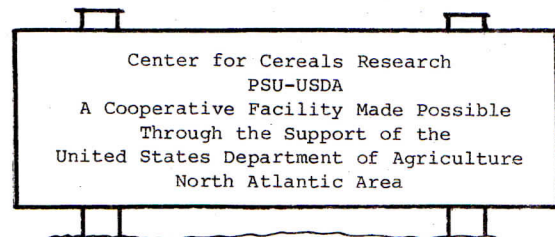
Dr. F. L. LUKEZIC is currently serving as President of the North East Division of APS, and several Department members are serving on Division Committees. EVA PELL is serving on the Site Selections Committee, PAT SANDERS on the Applied Research Coordination Committee, STAN PENNYPACKER on the Graduate Student Award Committee, and PETE ROMAINE and JOHN AYERS on the Symposium Planning Committee. In addition, the Department will host the 1982 Division Meetings here at Penn State, and RICK SCHEIN is serving as Local Arrangements Chairman for these meetings.

Research Clinic

Pennsylvanians continued to call on the Plant Disease Clinic in 1980, with many requests for help with their plant problems. JOHN PEPLINSKI reports that 1530 specimens have been processed so far in 1980, a slight increase over last year. None of the specimens received this year proved to be new diseases for Pennsylvania. A yellow mottling of needles of Norway and blue spruces continues to appear in scattered locations of Pennsylvania. Diagnostic procedures are continuing on specimens received in the Clinic and cooperation with personnel in other universities in the east has been enlisted to attempt to determine the cause of this puzzling problem.

The computer data storage and retrieval system utilized to maintain records of Plant Disease Clinic specimens proved to be a valuable source of information for the U.S. Nuclear Regulatory Commission in its investigation of plant problems which have been reported in the Three Mile Island area. Computer printouts of specimens received by the Clinic in 1979 from counties surrounding TMI were provided to the NRC. The Clinic continues to cooperate with Dr. Germaine LaRoche of the NRC in diagnosing plant problems which are referred to him for the TMI area.

A meeting of plant disease clinic personnel was held recently at the annual meeting of the Northeast Division of APS. The group discussed the formation of a newsletter for clinics in the Northeast region. The newsletter, which is intended to promote better cooperation between clinics, is planned for the near future.



In early 1979 the Center for Cereals Research (CCR) was initiated at The Pennsylvania State University. This research center has, as its main nucleus, members from the University Departments of Plant Pathology and Agronomy, and the U. S. Department of Agriculture. The original conception of the CCR came from Harold G. Marshall of the Department of Agronomy (presently the coordinator of the group) and Herb Cole from Plant Pathology. They showed concern for the fate of small grained cereals in Pennsylvania. Faced with the need for a new wheat-barley breeding program at PSU, they recognized the advantages of a close association of all cereal researchers working together, providing suggestions and ideas. USDA Atlantic Regional Director Jack Wilson stepped forward with support funds for the CCR and encouraged what was to become a unique union of Federal and University efforts.

University personnel for the Center are in the Departments of Agronomy and Plant Pathology, with additional staff in Extension and Ag. Economics. Because of the scope of the research in the CCR and the visibility the Center has provided, several other institutions are exchanging research information with the Center, and plan to become involved in future collaborations. Those associated with the CCR from the Department of Plant Pathology are: Drs. H. Cole, Jr., J. A. Frank, J. E. Ayers, D. R. MacKenzie and R. R. Nelson. Each is involved in either cereal research projects or are directing graduate students in small grains research.

The mission of the CCR is to provide the growers in the Northeast with a significant economic return on their investment in small grain production. These returns will be realized through release of improved germplasm and adequate crop management schemes, including pest management.

At present, there are four major thrusts in plant pathology: Assessment of yield loss in cereals to specific major pathogens, addition of powdery mildew resistance into commercially acceptable wheat varieties, development of new seed treatments for cereals (to make up for the outlawing of mercurial seed treatments), and evaluation of the potential of fungicides for cereal small grain disease management.

The Center has received a three-year grant to conduct a pilot management project on ten private farms in Pennsylvania. The project will involve one research associate and two graduate students who will study the effects of various management practices on disease development and wheat yields.

With the new research building at Rock Springs, the field plot emphasis of CCR can be expanded in the future. Cooperation in research, as with most activities, often results in synergism. The CCR, as suggested in our heading above and on the building sign at Rock Springs, is a good example of that principle.

Graduate Students

DeVos wins prize

Special recognition goes to Neal A. DeVos on receiving the Graduate Student Award at the recent meetings of the Northeastern Division of APS. DeVos presented a paper by himself, E. J. Pell, R. R. Hill, Jr., and R. H. Cole entitled "Diallel Analysis of Ozone Resistance in Potato." As part of the award for the outstanding paper, DeVos received a cash award.

New students

As of this fall the Department has welcomed fifteen new students. They are as follows:

LORRAINE BERKETT received her B.A. from Gettysburg College and her M.S. in entomology from the University of Maine at Orono. Lorraine will be pursuing a Ph.D. in IPM under the guidance of Dr. Hickey. STEVE BROSCIOUS obtained his B.S. degree from PSU and is working towards his M.S. in the development of crop and pest management systems for wheat under the direction of Dr. Frank. PHILLIP HARTIG got his B.S. from Wm. Carey College and his M.S. from the Virginia Commonwealth University. His research interest is in insect virology. Phil's major advisor is Dr. McCarthy, and he is working towards his Ph.D. in Genetics. SHERYL HORNA hails

from Penn State where she received her B.S. in Horticulture. Sheryl is working with Dr. Schisler and her M.S. interest is in mushroom research.

CAROLINE KEHNE received her B.A. in Biology from Smith College. She is working towards her M.S. in epidemiology under Dr. Pennypacker. BARBARA KIDNEY received her B.S. from Cornell in Ecology and her M.S. from the University of Florida in plant pathology. Barb is working under the guidance of Dr. MacKenzie towards a doctoral degree in epidemiology. AGUSTIN MOLINA received his B.S. in Agronomy and his M.S. in Plant Pathology from the University of The Philippines at Los Banos. Gus' doctoral research is under the direction of Dr. MacKenzie and will be in epidemiology. GLORIA MOLINA obtained her B.S. in Agronomy and her M.S. in Plant Pathology from the University of The Philippines at Los Banos, also. Gloria is married to Gus and is also working towards a Ph.D. Her research interest involves the interaction of fungi and plant-parasitic nematodes. Her major advisor is Dr. Bloom.

JAMES MONROE is an M.S. student in Genetics, under the direction of Dr. W. McCarthy. Jim received his B.S. in Life Sciences from Worcester Polytechnic Institute and is pursuing his M.S. in insect virology. LAURIE MORELLI got her B.S. in Plant Science from the University of Delaware. Her M.S. work is under the supervision of Dr. P. E. Nelson and involves an anatomical study of *Fusarium*

JEAN-ROBERT PELLETIER received his B.Sc. from McGill University in Plant Science. J.R. is working towards an M.S. in epidemiology under the direction of Dr. Schein. DANIEL SMALL obtained his B.S. in Horticulture from Delaware Valley College. Dan is working towards his M.S. on *Fusarium* diseases. His major advisor is Dr. T. A. Toussoun. SRISKANTHA ALAGACONE received his B.Sc. in Agriculture from the University of Peradeniya in Sri Lanka. Sri is presently working on his M.S. in virology under the supervision of Dr. Boyle.

MARK WACH received his B.S. in Plant Pathology from the University of California, Berkeley. Mark's research involves the chemical control of fungi, viruses, and mycoplasmas, under the direction of Dr. P. Romaine. GREG WATSON received his B.S. from Greensboro College in North Carolina in Biology. His M.S. work is on the interactions of atrazine and wheat diseases. Drs. J. Frank and H. Cole are his major advisors.

Degrees awarded

This past year several candidates have completed their degrees and have left the Department. Among those receiving Ph.D. degrees were: MARK BOOKBINDER, who is presently working in the administration of environmental control programs in pest management at Envirocontrol in Hagerstown, Maryland; ROGER KAISER, who is located in Ohio conducting research in plant pathology programs for Diamond Shamrock; and LARRY MADDEN, who is currently on the Plant Pathology staff of the Ohio

Agricultural Research and Development Center (OARDC) in Wooster, Ohio. Larry is conducting research in crop loss. STYLIANOS M. TAVANTZIS is teaching and doing research in Plant Virology at the University of Maine in Orono. Stylos is an Assistant Professor with the Department of Botany and Plant Pathology and is primarily involved with potato viruses. REY VILLAREAL is continuing his work with the International Rice Research Institute (IRRI) at Los Banos in The Philippines.

Among those receiving M.S. degrees were: DAVID ANZOLA, who is in Maracay, Venezuela and is currently conducting research and extension activities for FUSAGRI; JANET BURGOON, who is self employed in the ornamentals industry within the Philadelphia area; HERMAN NASS, who is currently working for the Center for Agricultural Investigation in Acarigua, Venezuela; GARY SCHROEDER, who will be employed in the mushroom industry; and BARB STUEHLING, who is now Ms. BARB HALLOWAY, and is working with her husband Dave for the PEACE CORPS in Latin America.

Also leaving the Department is FORREST NUTTER. "WOODY" has decided to continue his Ph.D. program with the Department of Plant Pathology at North Dakota State University.

Graduate student officer elections were held again this past fall. The present officers are: ROBERT L. THEBERGE, Graduate Student Representative to the Faculty; RICHARD RAID and SUSAN SIM, Graduate Council Members; and TED KAUFMAN and JUDY PAWLOSKI, Graduate Student Association Representatives.

Work in progress

Much of the research conducted by the graduate students is quite imaginative and interesting. The following is just a small example of the various types of research conducted by our graduate students: JAIRO CASTANO'S research deals with rice blast caused by *Pyricularia oryzae* Cav., the most important disease in all rice growing countries, particularly in the tropics. In recent years, several researchers have been looking for horizontal resistance in rice. Some rice cultivars can retard rice blast development supporting the concept that slow-leaf blast infection is a form of horizontal resistance. Based on this finding, a group of 1300 rice germplasms from around the world was screened by Jairo with three virulent and stable isolates of the pathogen. From this screening, 75 cultivars were selected showing different degrees of resistance to the fungus in order to study some components of horizontal resistance, such as sporulation capacity, disease efficiency, latent period and lesion size.

The Ph.D. research program being conducted by BARBARA ILLMAN is directed toward the investigation of the biochemical and physiological mechanisms of ozone resistance and susceptibility in *Solanum tuberosum*. Foliar ozone injury in commercial potato plants has been correlated with reduced tuber yield and increased susceptibility to foliar pathogens.

Without cultivar selection for resistance, ozone injury may be a limiting factor in potato production in areas where high ozone levels occur. The identity of a resistance mechanism could be used as a physiological marker for the incorporation of ozone resistant germplasm in future breeding stock as well as contribute significantly to the knowledge about the plant's ability to resist destructive oxidation. Possible mechanisms of ozone resistance are being analyzed by comparing "Norchip" and "Cherokee," resistant and susceptible cultivars, respectively. A preliminary study was made to determine whether the resistance of "Norchip" is due to exclusion of the gas by stomatal closure. Leaf conductance was determined with a diffusive resistance porometer before, during and after a 3 hr exposure to 499 $\mu\text{g m}^{-3}$ ozone. Changes in stomatal aperture of "Norchip" foliage did not appear to account for its resistance. Light and fluorescence microscopy were used to histologically contrast injured foliar tissue of "Norchip" and "Cherokee." In both cultivars abaxial flecking was characterized by collapse of spongy mesophyll cells and bifacial necrosis was characterized by collapse of both spongy and palisade mesophyll cells. Differential response of the two cell types appears to be due to leaf morphology. The present goal of the research is to use leaf tissue from the two cultivars to test an hypothesis for a physiological mechanism of ozone resistance.

The development of Fusarium root rot in forage legumes appears to be favored by root and crown wounding like that which is caused by machinery damage, winter heaving and insect and nematode injury. JEAN STUTZ is investigating this interaction between wounding and Fusarium root rot of alfalfa and red clover. Isolates of *Fusarium roseum* 'Acuminatum' which cause necrotic symptoms only when roots are wounded have been used as a tool for this research. An anatomical study of red clover roots inoculated with these isolates reveals that penetration of intact roots occurs, but these isolates do not extensively colonize the root cortex at intact roots as they do wounded roots. Instead they form swollen hyphae, possibly prechlamydospore structures, in the root cortex. Wounding accelerated the rate of penetration as well as altering the plant-pathogen interaction. Further investigations into the physiology of this interaction are underway.

EILEEN KING is pursuing a study of crop yield losses in potatoes caused by three classes of pests:

Diseases (early blight and late blight); insects (Colorado potato beetle); and weeds (Quackgrass). The pests are being introduced and maintained at three different levels, and are applied either alone or in combination in plots of two varieties of potato. It is hoped that interactions among different classes of pests in causing yield losses will be elucidated, and that this may be the first step in demonstrating the need for IPM strategies which are concerned with more than a single class of pests.

Although previous research has furthered the understanding of rate-reducing resistance, there has been little emphasis on the variation of fitness attributes within pathogen populations. With rate-reducing resistance measured as the influence of the host on the parasitic fitness of the pathogen, it is logical to assume the same attributes could be utilized to evaluate variability within pathogen populations. The presence of Helminthosporium carbonum race 3 was shown to occur as early as 1971 and since that time has been observed throughout the northeast and the corn belt. The frequency of isolation of H. carbonum race 3 and high severities of disease observed in Pennsylvania have prompted research by L. V. GREGORY to investigate the possible increase in fitness within the population of H. carbonum race 3. Parasitic fitness of isolates from populations isolated in 1971, 1974-75 and 1979 in Pennsylvania and 1978-79 from the corn belt will be assessed in greenhouse experiments to ascertain the variability within populations and through time. The implications of variability in parasitic fitness are directly applicable to breeding programs attempting to identify rate-reducing resistance as well as to the effective deployment and stability of rate-reducing resistance.

GAR THOMAS will be conducting research on rice blast disease, studying disease severity versus yield loss relationships and the relationship between leaf blast and neck rot. His research will be conducted here and in Colombia, South America, employing several slow blasting varieties and advanced lines of crosses between slow blasting donor parents.

BARRY NOLT is investigating the replicative strategy of tobacco ringspot virus (TRSV) in cucumber. Relatively little is known about the replication cycle of this economically important plant virus. The isolation and characterization of the TRSV replicase has not been accomplished, nor has it been determined if this enzyme is strictly of viral origin or whether it contains any host-derived proteins. The site of viral replication will be located by assaying various subcellular fractions for RNA-dependent RNA polymerase activity. A time course experiment will be conducted to determine whether an increase in RNA polymerase activity in any of the subcellular fractions tested is correlated with TRSV multiplication. Additionally the in vitro synthesized RNA polymerase reaction products will be characterized for each one of the subcellular fractions. Upon locating the subcellular site of viral replication a comparison of the properties of the RNA polymerase enzymes in the fraction from mock-inoculated and TRSV-infected plants will be conducted. Properties such as requirements for RNA synthesis, cofactor requirements, and template specificity will be included in this study.

Several graduate students presented papers at society meetings this past year. The annual meetings of the Northeastern Division of APS were held on November 5-7 in Ithaca, New York. The meeting was well attended and students presented the following

papers (student name in capitals): L. ZANG & W. Merrill on "Spore Release in Naemacyclus Minor"; ALAN R. BIGGS & D. D. Davis on "The Enlargement of Cytospora Canker of Hybrid Poplar and Associated Bark Water Relations"; R. N. RAID, S. P. Pennypacker & A. A. MacNab on "Two Weed Species as Hosts and Potential Inoculum Sources of Colletotrichum coccodes"; J. C. STUTZ & K. T. Leath on "Effects of Root Wounding on Fusarium roseum Development in Red Clover"; and F. W. NUTTER, R. D. Schein & H. Cole, Jr. on "A Relationship Between Incidence and Severity of Helminthosporium Leafspot (Drechslera poae) on Two Kentucky Bluegrass Varieties."

BARBARA ILLMAN & E. J. Pell presented a paper on "Physiological and Histological Contrast Between an Ozone Tolerant and Susceptible Potato Cultivar"; A. H. HAMID, J. E. Ayers, R. D. Schein & R. R. Hill on "Variation in Parasitic Fitness Among Isolates of Cochliobolus carbonum Race 3"; A. H. HAMID, J. E. Ayers & R. R. Hill on "Inheritance of Resistance in Corn to an Isolate of Cochliobolus carbonum Race 3"; and A. H. HAMID, J. E. Ayers, and R. R. Hill on "The Stability of Horizontal Resistance to Isolates of Cochliobolus carbonum Race 3."

At the Potomac Division meetings held in Morgantown, West Virginia last March the following papers were presented: L. V. MADDEN, S. P. Pennypacker & A. A. MacNab on "Verification of an Early Blight Forecasting System on Four Tomato Cultivars"; and S. R. NEWHART & C. P. Romaine on "Application of the Enzyme-Linked Immunosorbent Assay to the Detection of Tobacco Ringspot Virus in Geranium".

This past year the American Phytopathological Society (APS) and the Canadian Phytopathological Society (CPS) held a joint annual meeting on August 24-28 at the University of Minnesota at Minneapolis/St. Paul. Graduate students presenting papers at the 1980 APS-CPS annual meeting were: M. G. BOOKBINDER, F. L. Lukezic & J. R. Bloom on "Apparent Pathogenicity to Alfalfa Exhibited by Several Strains of Human-Pathogenic Bacteria"; V. J. ELLIOTT, R. R. Nelson & D. R. MacKenzie on "Cultivar Effects on Parasitic Fitness"; NANCY L. FISHER, T. A. Toussoun & P. E. Nelson on "Preservation of Cultures of Fusarium Species"; L. V. GREGORY, M. H. Royer, J. E. Ayers & R. R. Nelson on "The Evaluation of Relative Parasitic Fitness of Isolates of Helminthosporium maydis Race T"; ROGER P. KAISER and P. E. Nelson on "The Relationship Between Infection in Corn Seedlings and Stalk Rot Caused by Fusarium moniliforme"; LARRY D. LATHROP & S. P. Pennypacker on "Are Latent Infections of Colletotrichum coccodes Important in Tomato Anthracnose Epidemics"; L. V. MADDEN, S. P. Pennypacker & C. H. Kingsolver on "Evaluation of a General Loss Model for Crops"; F. W. NUTTER & H. Cole, Jr. on "Conidia Periodicity and Dispersal of Drechslera poae"; J. C. STUTZ & K. T. Leath on "Comparative Development of Fusarium roseum Isolates in Roots of Red Clover"; and G. C. THOMAS, S. P. Pennypacker & A. A. MacNab on "Organisms Associated with Fruit Rot in Pennsylvania Canning Tomatoes."

<u>Name</u>	<u>Degree Sought</u>	<u>Advisor</u>	<u>Research Interest</u>
Berkett, Lorraine	M.S.	K. D. Hickey	Integrated pest management
Biggs, Alan	Ph.D.	D. D. Davis	Air pollution - plant disease interactions
Broschious, Steve	M.S.	J. A. Frank	Development of crop and pest management systems for wheat
Castano, Jairo	Ph.D.	D. R. MacKenzie & R. R. Nelson	Epidemiology of rice blast
DeVos, Neal	M.S.	E. J. Pell	Breeding and genetics of air pollution resistance
Douglas, Sharon	Ph.D.	R. T. Sherwood	Disease resistance mechanisms; powdery mildew of oats
Elliott, Vern	Ph.D.	D. R. MacKenzie & R. R. Nelson	Epidemiology, genetics
Finley, Richard J.	M.Agr.	P. J. Wuest	Mushroom integrated pest management
Fisher, Nancy	M.S.	T. A. Toussoun	Fusarium wilt of chrysanthemum
Gettig, Russell	Ph.D. (Genetics)	W. J. McCarthy	Insect virology
Gregory, L. Vann	Ph.D.	J. E. Ayers & R. R. Nelson	Disease resistance, epidemiology, yield loss assessment
Hamid, Ali B.	Ph.D.	J. E. Ayers	Disease resistance
Hartig, Phillip	Ph.D. (Genetics)	W. J. McCarthy	Insect virology
Horna, Sheryl	M.S.	L. C. Schisler	Mushroom research
Illman, Barbara	Ph.D.	E. J. Pell	Physiological contrast of ozone tolerant and susceptible potato cultivars
Kaufman, Ted	M.S.	J. R. Bloom	Nematode diseases of mushrooms
Kehne, Caroline	M.S.	S. P. Pennypacker	Epidemiology
Kidney, Barbara	Ph.D.	D. R. MacKenzie	Epidemiology
King, Eileen	Ph.D.	D. R. MacKenzie	Crop loss in potatoes
Lalancette, Norman	M.S.	K. D. Hickey	Epidemiology/disease control of tree fruit diseases
Lathrop, Larry	Ph.D.	S. P. Pennypacker	Epidemiology
Lawrence, Ellen	Ph.D.	P. E. Nelson	Genetics of Fusarium
Lotstein, Richard	M.S.	D. D. Davis	Air pollution - plant disease interactions
Molina, Agustin	Ph.D.	D. R. MacKenzie	Epidemiology
Molina, Gloria	Ph.D.	J. R. Bloom	Interaction of bacteria and plant parasitic nematodes
Lucas, Barbara	Ph.D.	D. R. MacKenzie	Potato diseases
Morelli, Lauria	M.S.	P. E. Nelson	Fusarium - anatomical study
Nass, Herman	M.S.	R. R. Nelson	Powdery mildew on wheat
Newhart, Susan	M.S.	C. P. Romaine	Geranium viruses, virus-indexing
Noit, Barry	Ph.D.	S. H. Smith & C. P. Romaine	Plant virus replication
Monroe, James	M.S. (Genetics)	W. J. McCarthy	Polypeptide analysis in baculovirus
Palazzolo, Nicole	M.S.	E. J. Pell	Qualitative effects of proteins from ozone injury in alfalfa
Pawloski, Judy	M.S.	E. J. Pell	Effect of NO ₂ air pollution upon potato tuber glycoalkaloids
Pelletier, Jean-Robert	M.S.	R. D. Schein	Epidemiology
Raid, Richard	M.S.	S. P. Pennypacker	Epidemiology
Royer, Matthew	Ph.D.	R. R. Nelson	Epidemiology
Schroeder, Gary	M.S.	L. C. Schisler	Factors affecting size of commercial mushrooms
Sim, Susan	M.S.	K. T. Leath	Resistance to virus disease on red clover
Small, Daniel	M.S.	T. A. Toussoun	Fusarium diseases
Sriskantha, Alagacone	M.S.	J. S. Boyle	Virology
Stevenson, Richard	M.S.	S. P. Pennypacker	Environmental epidemiology
Stockwell, Christine	M.S.	R. T. Sherwood	Physiology of disease resistance; papillae
Stutz, Jean	Ph.D.	K. T. Leath & F. L. Lukezic	Fusarium root rot of alfalfa
Theberge, Robert	Ph.D.	D. R. MacKenzie	Epidemiology
Thomas, Garfield	Ph.D.	R. R. Nelson	Disease resistance; epidemiology
Wach, Mark	Ph.D.	J. S. Boyle	Chemical control of fungi - virus and mycoplasmas
Ware, David	M.S.	J. E. Ayers	Gray leaf spot of corn
Watson, Greg	M.S.	J. A. Frank & H. Cole	Wheat research
Zang, Larry	M.S.	W. Merrill	Christmas tree research

Visitors

The Department welcomed many visitors to the Department since the last issue of our Newsletter. Among those who presented guest lectures to our Intermediate Seminar (PPATH 590) were: Dr. S. E. Stevens, Assistant Professor of Microbiology at Penn State; Dr. K. F. Baker, Plant Pathologist-Professor at the USDA-Ornamental Plants Research Lab., Corvallis, Oregon; Dr. James Tette, Director of IPM Programs, New York State Ag. Experiment Station, Geneva, New York; Dr. Ralph Richardson of The Rockefeller Foundation; Dr. Rustom Roy, Director of the Materials Research Laboratory at Penn State; and Dr. Rosemary Schraer, Assistant Provost at Penn State. Special seminars were presented by: Dr. Harry Hoitink, Plant Pathologist, Ohio Agricultural Research and Development Center, Wooster, Ohio; Dr. J. M. Olivier of the National Institute for Agronomic Research, Angers, France; Dr. A. R. Weinhold, Professor and Chairman of the Department of Plant Pathology, University of California, Berkeley; Dr. Douglas Maxwell, Professor of Plant Pathology at the University of Wisconsin, Madison; and Dr. Ivan J. Thomason, who presented a seminar co-sponsored by the PSU Department of Entomology. Dr. Thomas is Assistant Director, Cooperative Extension, Pest and Disease Management, University of California, Riverside.

In addition to these guests, several speakers were invited to participate in PPATH 540, Plant Disease Control, during the Spring Term, 1980. These participants included Dr. W. E. Fry, Cornell University; Dr. G. Papavizas, USDA-SEA-AR, Beltsville Maryland; Dr. J. G. Horsfall, Connecticut Agricultural Experiment Station; Dr. C. J. Delp, E. I. DuPont, Wilmington, Delaware; Dr. R. Harwood, Director of Research for the Organic Gardening and Farming Research Center in Emmaus, Pennsylvania; Dr. B. Croft of Michigan State University; Dr. G. A. Carlson of North Carolina State University; and Dr. R. C. SEEM (M.S., Ph.D.- '76) from the New York State Agricultural Experiment Station, Geneva, New York.

Alumni News

We are always happy to hear from our alumni. Again this year we find that the alumni and friends of the Department have been busy traveling, working, and raising families. From around the country and around the world, here are some updates--

Claire Gesalman (M.S. '77) (Charlestown, West Va.)

I'm working for the Environmental Protection Agency as a scientist, in the hazardous waste and safe drinking water enforcement program. I recently received a promotion. This summer I received a cash award related to a regional program review in which I participated last year.

Web Chandler (Ph.D. '55) (Experiment, Georgia)

We had a family get together near Washington in October and Peggy got her fill of fall foliage when we drove up via part of the Blue Ridge Parkway and returned via the Shenandoah Valley. We didn't get to Pennsylvania but we hope to do that on our next trip north. It is 25 years since we left Penn State so Barbara is married and already "retired" from teaching school since her little boy John arrived. He is nearly 2. They live near Atlanta. Our son Randy is also married and living in Griffin. He is in the building business. Peggy still gives piano lessons but has retired from her organist work after many years. I am thinking about retirement and have a small peach and apple orchard started to keep me busy.

Angel Mainer (M.S. '76) (Madrid, Spain)

Since I left Penn State in 1976 I have been receiving your letters addressed to Graduate Student Alumni, which is always for me a great pleasure receiving news from you. I would like to keep in touch for years and I am sure some day I will go back to visit the Department of Plant Pathology and all around the University, State College, etc.

Leon R. Kneebone (Ph.D. '50) (State College, Pa.)

Libby and I had two wonderful trips this year - one to Israel and Egypt and one to Austria and Germany to see the Passion Play. The last of our three children, Eileen, was graduated from Penn State this summer and is teaching handicapped children at Easterly Parkway school in State College. I am retired from the faculty but I keep busy as a consultant for a dozen or so mushroom companies in seven states and four countries.

Janice C. Scalza (M.S. '77) (Albany, New York)

I'm working out of my house in Guilderland, New York, just outside Albany, as an agrichemicals development representative for DuPont. I cover New England, New York and New Jersey. It's been a busy year, as I'm away from home on the average of 3-4 nights per week, but I'm learning a lot and have had many enjoyable experiences as well as making new friends and acquaintances.

Larry Madden (M.S., Ph.D. '80) (Wooster, Ohio)

I started work on June 2nd in the Department of Plant Pathology at the Ohio Agricultural Research and Development Center (OARDC) as a Systems Specialist. My research duties include the epidemiology, modeling, and simulation of Maize Dwarf Mosaic Virus and Maize Chlorotic Dwarf Virus. I have already traveled quite a lot to visit other corn virus researchers and to observe severe virus problems on corn. States visited include: Maryland, Michigan, Minnesota, Mississippi, Tennessee, and Georgia. I am gradually getting adjusted to the small town life of Wooster, Ohio. My major form of recreation is tennis--playing in local indoor leagues.

Joe Speroni (M.S. '79) (State College, Pa.)

As you know, I never left Penn State. Rather, I just traveled "across the street" to the Food Science Department where I am enrolled as a Ph.D.

candidate. So far all goes well. Last December, I was awarded a competitive two-year fellowship from the Campbell Soup Co. I feel very honored to represent that very famous company.

John M. Skelly (M.S., Ph.D. '68) (Blacksburg, Va.)

Linda is working full-time as a recently promoted Secretary C, in a position involving computer word processing systems in the Administrative and Educational Services Division of the College of Education and continues to be active in the Blacksburg Women's Club and "raising" four children.

John "Jr." is now a Junior at James Madison University, majoring in Accounting with a minor in Criminal Justice. Says he'll try to keep me out of trouble! John still plays football for JMU Dukes and leans also towards coaching some day.

Rebecca is working full-time as a Xerox 9200 operator in the College of Education and taking extra classes during evening hours.

Patty has enrolled at Radford University in Special Education/Learning Disabilities as a Freshman and enjoys campus life (She also said she would help me as needed after her graduation!)

David is a Senior at Blacksburg High School this year and is looking forward to the 1981 baseball season. He won the New River District (ERA) award last year for pitching and had a 5-1 record. He wants to play ball at a major university - know any?

The establishment of the new Laboratory for Air Pollution Impact to Agriculture and Forestry has been our major accomplishment at Virginia Tech. We are excited about our potential.

Wendy Oglevee-O'Donovan (M.S. '77) (Connellsville, Pa.)

Nothing much is new with me - just still plugging along. Phytolab is still involved and very dedicated to producing virus-indexed raspberries. We plan to release our first plants on a trial basis in April of 1981. We plan to pursue the possibility of a certification program in Pennsylvania in the near future. We are using the ELISA method as worked out by SUE NEWHART AND PETE ROMAINE at Penn State to upgrade the quality of the Culture-Virus-Indexed geraniums which we produce for Oglevee Associates. We are continuing our work with narcissus, hyacinths, tulips, and iris for Holland, and are investigating the possibility of multiplication of rhododendrons.

Roger P. Kaiser (Ph.D. '80) (Painesville, Ohio)

As of June, 1980, I have been employed as a Research Biologist with the Agriculture Chemicals Division of Diamond Shamrock Corporation. My duties center around new product discovery of fungicides and nematicides and as promising compounds are found, greater emphasis is placed on field testing and development.

C. Gardner Shaw (M.S. '40) (Pullman, Wa.)

Attended an International Conference on Downy Mildews of Corn sponsored by Rockefeller Foundation at their Conference Study Center in Bellagio (Como), Italy in late November, 1979. Have just returned from an extended trip to Pittsburgh for biennial

Karne of my Social Fraternity, Delta Tau Delta, of which I am a Distinguished Service Chapter member; then on to Washington, D.C. for a vacation visit with my daughter and her family; then to Minneapolis for APS, and finally on to Juneau, Alaska where my son, Charles G. Shaw III, is a forest pathologist with U.S. Forest Service. Most time was spent fishing.

Washington State University has recently decided to honor annually one person (faculty) whose efforts have been instrumental in the development and improvement of the WSU Library. I was the first person to receive the first WSU Faculty Service Award. Am teaching Mycology this fall for the first time in four years. Lapse was due to my two-year assignment in Jordan as Chief Agriculturalist for an AID funded Institutional Development program at the University of Jordan.

P. G. Moghe (Ph.D. '74) (Akola, India)

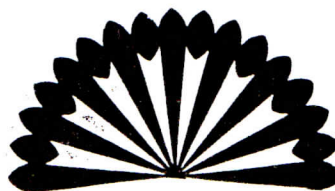
Presently, I am working as a professor in the Department of Plant Pathology, teach three courses, and have two students registered for Ph.D. programmes. I have plans to visit USA under the Indo/US fellowship programme for post doctoral studies and wish to conduct inhibition studies on Tristeza and Greening of citrus at the citrus research station either at Florida or California. I have recently constructed a three bedroom house in the city of NAGPUS, which is an all faculty educational centre. This would help my two sons and a daughter who will be shortly taking up to collegiate education. My kodachrome collection about Penn State and the people helps me refresh the sweet memories of my long association with the lovely people of the happy valley.

Biruta Ahn (Webster, New York)

Skip and I are doing fine. Skip is still at Ward's Natural Science Establishment in charge of the microscope slide department. Just now he is in Boston to give a workshop for high school science teachers. He had one in New Jersey three weeks ago.

At last, after 17 years out of Penn State, I gave a course in Plant Pathology to some interested students. The class was small, it was requested by a student who is a landscape gardener, but we all had lots of fun. I found out how much I had forgotten, but also that I remembered quite a bit. There is not much interest in this field at the University of Rochester, since most of the students are medically inclined.

This semester I am teaching Plant Kingdom and doing some algal work on Irandequoit Bay (enclosed bay of Lake Ontario). This summer the four of us (our sons are 16 and 19 now) went to Ireland on vacation. We enjoyed the history and the beauty of the country very much and hope to go back some day.



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