



1975-1977

THE PATHOGEN

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## MESSAGE FROM THE CHAIRMAN

J. E. MITCHELL

This issue of THE PATHOGEN brings news and greetings to all we can contact who have studied with us in one way or another over the years. We aim to issue THE PATHOGEN each year, but sometimes our aim is not too good and time slips by. We are interested in those who have gone on to careers elsewhere and hope that you maintain a similar concern for the Department and what it is doing. We hope THE PATHOGEN keeps this interest alive and helps us maintain contact with you.

This contact is nurtured a bit by gatherings at the annual meetings of A.P.S. We had a great time at the M.S.U.-A.P.S. meetings where the Wisconsin social hour brought together present and past members of our Department. Dr. Calavan, fresh from receiving the Fellow Award, was there with his wife. The senior person present was W. J. (Bill) Zaumeyer -- enjoying life in retirement. It was good to see him. Those attending found themselves guests of the present faculty, and it was gratifying to have so many there. We are anxious to keep track of all who leave here and urge you to drop a letter or card to bring us up-to-date, especially when you move or do something eventful. Most of all, we like to have you return to the Department to talk to us about what you are doing and see what is going on here. Let us know ahead so we will be here to visit and help you, if we can.

The group here is about as big as it has ever been as the following pages will attest, and as the pressure on space and facilities in the building makes evident. Expanded teaching and research programs have challenged the staff and forced a constant reappraisal of space use. Fourteen years ago Russell Laboratories was new and seemed spacious to those who moved out of the Horticulture Building with its facilities that dated back to the beginning of the Department.

Looking ahead 13 years, a period of time shorter than we have occupied Russell Labs, 10 more staff members will have reached mandatory retirement (present rules). Great decisions will need to be made in the interim as 10 people who will be part of the Department of the future are selected.

Those who have preceded us built an enviable reputation. Approximately 470 have earned Ph.D.'s in the Department at Wisconsin. Of this number, and including the present staff, 35 have been selected by their peers as Fellows of A.P.S. This is more than 25% of the total number elected Fellows, and 7.4% of those who have earned their degree here. There is one recipient of the Award of Distinction, J. C. Walker; two of the Ruth Allen Award, W. C. Snyder and J. B. Bancroft; two of the Campbell Award, D. J. Hagedorn-R. Sherwood, and J. B. Bancroft; and two of the Ciba-Geigy Award, D. J. Hagedorn and W. W. Hare. Time will tell whether the more recent generations will measure up to this standard in the eyes of their peers.

Let us know of your students who might wish to do their graduate work here and of your best graduate students who seek positions. People who build organizations are people with ideas and enthusiasm for what they do. During the years ahead, we will be seeking your help in finding these people.

KEEP IN TOUCH!

FELLOWS OF A.P.S.

Wisconsin alumni or staff who have been elected Fellows of the American  
Phytopathological Society

1965	A. C. Braum	1969	R. G. Grogan
	M. W. Gardner		A. Kelman
	G. W. Keitt	1970	L. J. Alexander
	I. E. Melhus		E. E. Clayton
	G. S. Pound		R. W. Fulton
	A. J. Riker	1971	M. E. Gallegly
	J. C. Walker		L. Sequeira
	G. F. Weber	1973	R. J. Shepherd
	C. E. Yarwood		A. J. Ullstrup
1966	C. W. Bennett	1974	G. W. Bruehl
	A. E. Dimond		A. L. Hooker
	C. F. Drechsler		F. L. Wellman
	W. C. Snyder	1976	D. J. Hagedorn
	E. E. Wilson		C. J. Nusbaum
1967	R. M. Caldwell	1977	E. C. Calavan
	H. H. McKinney		E. B. Cowling
	W. J. Zaumeyer		J. L. Lockwood
1968	A. F. Ross		

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COLLOQUIUM COUNCIL

Members of the 1975-76 Colloquium Council were Margo Daub, Bill Fett, Barbara Holroyd, Vincent Otoide, Rick Reeleeder, and Jorge Victoria. One of their major projects for the year involved preparing for the Departmental Review held that spring. Members of the Council, with the help of other students, prepared and analyzed questionnaires sent to recent graduates of the Department. The participants were asked to evaluate the education they received at the U.W., and to offer suggestions on curriculum changes and the future goals and direction of the Department. The Council also prepared a questionnaire for current students, asking their impressions of the curriculum and graduate program.

The Council kept busy in other ways as well. Barb Holroyd handled the Commons Room; Rick Reeleeder managed the money; Vincent Otoide updated and organized the slide sets; Margo Daub was the representative to the faculty meetings and organized meetings for student information and input in Departmental affairs; Bill Fett was a member of the Curriculum Committee and was also in charge of sporting events, organizing the Christmas party, and spring picnic; and Jorge Victoria organized the Colloquium seminars. Speakers for the year included Professor R. K. S. Wood, of the Imperial College in London, and Dr. Robert S. Cox, a private practitioner from Lake Worth, Florida, in addition to other "distinguished" speakers from the University of Wisconsin-Madison.

During the year, the Council purchased a soccer ball, volleyball, and baseball equipment, and also a Hewlett Packard HP 27 calculator which was placed in the library for general use.

(Margo Daub)

Members of the 1977 Colloquium Council were Vaughan James, Bob Martin, Sally Miller, Jim Mueller, Mary Ann Pfannenstiel, and Chip Styer.

In May of 1977, the new Colloquium Council began management of the Commons Room. Raisins and hot chocolate were added to the Commons Room cuisine. Efforts are currently being made to improve the electrical facilities.

Currently, the Council is sponsoring evening and Monday noon seminars. These informal seminars are presented by the faculty, and provide an opportunity for members of the Department to become familiar with current research programs in the Department.

A Pentax camera, macro-lens, and automatic flash were purchased with money placed in a savings account by previous Councils. This camera is intended for use by graduate students when observing diseased specimens.

The social committee has sponsored a TGIF with the Council paying the tab. The first annual Halloween costume party was a huge success. It was held on October 29, 1977. Prizes for the most interesting costumes went to Al Budde, John Castello, Donna Daniels, Dr. E. B. Smalley, and Ann Smith.

(Mary Ann Pfannenstiel)

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#### SPORT HIGHLIGHTS

Members of the Department of Plant Pathology were involved in many sports events during the last two years. We fielded a Co-Rec softball team both years. During the 1976 season, the team had a record of two wins and six losses. The experience gained that summer helped the team reach the playoffs during the summer of '77, compiling a record of six wins, two losses, and a tie. A loss in the second playoff round ended the season.

In the spring of '77, the Department had two Co-Rec volleyball teams. One team managed a 2-2 record, but the other team swept all 4 regular games. They ended with a 5-1 record by winning the first game in the playoffs, but losing in the second round.

Department members also participated in friendly intradepartmental volleyball games every week.

Zoospores, the Co-Rec innertube water polo team, completed both seasons without a win, although the '77 team showed some improvement over the '76 team. This season the offense scored several times every game, but the defense remained a little leaky.

Besides these spectator sports, the Department also sponsored another canoe trip on the Kickapoo River. Over 40 Department members and their families participated.

#### 1976 STATE CHAMPIONS

No, it's not the football team (U.S.A. style), but it is football (World style - soccer). Four Plant Pathology graduate students, Raul Ribeiro, Carlos Lopes, Jose Cardoso, and Marcio de Assis, played with 'Monona Internationals' and won the First Division STATE Championship of the Wisconsin Soccer Association. Congratulations!

(S. A. Miller and D. J. Styer)

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#### GRADUATE STUDENT DISEASE DIAGNOSTIC CLINIC

One of the concerns of the graduate students in our Department has been the lack of practical training in plant pathology available within the Department. In the spring of 1976, the idea of organizing a graduate student-run disease diagnosis clinic for servicing the residents of Dane County was initiated, largely by John Andrews who had had experience with a similar clinic at U.C.-Davis. After much

discussion, the Plant Pathology Extension people and Jim Schroeder, the Dane County Horticultural Extension Agent, agreed that the project was both feasible and potentially useful to students and to the general public. Both our Extension people and Jim Schroeder agreed to refer "cases" for the students to handle.

During the summer of 1976, 24 participating graduate students handled 100 cases. Working in pairs, the students would call the owner to arrange a time for viewing and sampling, diagnose the problem, and file a report, one copy of which was mailed to the plant owner along with any other available information on that particular problem. We saw everything from boron deficiency of rhubarb to mite defoliation of white spruce. In 1977, the 20 participating graduate students handled over 80 cases. We are fast gaining some knowledge of Horticulture, Soil Science and Entomology, as the cases are often complex ones which could not be diagnosed by Extension personnel over the telephone.

The overall reaction to the Disease Diagnostic Clinic has been very favorable. The graduate students have increased their practical experience in disease diagnosis, and have learned to deal with the plant owner, as well. Jim Schroeder, the main source of our cases, has been very pleased with our efforts, as he does not have the time or staff to deal with many individual disease problems, and our clients are pleased. The response to a questionnaire sent out to our first 60 customers was overwhelmingly positive. They felt that we dealt promptly, knowledgeably and thoroughly with their problems.

The continued success of the Graduate Student Disease Diagnostic Clinic depends solely on the enthusiasm and diligence of the students in our Department. We hope that they find the experience to be as worthwhile as we have found it to be.

(Cleo D'Arcy)

#### PHYTOMEDICS ARE "GERMINATED"

The Plant Pathology undergraduate club, "Phytomedics", began the 1976 year with 28 members, each contributing a wide variety of interests to our organization. The monthly meetings were planned by our advisor, Dr. J. H. Andrews. Liz Bernhardt, the president, along with Alan Brown, served as the Plant Pathology representatives on the Ag. Student Council.

Dr. Mitchell hosted the first meeting in the fall with an informal discussion highlighting his sabbatical leave in Australia. At our second meeting, George Lacey, a Postdoctoral Fellow in the Department, gave a slide presentation on his studies as a bacteriologist in Antarctica. Members Daryl Bréhm and Rick Gilbertson related their internship experiences of the summer at the next meeting. The future outlook for continuation of the internship program looks promising, as it gives students some practical field experience. Hosting the last meeting, Dr. Andrews discussed his postdoctoral studies in Cambridge, England.

A seminar course was offered in the spring which gave most of the undergrads a chance to prepare and present a seminar. The course was well received, and we hope that it will be offered again.

Thus far, in 1977, we met at the home of Dr. P. H. Williams where he gave a slide presentation on his recent trip to China. A canoe trip was organized in September.

(Karen Parks)

## THE "SPECIAL" PEOPLE

We had the objective to include an article on the "special" people in the Department. These, of course, are the specialists spread up and down the nine floors of Russell Laboratories. They are doing things as diverse as plant pathology can be -- oiling pencil sharpeners or running the electron microscope.

We have many people who fall into our "special" category. Through lack of time, forgetfulness or lack of desire, many failed to respond to our request that they tell us what their particular job involves. We cannot give you a near total of what would assuredly be a very interesting insight into part of what makes Russell Laboratories work due to those behind and in front of the scene of labor. However, since some did respond we do want to include their functions in the mechanics of plant pathology research.

Bob Rand insists he is just a "bean picker", but we have seen his name on a publication or two, and we are sure Dr. Hagedorn would classify him as a "right-hand man".

Two "Specialists" working with Dr. Helgeson are both involved with Phytophthora parasitica. Working closely together, Allen Budde is involved in disease resistance on a molecular level using tobacco tissue culture as a model for the host-pathogen system. Geraldine Haberlach is applying this model system to studying the influence of growth hormones on disease resistance.

As a member of the Pioneering Laboratory, Carl Schmidt is doing studies on oak wilt and resistance to it in various species of oak tree.

One of our most recent Specialists is Vicki Radke. She assists Dr. Grau, Extension Plant Pathologist, in laboratory experimentation, isolation transfers, data collecting and field work.

Stuart Baker is involved as the Specialist in the "Frost" project. He works on techniques to perfect the project and does much of the "leg work", such as measuring, marking, seeding and spraying along with planting, replicating, incubating and record keeping.

Susan Daugherty is the "machine" behind Plant Pathology 300 which keeps the course rolling. Along with this, she assists Dr. Boone in his research.

A June 1, 1977, addition to the Extension Laboratory is Sister Mary Francis Heimann, O.S.F., Extension Specialist, who replaced Dan Opgenorth as the plant disease diagnostician.

We know there are more specialists "out there". Frank Vojtik is still around -- the man who hears "help" most often. It may be he is sponsoring a fire prevention seminar or he may be the one to find some much needed greenhouse bench space.

Cathy Smejkal works with Drs. Mitchell and Boone with soil fungi, apple trees and cranberries.

Dr. Lynn Graves works with Dr. Maxwell and is isolating microbodies from Aspergillus sp. He is also starting on the characterization of microbodies in Phytophthora megasperma.

Russell Spear fills in in many phases of Dr. Patton's research. Some of his duties include histology, histo-cytochemistry, microauto radiography along with a number of other microscopic techniques.

Eileen Maher is working with Dr. Kelman on soft rot in potatoes. Her work involves mainly isolation techniques as well as observations of some of the physical parameters of potatoes.

Dr. Smalley's DED research goes on with the help of Specialist Shing Huey Mai. Shing Huey is working primarily with the fungus toxin and its relationship in resistant and susceptible trees.

Robert Slattery assumes the responsibilities up at Antigo under Dr. Slack in the Potato Seed Certification Program.

Dr. Sequeira has Elizabeth Barlow as a Specialist who is screening potatoes for wilt resistance. She is also working on seed transmissions of bacterial blight in soybeans while maintaining Pseudomonas solanacearum cultures.

Working with Dr. Army, Donald Caine helps with field crop observation of corn and small grains and assists graduate students in laboratory work and experimentation involving field crops.

Fernando B. Diez works with both Drs. de Zoeten and Army in greenhouse and growth room operations especially peas, potatoes, and tobacco for virus work. His responsibilities also include extraction and purification of viruses of peas and tobacco.

Jeanette Fulton fills out a husband and wife team by working on propagation of experimental plants, plant virus assay and purification and density gradient centrifugation for Dr. R. W. Fulton.

Specialist Charles Kenerley works on fungal spore ejection mechanisms, the morphology of ascomycetes and does phyloplane studies of apple leaves. He is under the direction of Dr. John Andrews.

Diseases of cucumbers are Mary Jeanne Palmer's specialty, working for Dr. Alleah B. Haley.

Steven Vicen is still taking everything from "mug" shots to root-knot nematode pictures to coffee breaks.

Gary Gaard is still on hand to do an e.m. dip for you or just give you a friendly "hi" in the corridor.

Maybe if we formed a club, we could tell you more about ourselves. But at least this serves to tell you a little about who is still around whom you know and adds a few names to the list.

(M. F. Heimann, O.S.F.)

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## EXPERIENCES WITH THE PEACE CORP IN MALAYSIA

by Chris Miller

I returned in April from serving with the Peace Corps in Malaysia as a research officer attached to the Malaysian Agricultural Research and Development Institute. Two years were spent at a small agriculture station located approximately 1500 meters on a plateau area in the central mountain range of the Malay Peninsula. Efforts are carried out at this Station to adapt temperate fruits and vegetables to the cool, wet, non-seasonal environment of highland farming in Malaysia.



One of my main projects was to attempt to induce flowering for seed production in certain biennial crops, such as cabbage and carrots, which are grown extensively in the highlands, but require considerable expenditure by the farmer for the purchase of imported seed. Broccoli and Brussels sprouts were introduced to the local market. New varieties of cabbage, tomato, cauliflower, sugar pea, potato, green pepper, lettuce and onion were screened. Pests and diseases of vegetables, ornamentals, strawberries, citrus, grapes, passion fruit, persimmon, tea, coffee, maize, cinchona, tree tomatoes, avocado, lychee, alfalfa and several local crops were studied. My previous research was in root regeneration of forest species, and it soon became obvious that a specialist with my unique background would be indispensable.

Some commonly grown crops require very heavy use of pesticides for production. Tomatoes can receive up to six applications of fungicide a week for the control of late blight, and cabbage can receive four to five insecticide treatments for the control of diamond back moth. Currently, there are few regulations governing the use of pesticides or residue build-up. There is a great need for the development or identification of more resistant varieties.

Malaysia is an ideal country for Peace Corps assignment as it has three separate cultures: Malay, Chinese and Indian with vestiges of the colonial period represented by the many ex-patriots who still live and work in Malaysia and Singapore. At this point, I feel very positive about the experience of living in Malaysia. There were some difficult times, but we have only been back five months and already many of the memories of the hassles and frustrations of living there are fading. If I were to tell someone what I felt about the experience at this time next year, I would probably say it was unequivocally wonderful. That would not be quite true.

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#### ALUMNI IN CHINA

by Arthur Kelman

In August 1974, I traveled in the People's Republic of China as a member of the Plant Studies Delegation of the National Academy of Sciences. In Peking, I had an opportunity to meet briefly with Dr. Wei-Fan Chiu who completed his Ph.D. with Dr. J. C. Walker and returned to China in 1948. Dr. Chiu is currently a Professor of Plant Pathology at the North China (Hupei) College of Agriculture with primary research interests in the diseases of small grains. He extended his greetings and regards to former fellow students and professors.

In Canton, I contacted Dr. Hwei-Chung Faan who completed his Ph.D. at Madison with Dr. James Johnson in 1950. Dr. Faan is currently serving as Vice-Chairman of the Department of Plant Protection of the Kwangtung Province College of Agriculture. In this capacity he is responsible for a faculty of over 40 with teaching and research activities. The Agricultural College at which he is working is no longer located in Canton, but has been rebuilt in a rural area some distance from the city. Faan is in excellent health and spirits. He traveled for four days with the group from the U.S.A.

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## THE DEVELOPMENT OF DISEASE RESISTANT VEGETABLES IN CHINA

by Paul H. Williams

The development of disease resistant varieties is an activity which has a high priority in the programs of all vegetable production brigades, research institutes and academies throughout China. Genetic resistance in crops is clearly understood as being a major component of Mao Tse Tung's admonitions to the people on agricultural food production, "to develop improved seed". On virtually every brigade, institute, and university efforts are being made to "improve the seed", and it is apparent that one of the first approaches in seed improvement after liberation in 1949 was a major effort via mass selection within existing cultivars to arrive at a higher degree of uniformity and productivity. Inherent in these seed improvement programs was the selection toward those types carrying resistance to various diseases and insects. When one considers the fact that seed is often produced at the brigade level on each of approximately 50,000 people's communes, consequences of this widespread production on sources of diseases and insect resistance is very profound. It is to be expected that collections of local cultivars of all vegetable crops would be a rich source of genetic resistance.

The relative lack of serious damage to most crops would indicate that genetic resistance may be functioning rather widely in many vegetables. The relative absence of cucumber mosaic virus, CMV, in the many cucumbers we observed would indicate that high levels of CMV resistance exists in virtually all cucumbers in China. This fact would also be confirmed by the use of "China Long" cucumber cultivars as the source of CMV resistance for U.S. cucumber breeders in the 1940s.

With increasing emphasis being placed on the development of disease resistant cultivars, different specific breeding approaches are being used at the various provincial and municipal institutes. Plant Pathologists work directly with breeders in providing inoculum, in helping to develop incubation environments and in assisting with the scoring of disease reactions. At the Horticulture Research Institutes of the Shanghai Academy of Agricultural Sciences and the Shensi Academy of Agricultural Sciences, close collaboration between the pathologists at the institutes and breeders on the experimental teams at various People's communes has resulted in effective programs for selecting for Fusarium resistance in cucumbers and mosaic virus resistance in Chinese cabbage.

In North and Central China, considerable efforts are being made to produce high-yielding, open-pollinated and hybrid tomato cultivars resistant to tobacco mosaic virus, TMV, and TMV-streak. In the North, these viruses can become the limiting factor in tomato production. In Shensi, numerous crosses have been made between local varieties and foreign accessions. In an effort to locate resistance to the tomato streak, breeders in Shantung and Kiangsu are turning to Lycopersicon hirsutum and L. pimpinellifolium, and we were told that breeders in Szechwan had crossed L. esculentum and L. pimpinellifolium to develop bacterial wilt, caused by Pseudomonas solanacearum, resistance in tomato. Leaf mold resistance has been introduced from several Dutch cultivars. Crosses using the U.S. cultivar Manapal, brought to China in 1974 by the American Plant Studies Delegation, have proven to be most useful in production on TMV-resistant hybrids. Manapal, crossed by Chang Li Mi Shu, a Japanese cultivar, and Manapal crossed by a Netherlands cultivar, 544, have good TMV resistance in the F<sub>1</sub>, but segregate in the F<sub>2</sub>. Of 10 hybrid combinations produced in 1977, three show resistance to the mild strain of TMV virus, but none are fully resistant to TMV-streak.

An important part of potato improvement is breeding for virus and blight resistance. None of over 200 introduced potato cultivars, many of which were U.S. and Japanese, were resistant to late blight in Shensi. With the help of research personnel at

provincial and municipal institutes, potato improvement groups on the People's communes are encouraged to make crosses between superior potato varieties and select for locally adapted types. In Shantung, virus resistant potato breeding is done cooperatively with the Potato Research Institute in Heilungkiang. Tubers of well-adapted southern types may be sent North to the Potato Research Institute, where crosses are made and the seeds returned to various provinces for growing and selection under prevailing local conditions. Often potato breeders will take their stocks to the Potato Research Institute and make their crosses under supervision of Institute personnel.

At present, the practice of self-sufficiency in vegetable and vegetable seed production by the People's communes has both strong positive and negative aspects in relation to plant protection. Though self-sufficiency has served to restrict the long-distance spread of diseases and pests on vegetables and seeds, the principle has limited the full exploitation of drier regions in North China such as Shensi and Shantung, which are ideally suited for the production of disease-free vegetable seed. At the same time, self-sufficiency in seed production has produced a diversity of germ plasm in each vegetable species that is likely unparalleled anywhere in the world, and which in itself provides important long-term stability derived from genetic heterogeneity. The stability provided by this genetic diversity could be maintained even with  $F_1$  hybrid production, if China adheres strictly to the policy of self-sufficiency at the commune level.

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Dr. Williams spent six weeks (summer of 1977) in the People's Republic of China as a part of a U.S. team to observe vegetable production. Needless to say, he felt right at home with all the Brassics. He couldn't resist sampling all the Chinese dishes and brought back many fascinating stories.

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#### A POTATO PATHOLOGIST'S VIEW OF KOREA

by H. M. Darling

It is beautiful! Very green all summer -- mountains and valleys alike. The mountains and hillsides are covered with rhododendrons, azaleas and many other wild flowers in spring. People! About 37 million are jammed into an area somewhat smaller in size than Indiana. Seoul, its capital, has about 7 million living mostly in high-rise apartments rebuilt after being devastated by war. Expressways lead into it from all directions and it is only about a one and a half hour drive from the DMZ. Mini taxis abound. Buses are always jammed. Along with bicycles and trains, millions of people are moved each day. People are very polite until boarding a train or bus. Then it's every man for himself. There are few large stores for shopping, but thousands of small ones throughout the country at which you can buy anything you need.

Their economy is thriving, based on the export of a large number of commodities. In fact, their current economic growth is now accelerating faster than any country in the Far East. People work very hard and long to achieve this. They are also productive. Traditionally, the family lives and works as a unit in close harmony. The oldest son is looked upon as head of the family, and must support his parents in their old age. As a result, parents, children and grandchildren often live together. The average house is quite small and usually crowded. Older women dress colorfully and are well-groomed, but the younger generations have now mostly adopted Western dress and ways. It is in the country and small villages that you see the

traditional and most colorful native dress. It is also here that men commonly wear baggy pantaloons and vests, usually white. These are the country folk that are perhaps the hardest working in the world. They are pleasant, smile easily and none are fat. Actually, Ruth and I did not see a fat person during the 4½ months we were in Korea. Children are happy, smile easily and busy at school 5½ days a week nearly all year.

For many years, the Korean economy has been strongly linked to agriculture, and the average farm family still earns more money annually than non-farm workers. Although current policy encourages rapid industry expansion, agriculture will continue to be a major influence in Korean life for their growing population must continue to be fed on somewhat limited land resources. Most of the cultivated land is devoted to rice, their major crop. Recently developed varieties have increased yields considerably eliminating the necessity for imports. They all eat it and love it. Meats are not abundant. All varieties of seafoods are eaten along with seaweed, mostly in soups, etc., but they also raise and consume a variety of fruits, apples, pears, etc., and vegetables. Sweet potatoes and soybeans, barley and corn are roasted and steeped in hot water to produce a type of tea usually sipped during lunch, but also during morning or afternoon breaks. For the men, ginseng "tea" is often served. Probably the most favored dish next to rice is "Kimchi" consisting mostly of Chinese cabbage, peppers, garlic, radish, and more. It is "wow" when too much pepper or garlic is used. But good! Poultry and eggs are enjoyed.

Since my consultancy concerned potatoes, I cannot neglect this important crop in Korea either. The government now lists it as one of the most important vegetable crops needing research attention. They rightly feel that they must have a sound seed program before expanding production of the crop in the direction desired. To this end, they earlier located an elite seed farm in the Alpine region of Eastern Korea. Diseases spread less rapidly in the area. Facilities are adequate and progress is being made in eliminating most all tuber-borne diseases from their seed sources, resulting in generally good quality certified seed. Home-grown seed is generally very high in all diseases, including a variety of viruses and bacterial types. They have introduced a wide variety of seedlings and clones for use in breeding for disease resistance, mainly late blight, and for earliness. Since Irish Cobbler is grown on about 85% of their entire acreage, the rest being Shimabara, they are also developing extensive adaptation and other trials with named varieties. Storages are lacking, and this has delayed the development of any type of processing. Overall, the entire crop is produced by hand labor and by necessity fields average less than two acres. This means only certain phases in the production of the crop can be mechanized.

MEMOIR - PAUL JAMES ALLEN

Professor Paul J. Allen's untimely death on November 13, 1976 was keenly felt by students, staff and colleagues. He was born in Stockbridge, Mass., Sept. 28, 1914, and graduated from Harvard University in 1936, University of Rochester (M.Sc., 1938) and University of California at Berkeley (Ph.D., 1941). In 1946, Dr. Allen joined the Department of Botany, University of Wisconsin-Madison. He chose to work on the physiology of rust infected plants, and his research has brought him international recognition. His appointment in 1964 as Professor of Plant Pathology and Botany formally recognized his close ties to these two Departments.

Dr. Allen taught thousands of students in courses ranging from introductory botany to a graduate course in physiology of fungi.

Famous for his work with fungi, and writer of numerous reviews, he was, above all, an unpretentious man whose eminence was balanced by a humane perspective. For his unflinching cheerfulness, and warm understanding, he will be remembered with affection and admiration by his many friends.

(D. P. Maxwell)

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RETIREMENTS

DR. EARLE W. HANSON

One of our most outstanding faculty members, Dr. Earle W. Hanson, retired July 1, 1976, after having been associated with this Department for 30 years. A native of Minnesota, he obtained his B.S., M.S. and Ph.D. degrees from the University of Minnesota. The latter degree was awarded in 1942. He wrote an M.S. thesis entitled "Factors affecting the development and virulence of Fomes lignosus" and a Ph.D. thesis on "Seedling blights and foot rots of wheat in the spring wheat region of Northern United States". He worked on wheat diseases in Minnesota as a USDA plant pathologist for nine years before coming to Wisconsin in 1946 as the USDA researcher responsible for forage crop disease investigations in the Mid-West. He quickly launched what became a very successful research program on forage crop diseases with emphasis on diseases of red clover. Of special significance were his researches on root diseases, virus diseases, and powdery mildew of this plant and on alfalfa mosaic. The results of his researches are recorded in 125 publications.

Professor Hanson trained 12 Ph.D. and 3 M.S. students. He enthusiastically undertook various Departmental assignments, including one on the U.W./USAID team in Nigeria from 1967 until 1971. During the last three years of this time, he served as Chief-of-Party. The purpose of this foreign service was to develop a Faculty of Agriculture in the new University of Ife at Ile-Ife. During the period 1971-76, Dr. Hanson was our field crops diseases extension specialist.

Dr. Hanson gave freely of his time and efforts to APS as Councilor, Editor, on various committees, and as Secy.-Treas., Vice-Pres. and President of our North Central Division.

Earle remains active in the Department, and this fall he is teaching a special topics course on diseases of field crops. However, he has found time to swing the golf clubs each day -- rain or shine -- and seems to be busier than ever.

(D. J. Hagedorn)

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DR. HENRY M. DARLING

Dr. Henry M. Darling is a native of Wisconsin having been born in Spring Valley on December 1, 1908. He took his Bachelor of Philosophy degree at Ripon College in 1931 and the Master of Science degree from the University of Minnesota in 1935 after taking about a year and a half from his studies to work in the Federal Land Bank. Returning to the University for a short period, he then accepted a position as Assistant Professor of Plant Pathology with Auburn University in Alabama. Again taking time off, he returned to the University of Minnesota where he completed work for his Doctor of Philosophy degree. In late 1940 he returned to his native state where he joined the staff of the University in the Department of Plant Pathology.

Dr. Darling started work on potato diseases in 1931 while studying for his Master's degree. In Alabama he continued his research on diseases, particularly those related to the productivity and quality of seed stocks. His interest in this phase of potato culture led to extensive cooperative tests of seed stocks from all parts of the country. In 1940 when he came to Wisconsin he was placed in charge of potato certification. He was also responsible for developing a second project on the production of foundation seed. Through his efforts he established many methods and principles that have served as models in the production of elite foundation seed stocks.

His alert interest in disease problems led to his discovery of a damaging nematode pest in 1954. His research program on control resulted in a soil fumigation treatment that has presently eradicated the pest from several hundred acres of infested land.

His continued interest in nematodes led to the establishment of an expanded program of research and teaching in the Department of Plant Pathology. Several graduate students have received their degree in Nematology and in potato disease work under Henry's guidance. They are now scattered all over this country and some in foreign countries.

Although Dr. Darling has spent much time with students, he has found time to publish several technical papers and popular articles. He has also been active for many years in the affairs of the Association, serving on many committees and is currently a director. In 1960 he was awarded a Senior Fellowship by the National Science Foundation for a 3-month study period in Europe on nematological problems. While in Europe, he also visited many potato investigation laboratories.

Dr. Darling has served the potato industry of Wisconsin through his seed and disease work with skill and sound judgment. He also has stimulated research on other related problems of the industry with resulting benefits to all. In 1977, he was awarded the Outstanding Achievement-Service Award of the Seed Potato Certification Section of the Potato Association of America.

As if he hasn't done enough with potatoes and nematodes, he has also been working on the disease problems of mint, particularly *Verticillium* wilt. With characteristic thoroughness, he has already made real progress with the problems of this crop.

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Dr. Henry M. Darling retired on June 30, 1976, after guiding the Potato Seed Certification Program in Wisconsin since 1941. Not one to stay away from potatoes for long, Henry was on his way to South Korea for five months by the following May, with his wife Ruth, to participate in a school on potato production and to help the South Korean Government in their efforts to establish an effective seed potato program. His work was sponsored by the Institute of International Education, Korean Government.

(Steven A. Slack)

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GLADYS C. SMITH

Mrs. Smith came to work in the office for two weeks in December of 1959 and stayed until June 1976 -- a long two weeks. She was known for her many activities, e.g., keeper of the keys, organizer of the time table, and typist for all the voluminous

material for introductory plant pathology. She always had a friendly word and smile. In fact, she kept trying to retire, but we just would not let her go. She was called back into service for a short time during the spring of 1977.

(Douglas P. Maxwell)

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#### WALLACE J. REINER

Wallace J. Reiner, "Wally", started working on campus as a U.S.D.A. employee in May of 1937 and joined the Department in October of 1943 to work in the vegetable program directed by J. C. Walker and G. S. Pound. When Al Steinmetz retired in 1961, Wally took over the supervision of the old greenhouses. He even found time to work with P. H. Williams on the cabbage breeding program. Everywhere you go in Russell Labs you see the handiwork of Wally -- a bulletin board here, a cupboard there, etc. Wally officially retired in June 1976, but since we just can't get along without him, he comes back to work in the Department on a part-time basis whenever we need carpentry work done.

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#### CHANGES IN OFFICE AND LIBRARY STAFF

The Civil Service staff has had some changes during the past two years. Our Departmental Office staff consists of Marleen Steinmetz Lippert (who replaced Audrey Dunlap), who serves as Administrative Secretary to the Department; Veronica King continues as Secretary of the Seed Potato Program, and Marcella Zellmer is the Departmental receptionist and a stenographer. Secretaries to our Extension staff are: Diane Falkner, Kathleen Schultz, and Sandra Gillis. In addition to their specific assignments, they carry out numerous secretarial tasks for the Departmental staff in general.

The Departmental gardeners now include Leonard Squire, James Thornton, Allan Troemner, David Cavanaugh, Dale Frame, Gilbert Dahmen, Raymond Showers, and Lawrence Stedl. Their responsibilities include work at both the Elm Drive and Walnut Street Greenhouses, as well as the Russell Labs growth rooms, extensive plot work at the Arlington Farms, and other farm stations throughout the state.

The Departmental Library continues to expand and serves faculty, graduate students, and increasing numbers of undergraduates. Mrs. Eleanor Elmendorf served as half-time Departmental librarian from 1968 through June, 1976. Then, beginning in January, 1977, Mrs. Helen Kuntz became our Library Associate, working part-time to meet library needs in research, teaching, and extension.

(J. E. Kuntz)

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#### FACULTY - STUDY LEAVES

Professor Richard Durbin spent one year (1974-75) on a training-leave at the Instituto di Patologia Vegetable, Universita di Bari, Bari, Italy. Working with Drs. G. L. Ercolani and A. Graniti, he studied phytotoxins and their role in plant disease development. His leave was supported by USDA and NATO and enabled him to visit the NATO Advanced Study Institute on Specificity, Sardinia, Italy, and other research institutes.

Professor John Mitchell, Department Chairman, took a research-leave from January through July, 1975, at the Commonwealth Scientific and Industrial Organization (CSIRO), Division of Soils, Glen Osmond, South Australia. Dr. Mitchell studied the colonization of roots by microorganisms in cooperation with A. D. Rovira and G. Bowen. He visited and gave seminars at State Research Stations at Brisbane, Qld.; Sidney, N.S.W.; Melbourne, Vic.; Perth, W.A.; and Auckland, N.Z. He and his wife, Jane, saw Bob Dodman at Toowoomba, Qld.; Garry and Barbara Latch at Palmerston North, N.Z.; and Goeff and Diane Marks at Melbourne. His leave and investigations were supported by NSF Australian-U.S. Science Exchange Program and WARF.

Professor Douglas Maxwell spent a one-year (1976-77) study-leave at the Institut für Physikalische Biologie, RWTH-Aachen, West Germany. With Dr. G. Hänssler, a former Postdoctoral Fellow in his lab, Dr. Maxwell continued his studies on the structure and function of vacuoles in plant pathogenic fungi. His leave was supported by the Alexander von Humboldt Foundation of West Germany and by the University of Wisconsin. During his leave, Dr. Maxwell attended conferences in Stirling, Scotland; Zurich, Switzerland, and Bonn, Germany, and gave seminars at Universities in Aachen, Bonn, Freising, Göttingen, and Stuttgart. He also visited research institutes in France, Spain, Switzerland, Germany, and Holland. Doug and Martha had a chance to visit Peter and Petra Kraus and Fernando and Sara Laborda.

Professor Paul Williams will be taking a research-leave from January 1 through September 30, 1978. He will be working in the Departments of Plant Pathology and Cytogenetics of the Plant Breeding Institute and at the Botany School at the University of Cambridge, England, with Drs. Martin Wolf and David Ingram. During his time abroad, Dr. Williams also will visit various plant breeding institutes in the United Kingdom and Northern Europe. He will attend the Fifth International Rape Seed Conference in Malmo, Sweden, in June and the Plant Pathology Congress in Munich. Some of the research objectives for his leave are to improve methods for identifying chromosome morphology in Brassica sp. and, if possible, to establish the relationships between linkage groupings containing disease resistance and particular chromosomes in Brassica and Raphanus. Dr. Williams' leave is supported by a Fellowship from the John Simon Guggenheim Foundation of New York, the Research Committee of the Graduate School, the University of Wisconsin, and the College of Agricultural and Life Sciences of the University of Wisconsin.

(J. E. Kuntz)

Professor Glenn S. Pound was named Acting Chancellor of the University of Wisconsin-Madison on July 1, 1977. This appointment continued his long and productive leadership in university administration. Dr. Pound is a plant pathologist and has been a member of our Department since 1946. He served as Chairman from 1953 to 1964. Since then, he has been Dean and Director of the College of Agricultural and Life Sciences, a position he resumed in November, 1977.

Throughout his career, Dean Pound has been active in professional societies and traveled extensively in the United States and abroad. He has served as President of the American Phytopathological Society, as a member of the governing board of the Agricultural Board of the National Academy of Sciences, and as a Director of Merck and Company.

As a Consultant to the Rockefeller Foundation, Dean Pound has traveled widely in Europe, Africa, Latin America, and Southeast Asia. He has also directed U.W. faculty efforts to assist in the development of institutional building programs at the University of Rio Grande do Sul in Brazil and the University of Ife in Nigeria. Both of these projects were sponsored by the U.S. Agency for International Development.

(J. E. Kuntz)



Professor Arthur Kelman joined the faculty of the University of Wisconsin in 1965, serving as Chairman of the Department of Plant Pathology from 1965 until 1975. In 1971-72, he was awarded a National Science Foundation Senior Postdoctoral Fellowship to work in chemical microbiology at the University of Cambridge, England. From 1973-76, he served on the University Committee which acts as the Executive Committee of the Faculty of the University. In 1973, he was elected President of the International Society of Plant Pathology, a position he will hold until 1978. In 1974, he joined a panel of scientists who traveled in the People's Republic of China under the sponsorship of the National Academy of Sciences to review research in agriculture and plant sciences. In 1975, Dr. Kelman was named the L. R. Jones Professor of Plant Pathology. Also, in 1975, he served on an IRRI review program in Thailand, Indonesia, and the Philippines. In 1976, he was elected to membership in the National Academy of Sciences, and in 1977 he was elected into the American Academy of the Arts and Sciences.

(J. E. Kuntz)

Dr. J. Duain (Dewey) Moore became Director of Experimental Farms in September, 1974. He is responsible for 11 experimental farms (5,000 acres) located throughout the State. Although his role as Director consumes a majority of his time, he has maintained an interest in diseases of fruit crops. His main interest is in a planting of sour cherry introductions at Sturgeon Bay that are a source of propagative materials for resistance to stone fruit viruses. Dewey continues to teach the fruit disease section to the introductory plant pathology students. Although he has changed responsibilities within the University, Dr. Moore's status as top bowler in the Department has not changed.

(Craig Grau)

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#### WORONIN +100 CONFERENCE ON CLUBROOT

During the week of September 4-10, 1977, our Department hosted 22 scientists who attended the Woronin +100 Conference. They came from 10 countries to discuss recent developments in clubroot caused by Plasmodiophora brassicae. Dr. P. H. Williams handled all local arrangements and was cochairman with Dr. Stefan Buczacki, National Vegetable Research Station, Warwick, England.

Dr. John S. Karling discussed the life of Woronin. James R. Aist presented the current status of the life cycle of P. brassicae and P. H. Williams summarized the information on host-parasite relations. Epidemiology, variation and specialization was discussed by P. Mattusch. Hille Toxopeus summarized the research on breeding of resistance, and S. T. Buczacki talked about cultural and chemical control. John C. Walker spoke about some of his past experiences with clubroot and gave the workers some encouraging words for the future.

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#### NEW COURSES IN PLANT PATHOLOGY

Four new courses in plant pathology have been or soon will be offered by our Department:

310 Plant Disease Control. II; 2 cr. Principles and technology of plant disease control. Kuntz

399 Coordinative Internship. I, II, SS; 1-8 cr. Practical, off-campus experience in selected areas under the guidance of a field supervisor, an academic advisor, and a program coordinator. For sophomores, juniors, or seniors. Staff

450 Plant Protection and Pest Management. I; 3 cr. Concepts and systems of crop production for effective pest control with minimal adverse effects. Modern approaches to pest management with emphasis on population dynamics, integrated control, cost-benefit analysis, disease prediction and modeling (Interdisciplinary). Andrews and instructors from Agronomy and Entomology

616/875 Plant Nematology Techniques. SS, 1978; 3 cr. Techniques for isolating and manipulating plant parasitic nematodes in research studies. Dr. Victor H. Dropkin, Nematologist, on leave from Univ. Mo.

In June of 1975 and 1976, Dr. George Bird, Michigan State University, and Dr. D. H. MacDonald, University of Minnesota, conducted a two-week intersession graduate course in nematology techniques.

709 Biology of Plant Pathogenic Bacteria. I; 3 cr., in 1978 and alternate years. Taxonomy, epidemiology, growth, and host parasite interactions of the plant pathogenic bacteria. Kelman and Sequeira

346 The Use of Chemicals in Agricultural Pest Control. II; 2 cr. (spring, 1978). The use of chemicals to control insects, weeds, and plant pathogens. (Interdisciplinary) Mitchell and staff from Agronomy, Entomology, Horticulture, and Wildlife Ecology

(J. E. Kuntz)

#### NEW PLANT PROTECTION M.S. DEGREE

A program of graduate study leading to the degree of Master of Science in Plant Pathology (Plant Protection and Pest Management) was launched in September, 1977. The objective of the curriculum is to prepare individuals for applied careers in plant protection, including the control of insects, weeds, pathogens and abiotic diseases. The program represents an integration of several disciplines, is non-research oriented, and applied in scope. Students meeting all entrance requirements should graduate in three semesters plus one summer.

There has been a national trend within the past five years to offer pest management curricula at the graduate or undergraduate level. This stems from the need in government, industry, and academia for individuals with a broader, less specialized education to fill key roles such as educators, regulatory personnel, field representatives, agricultural consultants, and pesticide applicators. This need can be expected to increase, as can the competence of individuals entering the pest control job market. The curriculum is designed to provide such expertise and flexibility.

The program at Madison requires the development of certain new courses. We shall be offering in the spring of 1978 an interdisciplinary course in agricultural chemicals under the direction of J. E. Mitchell. John Andrews is developing a course in pest management to be taught in the fall of 1978 and succeeding years. Finally, John Andrews has proposed that a course in environmental law be developed and taught under the auspices of the Center for Environmental Toxicity and he has been working with an environmental lawyer to organize the tentative subject matter.

Currently, we have one student in the pest management program, Ms. Joy Perry, who is a convert from Botany (I'm happy to say). Now that the curriculum is established, it should be possible to attract at least 4-6 students annually, in addition to certain international students for whom the program is especially appropriate.

(John Andrews)

## INTERNSHIP PROGRAM OFF TO A BIG START

In Plant Pathology 399, the Coordinated Internship Program, several undergraduate students already have participated -- with great enthusiasm and real benefit. All earned valued experiences and credit for their activities. Daryl Brehm, under Dr. Hagedorn's direction, surveyed diseases of canning pea acreages and worked as a member of the Pest Control Department of the California Cannery and Growers. Alan Brown, under Dr. Williams' direction, collected, analyzed, and summarized data from breeding experiments and learned improved techniques for growing Raphanus sativus while serving as a technician with Northrup King and Company. David Foltz, also under Dr. Hagedorn's direction, worked as a field man for Asgrow Seeds in test plots of field and sweet corn, onions, cabbage, pumpkin, and other food crops. Rick Gilbertson, with Dr. Hagedorn, worked for Libby, McNeill and Libby in lima bean trials and was in charge of field insecticide applications to control insects on cabbage and beans. Jim Fuller, under the supervision of Dr. Kelman, worked for the Central Sands Produce, Inc., in experiment tests on potato diseases and their control. Ted Kowalski, also under Dr. Kelman, worked on the Paramount Farms, relating disease incidence to potato seed source and disease development to the application of various pesticides. Mike Grinyer, under Dr. Kuntz's direction, worked at the Pine Lake Camp in establishing nature trails, applying systemic fungicides to control tree diseases, and developing management plans for plantings of different ages.

(J. E. Kuntz)

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## EXTENSION ACTIVITIES IN THE DEPARTMENT

The Extension program in the Department has undergone several changes since the last issue of the Pathogen.

Earle Hanson retired on June 30, 1976, but remains active in the Department as an Emeritus Professor.

Dr. Hanson's position was filled on August 1, 1976 by Craig Grau. Craig is a recent graduate from the University of Minnesota and has Extension responsibilities for diseases of field crops.

Gayle Worf has shifted over to diseases of ornamentals, turf, and shade trees. He is very active in working with municipalities, nurserymen, and greenhouse operators throughout the State.

Diseases of fruits and vegetables is still handled by Earl Wade. Earl is as energetic as ever in keeping a watchful eye over the vegetable and fruit crops of the State.

Dan Opgenorth resigned as Plant Pathology Specialist in December of 1976 and returned to Graduate School at the University of California-Riverside. Dan's position has been filled by Sister Mary Francis Heimann.

Sister Mary Francis joined the Extension group as a Plant Pathology Specialist on June 1, 1977. She is very busy handling the 1,200 or so specimens that pass through the diagnostic clinic each year. Sister Mary Francis is a 1972 M.S. degree graduate of the Department and worked under Dr. A. C. Hildebrandt.

The Extension staff has become very involved in the training needed for certification of pesticide applicators. They are working with Extension personnel in

Entomology and Agronomy and staff from the Wisconsin Department of Agriculture to develop training materials and present this information to the pesticide applicators of the State in order for them to meet EPA requirements.

(Craig Grau)

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#### URBAN AGRICULTURAL RESEARCH STATION PLANS

Intensive evaluation of Wisconsin's Agricultural Experimental Farm system was recently completed by a team of College faculty members, who placed special emphasis towards identifying the research needs of the future. They took particular note of the fact that two-thirds of Wisconsin's 4½ million population now live in cities, and their interest in landscape plants, shade trees, turf and flowers, i.e., "urban agriculture", continues to climb each year. Yet, research programs that deal with the problems they encounter are very limited. However, the Milwaukee County Board recently unanimously passed a resolution calling for development of an urban station in their area.

Monies to create new facilities and support projects come hard, but efforts are underway to put together a proposal for possible funding by the State Legislature beginning in 1979. Dr. J. D. Moore, who is the Director of Experimental Farms, is giving leadership to the proposal development. In the meantime, flower and vegetable plots were established in Milwaukee and Madison this summer to demonstrate the potential of urban stations. Our Department is involved with these projects. Whether the Stations ultimately materialize remains to be determined, but, in the meantime, the city has some beautiful flowers on a corner of our local experimental farm (Rieder Farm) to enjoy, and we know a bit more about powdery mildew and foliage diseases that shorten their life expectancy!

(Craig Grau)

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#### RECENT DEVELOPMENTS AT EXPERIMENTAL FARMS

Arlington - An irrigation well and some irrigation equipment have been acquired so that additional water -- and humidity -- can be applied when needed. Two metal storage buildings have been erected for our use -- a small one to protect the well and a larger one nearby. A joint Entomology-Plant Pathology field laboratory building has been funded and plans are being drawn up. Field work is being conducted at Arlington by Drs. Smalley, Kuntz, Berbee, Hagedorn, Kelman, Upper and Army. A sloping field on the Horticulture farm is being used in frost protection studies.

Hancock - Considerable work is being done by Drs. Hagedorn (beans), Williams (Brassicas), Haley (cucumbers), Berbee (poplars), Slack (potatoes) and Army (corn).

(D. C. Army)

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#### NEWS FROM DR. WALKER

During 1975-77 my activities (professional) have been briefly as follows:  
Attended three growers meetings at the Mesa Branch Experiment Station, 1975-76.  
Attended a Brassica Conference at El Centro, California 1976.  
Gave seminar at Arizona University Department of Plant Pathology, Tucson, 1976.  
Agreed to give a seminar at U.C.-Davis Nov. 1 and at Berkeley Nov. 3, 1977.

Composed an article for Annual Review of Phytopathology entitled "Some highlights in plant pathology in the United States", 1975.

Prepared a "History of Plant Pathology in Wisconsin up to 1964". (18,000 words)

Non-scientific:

Prepared 5 year history of Sun City Lakeview Rotary.

April, 1976 - 2 week boat trip thru Caribbean, Panama Canal, Los Angeles.

April, 1977 - Two week trip to the four major Hawaiian Islands

January, 1977 - Four day trip to Death Valley, California.

Bike regularly 8 miles per day with Sun City Cyclemates.

Bowl weekly with Episcopalian team in SC Church League.

(J. C. Walker)

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NEW FACULTY

Dr. Steven A. Slack joined the Department on July 1, 1975 and has assumed responsibility for the Potato Seed Certification Program following the retirement of Dr. Henry M. Darling. Dr. Slack completed his training in the area of plant virology at the University of California-Davis under the supervision of Dr. R. J. Shepherd. Dr. Slack retains an interest in the study of virus and virus-like pathogens and will be primarily concerned with those causing diseases of potato. His research program is currently designed to evaluate and incorporate new or existing methodology into potato disease testing programs.

(S. Slack)

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Dr. John H. Andrews, a Canadian, joined the Department in January of 1976 to develop a research and teaching program in integrated disease control. He completed his undergraduate training at McGill University, Montreal (1967), M.Sc. in 1969 at University of Maine, and Ph.D. in 1973 at the University of California-Davis. John is a very flexible individual as illustrated by his diversity of publications, i.e., fluorescent antibody methods for detection of Ceratocystis ulmi, inclusion bodies in tobacco etch virus-infected cells, uptake of nutrients by Bremia lactucae, and pathology of marine algae. Presently, he is studying the effects of pesticides on the epiflora of apple leaves and leaf litter and looking at some algal diseases in our Madison lakes. Teaching is one of his major interests, and he has been active in developing an M.Sc. program in plant protection, helping to teach the introductory plant pathology course, advising undergraduates and will offer a new course on integrated pest management in the fall of 1978.

(D. P. Maxwell)

Dr. Alleah B. Haley joined the Department in the fall of 1975 as the USDA plant pathologist working with Dr. C. E. Peterson on the breeding program for improvement of cucumbers, carrots, and onions. Dr. Haley was raised in Albuquerque, New Mexico and finished her B.S. in 1967 at the University of New Mexico. She attended the University of California-Berkeley, from 1967 to 1975 and completed an M.S. thesis on fatty acid desaturase mutants of yeast, and a Ph.D. thesis on resistance to Verticillium wilt in wild cottons. In conjunction with Dr. Zaydan Abul-Hayja (Ph.D. 1975 with P. H. Williams), Dr. Haley has been developing improved methods for screening cucumbers for multiple disease resistance. Procedures have been perfected for use with eight cucumber pathogens and with the help of Mary Palmer (B.Sc. 1975 - Plant Pathology) 2,500 cucumber seedlings are being screened per week.

During the spring semester of 1977, Dr. Haley assisted P. H. Williams in teaching a course on plant disease resistance.

Future research will be concerned with inheritance of resistance to Pseudomonas lachrymans and Corynespora cassiicola, and the influence of environmental factors on response of onions to Fusarium basal rot, pink root rot and white rot pathogens.

(D. P. Maxwell)

Professor Ray Evert, Chairman of the Department of Botany, received a joint appointment with Plant Pathology on July 1, 1977. Dr. Evert will maintain his same responsibilities. Welcome aboard Ray!

(D. P. Maxwell)

#### FACULTY PROMOTIONS

Drs. John D. Kemp (1977), Douglas P. Maxwell (1976), and Christen D. Upper (1977), were promoted to Professor of Plant Pathology.

#### ADJUNCT PROFESSORS

Our Department is fortunate to have three Adjunct Professors of Plant Pathology, Drs. Harold H. Burdsall, Michael J. Larsen, and T. Kent Kirk. They are all employed at the Forest Products Laboratory. Drs. Burdsall and Larsen teach the advanced mycology course which is listed jointly in Plant Pathology and Botany.

#### INTERNATIONAL PROGRAMS

Professor J. D. Moore, formerly Fruit Pathologist in the Department and now Director of the University CALS Experimental Farms, traveled through Nigeria during February and March, 1977. Dr. Moore was a member of a five-man survey team sent to Nigeria to examine the expatriate staffing needs of six established and seven new universities. Dr. Moore was chosen because of his broad knowledge of Nigeria, its agriculture, and its educational systems acquired when he served as Dean of the Faculty of Agriculture and Head of Plant Sciences at the University of Ife from 1968 to 1970.

This recent trip was financed jointly by the Nigerian government and USAID, but was arranged by the Overseas Liaison Committee (OLC) of the American Council in Education (ACE). The team visited the Universities of Ilorin, Ife, Lagos, Sokoto, Kano, Maiduguri, Jos, Nigeria (Nsukka), Port Harcourt, Calabar, Benin, and Ibadan.

Upon arrival in Nigeria, the American delegation met with officers of the National Universities Commission (NUC) and of the Federal Ministry of Education, as well as the American Ambassador to Nigeria and the Chief of Staff of the Federal Military Government. Accompanied by a NUC official, the team met with the vice-chancellor, the registrar, various deans, faculty members, and administrative personnel at all universities. Over 4,000 miles were covered by airplane and car.

A comprehensive report was published by OLC prior to a "report conference" on June 24 in Washington, D.C., attended by representatives of more than 200 American universities and colleges. At present, the seven new Nigerian universities seek 1500 expatriate faculty members by 1980 mainly from North America. NUC is establishing bureaus in Washington, Ottawa, London, and Cairo to facilitate recruitment for Nigerian universities.

Professor Deane Army, in 1975, served on a panel of agricultural scientists to evaluate research programs of the East African Agriculture and Forestry Research Organizations requesting USAID support. The research proposals entailed cooperative research by government institutions and universities in Kenya, Uganda, and Tanzania. Corn, sugar cane, and other food crops were included. Dr. Army visited the EAAFRRO headquarters in Mbugga, Kenya, as well as other research stations. Unfortunately, subsequent political unrest in East Africa has nullified much of these efforts.

For the past 10 years, Professor Luis Sequeira has participated in an international program to provide practical control of bacterial wilt of potato (incited by Pseudomonas solanacearum) through breeding. The program was initiated as a cooperative project between the College of Agricultural and Life Sciences and the Rockefeller Foundation. For the past five years, support from the International Potato Center (IPC), Lima, Peru, has replaced that of the Rockefeller Foundation.

The main objective of this project is to locate sources of resistance to bacterial wilt and to utilize them in a breeding program aimed at developing a resistant potato with acceptable market qualities. Plant breeders in the Department of Horticulture have collaborated with our Department in this effort. Wilt resistance has been combined with late blight resistance, and some hybrid clones have performed well in some instances. The resistant variety, Caxamarca, was released in 1975 in Peru and others may be released in the future.

The present program is to identify additional sources of resistance to wilt and to combine these with late blight and virus-resistant germ plasm. This program has required visits by Dr. Sequeira to Central and South America and elsewhere.

(J. E. Kuntz)

#### EXAMS

Phyllis McCabe passed her Master's examination on June 17, 1975.

Edward L. Halk passed his Preliminary examination on July 18, 1975.

Gordon Murray passed his Ph.D. examination on June 18, 1975. Gordon and his wife, Patricia Schneider Murray, left on June 20 for New South Wales, Australia, where he is working in the Biological and Chemical Research Institute.

John Omuemu passed his Ph.D. examination on September 29, 1975.

Michael D. Woodward passed his Ph.D. examination on November 12, 1975.

Zaydan Abul-Hayja passed his Ph.D. examination on November 14, 1975.

David M. Webster passed his Master's examination on December 5, 1975.

Solke De Boer passed his Ph.D. examination on February 6, 1976. He started work on February 16 with Dr. H. P. Maas Geesteranus at the Institute for Phytopathological Research, Wageningen, The Netherlands, on serology of Erwinia carotovora.

Jorge I. Victoria passed his Preliminary examination on February 26, 1976.

Ruperto Hepp passed his Ph.D. examination on March 30, 1976.

Steven Lindow passed his Preliminary examination on March 2, 1976.

Mushtaq A. Kahn passed his Ph.D. examination on May 24, 1976.

Vivienne N. Armentrout passed her Ph.D. examination on May 27, 1976.

Wa-Lee Lim passed her Ph.D. examination on June 7, 1976.

Cleora Jo D'Arcy passed her Preliminary examination on June 16, 1976.

David Willis passed his M.S. examination on July 19, 1976.

David Webster passed his Preliminary examination on August 2, 1976.

John Pronos passed his Ph.D. examination on August 16, 1976.

Patricia Delwiche passed her M.S. examination on August 18, 1976.

Vincent Otoide passed his M.S. examination on August 20, 1976.

Dianne Cuppels passed her Ph.D. examination on November 13, 1976.

Henry Gross passed his Ph.D. examination on October 27, 1976.

Michael Albers passed his M.S. examination on October 28, 1976.

Barbara Holroyd Rapp received her M.S. degree on December 9, 1976.

William Fett passed his Master's examination on February 28, 1977. He left the Department to join the Soybean Disease Program of Dr. Paul Lehman at Louisiana and sponsored by the EMBRAPA Cooperative Program for nine months before returning to complete his Ph.D. studies.

Wayne Nishijima passed his Ph.D. examination on March 10, 1977. Wayne and his wife, Kate, left on March 15, 1977, for Fort Collins, Colorado, where he is employed as an Assistant Professor of Plant Pathology at Colorado State University.

Enrique Fernandez-Northcote passed his Preliminary examination on March 17, 1977.

Omar Tortolero passed his Master's examination on April 21, 1977, and has returned to his home in Venezuela.

Asimina Gkinis passed her Ph.D. examination on June 7, 1977. She will be living in Plymouth, Minnesota.

Margaret Daub passed her Preliminary examination on June 24, 1977.

Luigi Ciampi passed his Preliminary examination on July 5, 1977.

Jorge Victoria passed his Ph.D. examination on July 11, 1977.

Steven Lindow received his Ph.D. degree on July 20, 1977. Steve is now working as a Research Associate in Dr. Upper's program.

Tomas Pastalka passed his Preliminary examination on August 3, 1977.

Jose Cardosa passed his M.S. examination on August 10, 1977 and has returned to his home in Brazil.



Richard Reeleder passed his Preliminary examination on August 29, 1977.

Ed Halk passed his Ph.D. examination on August 31, 1977.

Raul Ribeiro passed his Preliminary examination on August 3, 1977.

(M. F. Heimann)

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MARRIAGES

Dr. John Kemp and Sharon Kvalheim were married on May 3, 1975, at the Lutheran Church in Stoughton.

Daniel C. Opgenorth and Sally A. Otto were married on August 23, 1975, in Clarksburg, California.

The wedding ceremony of Vincent O. Otoide and Vero O. Enakali took place on Friday, September 5, at the St. Paul's Chapel of the University Catholic Center.

Loretta Sue Loesch (Ph.D., 1974 with Dr. Fulton) and Robert E. Fries (M.S., 1975 with Dr. Hanson) were married February 14, 1976, at the St. Paul's University Chapel, Madison. They lived in Gainesville, Florida and are now back in Madison.

Marcella Stuntebeck and Arnim Zellmer were married on Saturday, June 5, 1976, in St. Mary's Catholic Church, Marshall, Wisconsin.

Robert Martin, Graduate Student with Dr. Berbee, was married to Helen Matzke on June 5, 1976, at St. Philomena's Catholic Church in Birnamwood, Wisconsin.

Dr. John Andrews was married to Sally De Vay on June 27, 1976, at the Newman Chapel in Davis, California.

Josephine Gullings was married to Jack Handley on January 8, 1977, at the First Unitarian Society Meeting House in Madison.

Marleen Steinmetz and Roderick J. Lippert were married on February 5, 1977, at the Phymouth Congregational United Church of Christ in Madison.

Betsy Allan, who worked with Dr. Kelman for four years, was married to Dr. Tom Siewert on May 21, 1977.

(M. F. Heimann)

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BIRTHS

Zaydan and Mrs. Abul-Hayja announced the birth of a baby girl, Dania, June 27, 1975; weight: 7 lbs. 11 oz.

Charles and Kathleen Powell announced the birth of a son, Robert, October 11, 1975; weight: 10 lbs. 1 oz.

David and Sandi TeBeest announced the birth of a son, Jason Lee, October 19, 1975; weight: 8 lbs. 4 oz.

Lorenzo Sparapano (a Postdoctoral Fellow with Dr. Durbin in 1972-73) and his wife, Antonia, announced the birth of a girl, Ester, September 21, 1975.

Pat and Dr. Gordon Murray of Sydney, Australia, announced the birth of a girl, Elena Marie, on November 3, 1975; weight: 8 lbs. 13 oz.

James and Diane Mueller announced the birth of a baby girl, Danielle, on February 27, 1976; weight: 6 lbs. 10 oz.

Steven and Susie Slack announced the birth of a son, Timothy Allen, April 4, 1976; weight: 6 lbs. 13 oz.

Vincent and Vero Otoide announced the birth of a baby girl, Adesua Linda, May 12, 1976; weight: 9 lbs. 1 oz.

A baby boy, Michael Alexander, was born to Asimina and Asterios Gkinis on August 20, 1976; weight: 6 lbs. 10 oz.

On September 22, 1976, a baby girl, Susan Elizabeth, was born to Alleah and Robert Haley; weight: 6 lbs. 10 oz.

On September 13, 1976, a baby boy, Emerson, was born to Jose and Maria Cardoso.

On January 29, 1977, a baby girl, Janna Helen, was born to Henrietta and Harold Burdsall; weight: 8 lbs.

A daughter, Thea Beth, was born to Dr. and Mrs. Craig Grau, February 27, 1977; weight: 7 lbs.

A son, Adam Patrick, was born to Marcy and Arnim Zellmer on March 4, 1977; weight: 9 lbs. 4 oz.

A son, Ricardo Andres, was born to Renate and Luigi Ciampi, March 21, 1977; weight: 8 lbs. 9 oz.

A daughter, Maria Paula, was born to Vicky and Jorge Victoria, May 23, 1977; weight: 5 lbs. 12½ oz.

A daughter, Rebecca Dawn, was born to Carl and Debra Schmidt on September 2, 1977; weight: 9 lbs. 7½ oz.

(M. F. Heimann)

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COMINGS AND GOINGS

Zaydan Abul-Hayja left the Department on July 28, 1976, to become an Assistant Professor of Plant Pathology in the Faculty of Agriculture, University of Riyadh, Riyadh, Saudi Arabia.

Michael Albers left the Department in May, 1977, for a position with the Forest, Insect and Disease Survey, Department of Natural Resources, Minnesota.

Dr. R. L. Andersen, a fruit breeder in the Department of Horticulture, Michigan State University, became a Visiting Professor working with Dr. Fulton on stone fruit viruses in October, 1975.

Steven H. Antonius joined the Department in July, 1976, as a graduate student with Dr. Hagedorn.

Vivienne N. Armentrout (graduate student with Dr. Maxwell and later a Research Associate) left the Department on July 22, 1977. She is working in the Biological Sciences Department, University of California, Pomona.

Steven R. Bassett became a graduate student with Dr. C. D. Upper in September, 1976.

Dr. Carl Beckman, University of Rhode Island-Kingston, joined the Department as a Visiting Professor with Dr. Sequeira in January, 1977.

Joy Bissonnette joined the Department as a graduate student with Dr. Andrews on September 1, 1977.

Peter Blenis arrived on June 21, 1977, to begin graduate work in Forest Pathology with Dr. Patton. His home is Fredericton, New Brunswick, Canada.

Christian A. Boucher, Assistant Plant Pathologist, Institut National de la Recherche Agronomique, Etiola de Choisy, Versailles, France, was a Visiting Professor with Dr. Sequeira from November, 1975 to August, 1976.

Dr. Carl G. (Costa) Brunow, a Visiting Professor from the University of Helsinki, Sweden, began working at the Forest Products Laboratory with Dr. T. K. Kirk in September, 1976.

Judy Callis joined the Department as a Specialist working with the group in the Pioneering Laboratory. She has an A.B. in Biology from Washington University, St. Louis.

Jana Campbell began graduate work in the Department on September 1, 1977, with Dr. Hildebrandt.

Elena Campos began work in the Department in September, 1977, with Dr. Kelman.

Dr. Michael A. Cantrill joined the Department October 1 as a Research Associate with Dr. Sequeira. He received his Ph.D. in molecular biology from the University of Wisconsin-Madison.

Jose E. Cardoso (B.S., Centro De Ciencias Agarias, Brazil, 1973) was a graduate student with Dr. Hildebrandt.

John D. Castello, M.S., Washington State University, 1975, became a graduate student with Dr. Berbee in January, 1976.

Luigi Ciampi (graduate student with Dr. Sequeira) left the Department. He will be working at the Universidad Austral de Chile, Valdivia, Chile.

Dr. Peter L. Conrad became a Research Associate with Drs. de Zoeten and Durbin in March, 1977.

Daniel Cullen became a graduate student to study under Dr. E. B. Smalley, in September, 1976.

Diane Cuppels left the Department to work with Drs. Vidaver and Van Etten at the University of Nebraska on November 16, 1976.

Dr. Leendert Davidse, a faculty member in the Department of Plant Pathology, Agricultural University, Wageningen, The Netherlands, arrived on August 11, 1977. He is studying with Dr. Maxwell on the mechanisms of disease resistance in alfalfa to fungal pathogens.

Marcio De Assis (B.S., Escola Sup. de Agricultura, University Federal de Vicosa-M.G., Brazil, 1973) became a graduate student with Dr. Hildebrandt in October, 1975.

Patricia Delwiche (graduate student with Dr. Williams) returned to the Department September 1 after spending a year at the Inst. für Pflanzenbau und Pflanzenzuchtun, Göttingen, West Germany.

Dr. S. Devadath, Director of the Division of Plant Pathology, Central Rice Research Institute, Cuttack, India, arrived in August, 1977. He will spend a year working with Dr. Kelman.

Patricia A. Donald, a Specialist with Dr. Williams, left the Department on May 2, 1977.

Jonathan Duvick joined the Department on August 1, 1977, and John Bowman joined the Department on August 11, 1977. Both are graduate students with Dr. Sequeira.

Dr. Abdol Ghayoom Ebrahimi, Head of the Plant Protection Group College of Agriculture, Jundi Shapur University, Ahvaz, Iran, was a Visiting Professor with Dr. Williams. He arrived in July, 1975.

Andris Eimanis (M.S., University of Wisconsin-Madison, 1975) started as a graduate student with Dr. de Zoeten in July, 1975 and left for a position on June 6, 1977.

A farewell coffee hour was held for Mrs. Eleanor Elmendorf on May 27, 1976, in appreciation for her efforts in behalf of the library.

Thomas L. German (Ph.D., 1974, with Dr. de Zoeten) started work as a Project Specialist with Drs. de Zoeten and T. Hall in Horticulture in April, 1976.

Dr. Wla Dyslan Golinowski, Department of Plant Biology, Agricultural University of Warsaw joined Dr. de Zoeten as a Visiting Professor on a U.S.A.-Poland Exchange Fellowship to work on aspects of virus infection in October 1975-76.

Terrence Lee Graham, Ph.D., Purdue University, 1975, was a Postdoctoral Fellow with Dr. Sequeira from July, 1975-77.

William B. Gurley joined the Department on October 12, 1976, to work as a Research Associate with Dr. Kemp.

Lillian Gutarra de Lindo, who had been working with Drs. Kelman and Sequeira for two months, returned August, 1977, to her position as a staff member of the International Potato Center, Lima, Peru.

Connie Haas, a secretary in the Department for three years, left on November 8, 1976, for a position in the Department of Poultry Science.

Ethan Hack (B.A., University of Cambridge, 1975) became a graduate student with Dr. Kemp in September, 1975.

Ed Halk is currently involved in a research program at the Scottish Horticulture Research Institute, Dundee, Scotland. He left after his Ph.D. exam in August, 1977.

Dr. G. Hänssler and Elise returned to Aachen, West Germany, on August 15, 1977. Dr. Hänssler worked with Drs. Graves and Maxwell for four weeks on the isolation of vacuoles from fungi.

Carol Hendricks began graduate work in the Department on September 1, 1977, with Dr. Sequeira.

Ruperto F. Hepp left May 1, 1976, for the School of Agronomy, University of Concepcion, Chilian, Chile, where he has the position of Assistant Professor of Plant Pathology.

Christian C. Heye joined the Department as a graduate student with Dr. Andrews in January, 1977.

Dr. Fritjof W. Heyn, University of Göttingen, West Germany, came to the Department as a Visiting Professor with Dr. Williams in January, 1977 and returned in July of 1977.

Dr. Susan Hirano became a Research Associate with Drs. Kelman and Upper in June, 1976.

Rebecca F. Hughes arrived in September, 1977. She is a new graduate student with Dr. de Zoeten.

John Irwin became a graduate student with Dr. Maxwell at the end of July, 1977. He is working on inheritance of disease resistance in diploid alfalfa.

Carol Ives began graduate work in the Department on September 1, 1977, with Dr. Andrews.

R. Vaughan James, B.S., University of Wisconsin, 1975, became a graduate student with Dr. Williams, in January, 1976.

Charles M. Kenerley, M.S., Washington State University, 1975, a graduate student with Dr. Patton in July, 1975, currently a Specialist with Dr. Andrews.

Mrs. James Kuntz began working, part-time, in our library in March, 1977.

Dr. George Lacy, Department of Plant Pathology, University of California-Riverside, was a Traineeship Postdoctoral Fellow with Drs. Kelman, Helgeson and Upper working on genetics of Erwinia chrysanthemi and related species of Erwinia from October, 1975-77.

Dr. Paul S. Lehman arrived in August to spend a short period working in the Department. He has been working at the Projeto Nacional da Soja, Porto Alegre, Brazil.

Dr. Chyi-Jiin Lin, originally from Taiwan, joined the Department as a Research Associate with Dr. Durbin, in September, 1976.

Julianne Lindemann became a graduate student with Dr. Arny on July, 1976.

Carlos A. Lopes, B.S., University Federal of Viscosa, Brazil, 1973, started as a graduate student with Dr. Hagedorn in July, 1975.

Jean H. Lukens began graduate work in the Department on September 1, 1977, as an NSF Fellow. She will be working with Dr. Patton.

On June 13, Keng-Yeang Lum joined the Department as a Research Assistant with Dr. Kelman.

Dr. Barbara Lund returned to her post at the Food Research Institute, Norwich, England on November 28, 1975.

Robert R. Martin (B.S., University of Wisconsin-Madison, May, 1976) became a graduate student with Dr. Berbee in June, 1975.

Phyllis Nieradka McCabe is now (June, 1977) working for the Agricultural Pest Division of Chevron Chemical Company, Winchester, Virginia.

Raymond McGuire began graduate work in the Department on September 1, 1977, with Dr. Kelman.

J. E. Mellon became a Research Associate on August 1, 1977. He is working in Dr. Helgeson's program.

Donald J. Merlo (Ph.D., 1975 with Dr. Kemp) left August 1, 1975, for a Postdoctoral position in the Department of Microbiology, University of Washington, Seattle.

Christopher Miller joined the Department on June 13, 1977, as a Research Assistant with Dr. Williams.

Sally A. Miller-Styer and her husband, Donald James Styer III, joined the Department on July 7, 1976. Sally became a student under Dr. Maxwell; Donald, a student under Dr. Durbin.

Margaret T. Mmbaga, B.S., University of Dar-Es Salaam (Tanzania), 1975, became a graduate student with Dr. Hildebrandt in January, 1976.

Hakam S. Modjo (M.S., Fakultas Perlaneau Universitas Gadjah, MADA, Yogyakarta, Indonesia) began working as a graduate student with Dr. Mitchell in September, 1975.

Dr. Mark S. Mount, Department of Plant Pathology, University of Massachusetts, became a Visiting Professor with Dr. Kemp for six months in February, 1976. He worked on crown gall disease.

Lois Nadolny (graduate student with Dr. Sequeira) left the Department on July 19, 1977, to work in the Department of Plant Pathology, University of Kentucky-Lexington.

Karen Nakasone received her M.S. in Mycology from the University of Arizona and is now working at the Forest Products Laboratory.

Godson C. Okeke, a native of Nigeria, became a graduate student in the Department in September, 1976.

Jane O'Laughlin became a graduate student with Dr. Fulton on July 15, 1977.

Dr. John Omuemu left on November 12, 1975, to return to Nigeria where he will work in the Midwestern Nigerian Ministry of Agriculture and Natural Resources as a Senior Research Officer in the Plant Protection Section.

Vincent Otoide left the Department to work at the Rubber Research Institute, Nigeria, in September, 1976.

Mary Jeanne Palmer joined the Department as a Specialist working under Dr. Haley in July, 1976.

Dr. David Palzkill assumed a Postdoctorate position in the Plant Sciences Department at the University of Arizona, Tucson.

Tomas Pastalka (M.S., University of Colorado, 1975; home is Czechoslovakia) began as a graduate student with Dr. Hildebrandt in September, 1975.

Dr. James A. Percich, Research Associate with Dr. Mitchell since January, 1975, left the Department on June 30, 1976, to work at Michigan State University.

Dr. Michel N. Perombelon, Scottish Horticultural Research Institute, Invergowrie, Dundee, Scotland, became a Visiting Professor with Dr. Kelman working on geological aspects of bacterial soft rot and blackleg of potato in October 1975 through June 30, 1976.

Jane Peronto began graduate work in the Department on September 1, 1977, with Dr. Berbee.

Mary Ann Pfannenstiel became a graduate student with Dr. Slack in September, 1976.

William F. Pfender became a Research Assistant with Dr. Hagedorn. From June to September 1 he worked with Dr. Williams.

Evelyn Poon, a native of Taipei, Taiwan, was a graduate student in the Department from September, 1976 to June 24, 1977.

Dr. Charles Powell, Research Associate with Dr. de Zoeten, left the Department in January, 1977, to join the Pennsylvania State Department of Agriculture in Harrisburg as a Research Plant Pathologist.

John Pronos began work with the U.S. Forest Service in July. He will be working on Forest Disease Survey and Control out of the San Francisco Regional Office.

Francisco J. Reifschneider, B.S., Engenharia Agronomica, Universidade de Brasilia, 1975, became a graduate student with Dr. Arny, January, 1976.

Josef Robak, a Visiting Professor, from the Institut for Vegetable Crops at Warsaw, Poland, arrived in March, 1977. He will be working for a year with Dr. Williams on cabbage disease.

Dr. Daniel Schadler left the Department on August 15, 1975, to become an Assistant Professor of Biology at Oglethorpe University, Atlanta, Georgia.

Michael R. Schwarz became a graduate student with Dr. D. M. Boone in September, 1976.

Michael C. Stough, B.S. in Plant Pathology at the University of Massachusetts, and James P. Mueller, B.S., in Botany from the University of Wisconsin, became graduate students under Dr. Mitchell in July, 1976.

Patrice Suleman joined the Department as a graduate student with Dr. Andrews. He has a P.S. in agriculture from the University of Liberia, Monrovia, Liberia.

Ronald M. Sushak started working on July 22, as a Plant Pathologist in the Bureau of Plant Industries, Minnesota Department of Agriculture, where he will function in the Potato Seed Certification Program.

Latif Susuri, from Yugoslavia, began working with Dr. Hagedorn as a special student in September, 1976.

David Webster, graduate student with Dr. Sequeira, left the Department to continue his graduate studies at Centro Internacional de Agricultura Tropical, Cali, Colombia, in September, 1976.

Gregory J. Weidemann (B.S., University of Wisconsin-Madison, 1973) became a graduate student with Dr. Boone in June, 1975.

Dr. Mariann Whatley started work as a National Science Foundation Postdoctoral Fellow in September, 1977 with Dr. Sequeira. She received her M.S. and Ph.D. degrees in Biology at Northwestern University.

Garry P. Wiegand (A.B., University of Chicago, 1975) became a graduate student with Dr. Kemp in February, 1976.

Dr. H. Martin Wilson joined the Department as a Research Associate with Dr. de Zoeten. Recently, he had been working at Gesellschaft für Strahlen und Umweltforschung, Munich, West Germany.

Michael D. Woodward and his wife left the Department in December, 1975. Michael went to Canberra, Australia, where his work was to be with Dr. Cruickshank at CSIRO.

Dr. Lung-Chi Wu left on May 21, 1976, for the Campbell Institute for Agricultural Research, Napoleon, Ohio, to be a Research Scientist.

Fred M. Younger became a graduate student under Dr. Slack, in September, 1976.

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#### NEWS FROM DR. RIKER

Adelaide and I have a nice air-conditioned house and, best of all, we have each other. Neither of us drive our cars any more, but we keep up with what is going on with TV, radio, newspapers, magazines and telephone (602-325-6235). My doctor tells me "whatever you are doing, just keep it up". If you should ask me "to what do you attribute your longevity?", I would say "two pills". We are visited by friends, relatives and former colleagues as the occasion allows, and enjoy our beautiful garden, patio and the view of the mountains.

We are looking forward to seeing many friends when the Phytopathological Society meets in Tucson in the fall of 1978.

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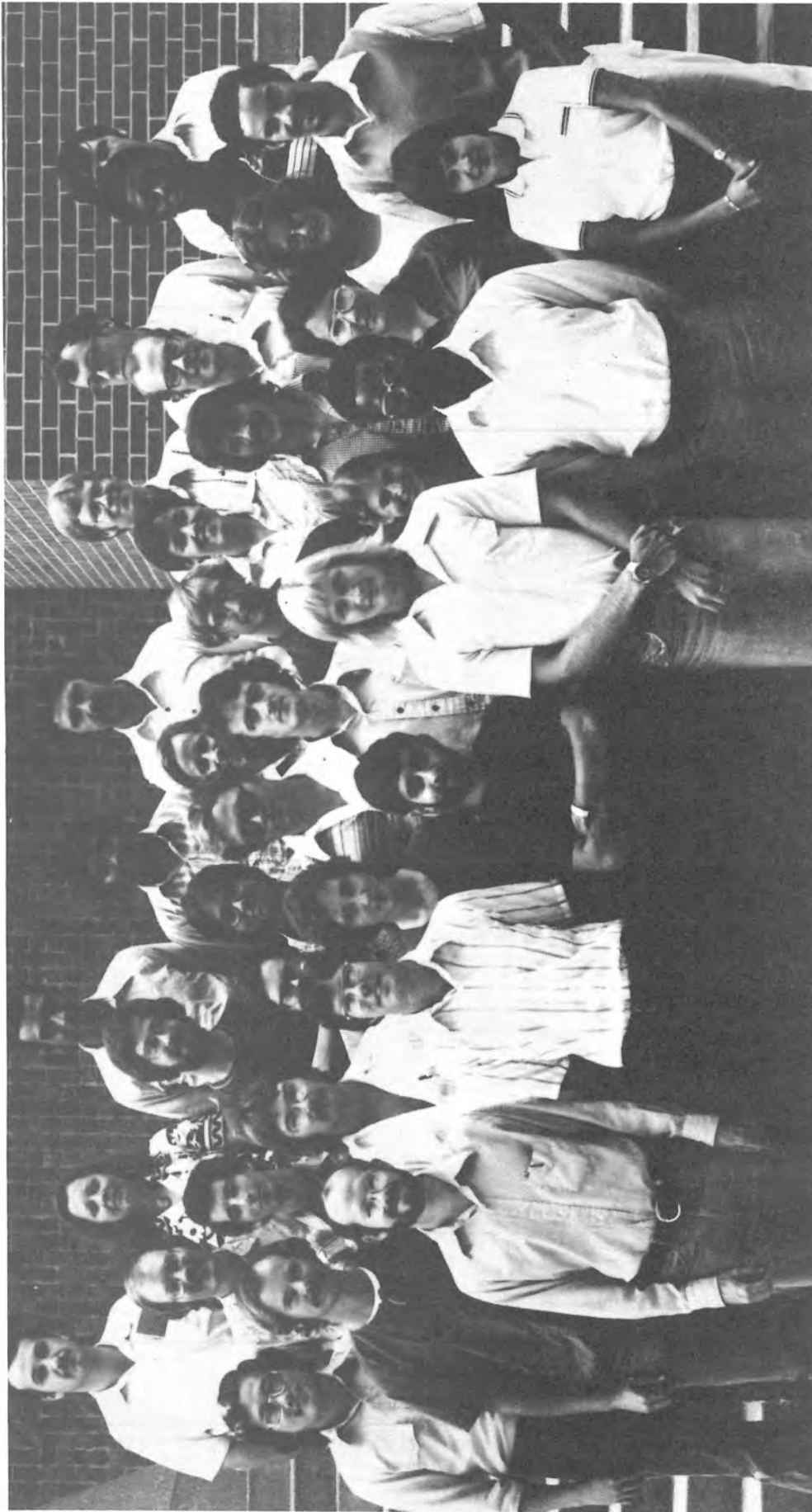
#### FINAL NOTE!

This PATHOGEN was prepared in the Wisconsin tradition -- by a committee: C. Grau, M. F. Heimann, A. C. Hildebrandt, J. E. Kuntz, and D. P. Maxwell. We hope you have enjoyed the publication and that it has brought to you some of the many happenings here at Madison.

Our PATHOGEN Committee wants to especially thank R. Vaughan James for designing the cover, S. Vicen for preparing the graduate student photograph, and the secretaries for making this PATHOGEN possible.

Please use the last page to drop us a note of interest to other alumni. We'll prepare a special alumni news edition of the PATHOGEN this spring.





GRADUATE STUDENTS IN PLANT PATHOLOGY

Left to Right -

Front row: W. Pfender, R. McGuire, J. Castello, M. Schwarz, G. Okeke, J. Bissonnette

Second row: C. Miller, S. Bassett, P. Blenis, J. O'Laughlin, R. Martin, D. Cullen, M. Daub, J. Campbell, J. Bowman

Third row: K-Y. Lum, C. Lopes, C. Hendrick, G. Weidemann, T. Pastalka, R. Hughes

Fourth row: M. Stough, J. Duwick, S. Antonius, S. Miller, D. Styer, P. Suleman

Fifth row: F. Reifschneider, M. Ribeiro, R. Ribeiro, H. Modjo, J. Mueller, V. James, C. Heye, J. Irwin

Absent: E. Campos, H. Constantiniidou, C. D'Arcy, M. De Assis, P. Delwiche, E. Fernandez-Northcote, E. Hack, J. Lindemann, J. Lukens, M. Mmbaga,

J. Peronto, M. Pfanenstiel, J. Phillips, R. Reeleder, D. Webster, J. Wischer

NEWS FOR FUTURE ALUMNI NEWSLETTER

Please complete and send to: D. P. Maxwell  
Department of Plant Pathology  
1630 Linden Drive  
University of Wisconsin  
Madison, Wisconsin 53706

This spring, we would like to prepare a special issue of the PATHOGEN with just alumni news. Please take a few minutes and let us know what you have been doing. We'd like to hear about your family, as well as your work.

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Date \_\_\_\_\_ Name \_\_\_\_\_

Address: \_\_\_\_\_

Degree \_\_\_\_\_ (M.S. - Ph.D.) Year(s) \_\_\_\_\_