

# *Aurora Sporealis*

JUNE 1987



**Eighty Years  
of  
Cooperation**

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**U of M - USDA**

**DEPARTMENT OF PLANT PATHOLOGY  
UNIVERSITY OF MINNESOTA  
St. Paul, Minnesota 55108**

## MESSAGE FROM THE HEAD

Dear Alumni and Friends:

Another year has passed and we again have the opportunity to bring you news about the Department through the *Aurora Sporealis*. Once again, Carl Eide has done an excellent job of editing and coordinating the production of the 1987 version of the *Aurora*. This year's edition was put together with the help of a new MacIntosh microcomputer which the Department purchased to help Dr. Eide with this task.

A major activity of the Department this year has been a program called Commitment to Focus, which is a University-wide initiative to determine areas of future emphasis within each academic unit across the campus. This program is directed toward making the University of Minnesota one of the top five public institutions in the country. Accordingly, each academic unit across the campus was asked to develop a "Strategy for Focus" that identifies key areas that will be emphasized and requires that 10% of our funding base be reallocated to these new or increased emphasis areas and another 5% for unexpected contingencies. Although it was a time consuming task, I believe that the overall benefits to the University and, more specifically, to our Department will be considerable. It gave us an opportunity to assess where the Department presently stands with respect to its research capability and resources and to make decisions as to where we want to go in the future. It also gave the Department an opportunity to state our position with respect to how we fit into the total University community and how we contribute to agriculture as a whole.

To mention a couple of issues that we feel are important to our future that were stated in the Department's Strategy for Focus document, we feel an urgent need to increase our expertise in the application of molecular genetics and genetic engineering to the solutions of plant disease problems through such avenues as faculty development, visiting scientists, graduate student education, and through such activities as sponsoring seminars and symposia on molecular genetics. The Department has also stated that our next new faculty member hired should have expertise in the area of molecular genetics of fungi or host parasite interactions. Another area of emphasis is to intensify our efforts in the recruitment of undergraduate and graduate students of high academic quality to the Department. A recruitment program has been outlined that we are now in the process of implementing.

The Department has also stated an increased commitment to providing quality undergraduate and graduate instruction. Included in this goal would be the initiation of a major capstone course in the undergraduate Integrated Pest Management program, to expand or initiate new courses in the areas of plant disease control, diagnosis, international plant pathology, and an increased effort to make our students aware of current problems facing agriculture through their formal course work, seminars, and field trips.

We are grateful for the excellent resource that our alumni and Old-Timer network provides to this Department through your continued support of our

programs and recruitment of high quality students, contributions to our endowment programs, and general support that you provide by spreading the good word about plant pathology at the University of Minnesota.

We are optimistic about what is happening in the Department and look forward enthusiastically to a challenging and bright future. We invite you to be a part of that future through your continued support and involvement. Again, we appreciate the opportunity to let you know what has happened in the Department during the past year through the *Aurora* and to wish you our very best regards for the coming year.

Sincerely,



Philip O. Larsen  
Department Head

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## AURORA SPOREALIS

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## COVER STORY

On the cover E. C. Stakman and Elmer R. Ausemus examine the stalks of stem rust resistant wheat. The time is the early 1940s and if they seem somewhat smug it may be because there had not been a severe epidemic of stem rust in the spring wheat region since 1937 and the 15B epidemics of 1953-54 were still in the future.

But the work never ceased and with varieties that have withstood multiple races of *P. graminis tritici* (Selkirk, Chris, Waldron, Era and others) severe epidemics have been unknown for 30 years.

These varieties represent the results of cooperative efforts of many people at Minnesota in the departments of Agronomy and Plant Genetics and Plant Pathology and the U.S.D.A. and of co-workers in North Dakota and Canada. The work at Minnesota began in 1907 and grew under the leadership of Stakman and H. K. Hayes. The U.S.D.A., including the Federal Rust Laboratory (now the Cereal Rust Laboratory) and U.S.D.A. plant breeders as represented by Ausemus, have played a major role from the beginning. The variety Era, introduced, by plant breeder Robert Heiner and Donald McVey of the Cereal Rust Laboratory resulted in part from work Ausemus began. It was named in his honor. (see Obituaries)

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**OLD TIMERS**

**Markus W. Andres**, PhD 1982, accepted a staff position with the Swiss Federal Research Station for Agronomy in Zurich-Reckenholz. He will have management and research responsibilities on the staff of Director A. Broennimann. Markus resigned from his position in fungicide research with Rohm and Haas, Spring House, PA in August 1986 where he had worked for the previous three years. He extends an invitation to all to visit him in "beautiful Switzerland."

In July 1986 **Joe Southern**, PhD 1978, reported that he left S.O.S. Biotech K. K. in 1985 and started SEAAC (Southeast Asia Agricultural Consultants, Ltd.) at Chiangmai, Thailand. The new company does contract research, market research and sales promotion, primarily in the area of agricultural chemicals.

**Glenn Furnier**, MS 1980, accepted a position in the College of Forestry, University of Minnesota, as molecular biologist. Glenn received the PhD in population genetics at Oregon State University and since then has held post doctoral positions at the University of Alberta, Canada and at University of California, Riverside. He will assume his duties at Minnesota January 1, 1988.

**Lars Semb**, who has been Head of Field Inspection with the Norwegian Plant Inspection Service for nearly 2.5 years, went back with the Plant Protection Institute at Ås April 1, 1987. He is now doing research on diseases of fruit crops, berries and ornamentals. Lars took graduate work at Minnesota in 1952-1953.

**Arvid Monson**, MS 1964, is now teaching biology (human anatomy and physiology) at Hazard Community College, Hazard, Kentucky. Barb is teaching nursing at the same institution.

**Kenneth Bohnenblust**, PhD 1966, retired June 30, 1986 from his position as Professor of Plant Pathology at the University of Wyoming. Like many other recent retirees he still advises graduate students.

**Larry Haugen**, MS 1982, is now Production Manager with Riceter Co., a subsidiary of Farms of Texas, Aldin, Texas. Before his move to Texas, Larry was with Rohm and Haas, Wichita, Kansas.

In 1985 **Coy Jones** accepted a position with Rhone Poulenc at San Juan Batista, CA, where he is Director of farm test plots. Coy was formerly with Westbridge Agricultural Products in Florida. He took graduate work in the Department during 1980-83 and has passed the prelim for the PhD.

**John Dueck**, PhD 1971, is in Pakistan as administrator of a dry land agricultural project sponsored by Agriculture Canada. It is a three year service job that he started in 1985.

**Mark Stennes**, MS 1981, was on the local TV in May as a "commercial." Mark is the founder of Stennes Shade Tree, Inc., New Brighton, and was promoting his injection treatment for Dutch elm disease. If used in the early stages of the disease the method is highly successful.

**Mousa Seck**, MS 1985, is presently in Senegal, working on a government sponsored weather project for Northeast Africa. He talked with Alan Roelfs via telephone in early June and sent his regards to everyone in the Department.

Potato pathologist **Stein Telneset**, PhD 1963, reports that no ring rot was found in the seed potato crop in Norway in 1986. Potato pathologist **Julia Guzman**, PhD 1961, says that Verticillium wilt has started to appear in potatoes in Colombia.

**Tom and Shirley King** moved in 1986 from Texas to a condominium at Breezy Point near Pequot Lakes, MN. Their son, Brad, owns a hardware store near the corner of Lexington and Larpentour Avenues in St. Paul about a mile from the St. Paul campus.

**T. C. Loh**, PhD 1933, is still in good health and exercises to stay that way, according to recent reports by Shih-I Lu. Although he is retired from the Kwangtung Provincial Institute of Microbiology, T. C. still spends much time with graduate students, especially teaching them written and conversational English. When Loh was a graduate student in the 1930s he spoke English fluently and his writing style was superior to that of most native American students. His students are fortunate to have such a teacher.

## Correspondence

**Halbert Houston Thornberry**, PhD 1934, retired from the University of Illinois in 1971 and now, at 84+, is enjoying a useful career as a violinist. His musical retirement was summarized in the newsletter for the Retired Senior Volunteer Program (RSVP) for August 1986. Thorny learned to fiddle by himself when he was a child and continued to study the violin at various periods during his life, amounting in all to about 8 years of formal instruction. Besides playing he teaches violin, is author of a book on violin playing and sells, repairs and restores violins. But his greatest joy and contribution is in playing for residents of nursing homes, schools and various community events. He is equally competent in playing the classics, blue grass, jigs or in playing with a band for square dancing. In addition to many other awards he was Champion Illinois State Fiddler (for ages over 70) in 1973, 1975, 1977 and 1982.

Thorny holds the BS (1925) and MS (1926) from the University of Kentucky. He spent 1926-1928 at Minnesota, three years at the University of Illinois (Urbana), four with the Rockefeller Institute for Medical Research at Columbia and Princeton and was awarded the PhD in Plant Pathology at Minnesota in 1934. He was on the faculty in Agriculture at the University of Illinois 1938-1971 and helped to establish the program for advanced degrees in Plant Pathology there in 1942.

**Maria de los Angeles (Angelita) Melendez Schroeder**, MS 1951, now lives in Seattle, WA, where her son Harry Jr., MD and PhD, does research in the Department of Genetics of the Medical School at the University of Washington. She also has a daughter, who lives in Texas, and five grandchildren.

Angelita recalls going by train to the APS meeting in Cincinnati in 1946. Others making the trip were Helen Hart, Kommedahl, Boosalis, Harry Young, Larry Miller, Eide and the Christensens, Clyde and JJ. "All the way up and down dear Chuck (Logsdon) made us laugh with his famous stories."

During the 1950s Angelita worked as a medical technologist in the Medical School, University of Minnesota where she trained personnel in the use of aseptic techniques. Later she set up the cell culture laboratory for virus isolation in the Minnesota Department of Health, establishing all the procedures and training laboratory personnel.

**Howard W. Johnson**, PhD 1928, retired in April 1968 and lives in Leland, Mississippi. Recently he wrote of his professional career: "When I got my PhD at the

University of Minnesota under Dr. Stakman my wife and I moved to Baton Rouge, Louisiana, where I accepted a position doing teaching and research at the University of Louisiana under Dr. Edgerton. After several years there I accepted a position with the Bureau of Plant Industry, USDA, Forage Crops Division and was at the Arlington Experiment Station, Arlington, Virginia. I remained in this position until I accepted a transfer to the Delta Branch Station, Stoneville, Mississippi. I was still an Employee of the Bureau of Plant Industry, USDA and I worked on diseases of alfalfa, clover, grasses and soybean until my retirement after 38 years of service." The Johnsons raised four children.

**Thomas W. Graham**, PhD 1942 and **Mrs. Graham**, the former **Vera Koerper**, are now living near Florence, South Carolina. Last fall Tommy wrote:

"We keep busy trying to keep up with our 5 acres. About three acres are wooded, some of which we are clearing for plantings such as camelias, azaleas, etc. and for wood to use in our wood burning stove which supplements our electric heat. Our mild weather allows gardening most of the year. There are plenty of insects and diseases which require constant spraying. One of our most persistent problems is that of nematodes. Since my work at the station was related to agricultural pests I know how to deal with them. We have peaches, plums, pears, apples and pecans - all need to be sprayed. Having two children has kept us involved in community activities. Some of this continues.

"My connection with the U. S. Dept. of Agri. and Clemson University started in 1940, ending in 1972 with my retirement from Tobacco Research. The Pee Dee Experiment Station where I worked is about 50 miles from the coast while Clemson is near the western line of the state. This made my contact in relation to my work with Clemson rather remote.

"Our two children, Penelope, 43 and Stephen, 42 both live out of the state. Penny and husband and son, 15, live in Murfreesboro, Tennessee. She is an occupational therapist at the V. A. hospital. Stephen has his PhD from Duke in Political Science and is teaching at Indianapolis University (formerly Indiana Central University). He and his wife Marcia have no children."

In Minnesota, before she and Tommy were married, Vera worked for Professor J. G. Leach as technician from 1930 to 1935, when Leach was doing research on the relation of bark beetles to the blue stain in wood and other problems of insects and plant disease. Vera was practically the only professional assistant employed in the Department at that time.

## AURORA GOES MODERN

As Dr. Larsen wrote in his Message to Old Timers, the Department bought a Macintosh computer to improve the appearance of Aurora, an action that gratified the Editor as an indication of the regard of the Administration for the publication. It was not done entirely without stimulus. We (kings, queens and editors refer to themselves as "we") had been profoundly impressed by the ISPP newsletter that Prof. Kommedahl writes, edits and composes each quarter and, upon inquiry, found that he generously attributed much of his success to the astounding capabilities of the Macintosh, a specimen of which he owns personally. We discreetly conveyed this knowledge to the Head and about a year later (early 1987) had a new (Enhanced) Macintosh in our office. (It is just possible that Kommedahl spoke to Larsen too).

Our eagerness was not based on Kommedahl's experience alone. Old Timers C. S. Logsdon, PhD 1952, and H. D. Thurston, PhD 1954, having heard of the impending possibility, willingly shared their opinions of the Macintosh, based on personal experience. Thurston claimed it would do exactly what it was told to 'neatly' (Dave worships neatness) without back talk or the necessity for delicate diplomacy. Both Chuck and Dave assured us that working with the Macintosh was fun and we were about to experience more fun than we had had in years. One said that it was the greatest invention since the wheel and the other that it was the greatest discovery since sex. (We can't recall now which opinion was whose).

At any rate, we were curious and after a short instruction by Kommedahl, were able to transcribe barely legible characters on a TV type screen and which, we hoped, were recorded in some mysterious manner to a "disc." We learned to correct mistakes if we noticed them and, over a period of a couple of months, to change the type style and other things. Most of this was learned by trial and error since the instruction book was written in garbled language (English?) by some one presumably acquainted with computer logic but totally unable to translate it into the ordinary variety. Gradually we learned that Kommedahl was sometimes stumped by the vagaries of the machine and even had to call the university trouble shooter for help. In the meantime we waited for some manifestations of fun and began to wonder what sort of concepts Dave and Chuck had of fun.

Other facts also became apparent. The "printer" that

came with the Macintosh made smudged looking letters like most computer printers. To get a beautiful job like Kommedahl's newsletter it is necessary to use a "laser" printer (\$6,000). We learned that Kommedahl had his laser printing done at a commercial establishment at .90/page. Or, if we bought a permit at \$20/quarter we could use the university laser for only .10/page.

We were eager to see what our labors had recorded on the mysterious disc. So Kommedahl took us to the library where the laser is located and, after clearing with the attendant, slipped the disc into a Macintosh like our own that was hitched to (configured with) the laser. He punched a few keys on the key board, but got only unrelated messages and images on the screen. After more conferences with the attendant and a few more key punches the answer came on the screen: "I aint gonna process that document." Those were the exact (or almost exact) words. It was positively surly!

That did it! We went back to our office in Stakman Hall and gave the Macintosh to Meg Clemens, Senior Word Processing Operator.

Now Meg is neat, agreeable and does exactly what she is asked to do—all qualities that Thurston said were characteristics of the Macintosh. We gave her a dozen sheets of our sprightly news items and the next day she had them all neatly lasered. Very few errors, in fact the Macintosh had corrected a couple of mistakes in the original copy.

We figure that it took Meg maybe 15 minutes to reason with the Macintosh and bring it to heel. She obviously has a special talent; maybe Thurston and Logsdon have the same talent. Anyhow it is a blessing not to have to deal with a machine that refuses dogmatically to do what it is asked to do.

But computers obviously are part of our lives, especially the lives of plant pathologists. We gave up the idea of trying to find out how many computers there are in the Department, but we counted seven in room 415, Stakman Hall, where Paul Teng's students and assistants work. And nearly every open door reveals a student or staff member squinting at a screen and pecking at a keyboard. They don't seem to be having fun, either.

We believe that Aurora is much improved by the new type faces. The Macintosh can't work miracles, of course; for other shortcomings the editor takes full responsibility.

## VISITORS

### 1986

July 17. **Wm. Q. (Bill) Loegering**, PhD 1949. Bill was in the Department to gather data for a paper he was writing on the career of Harold Flor, PhD 1929. He left St. Paul for Fargo, N. D. to get more data on Flor and then, with Curt, PhD 1953 and Martha, MS 1946, Roane, spent a week fishing in northern Minnesota.

August 7. **Arthur M. Elliot**, PhD 1961, and Mrs. Elliot were in Minneapolis to attend meetings of the International Association of Plant Cell and Tissue Culture. Art is Associate Professor in the Department of Biological Sciences, Texas Technical University, Lubbock, where he teaches plant pathology, mycology, general botany, microbiology and survey of the plant kingdom.

August 25. **Dr. Axel Andersen**, Michigan State University, was visiting relatives in Minneapolis. Axel graduated in Forestry, University of Minnesota, in 1937. As an undergraduate he worked at various jobs in plant pathology and started graduate work in the Department. In 1939 he got a job at Michigan State and received the PhD there in 1947. After service in biological warfare during WWII Axel was with the USDA at Michigan State until 1965 and thereafter was Assistant Director of the Michigan Agricultural Experiment Station and Head of Extension Plant Pathology. He retired in 1977.

September 3. **Gil Stahlknecht**, PhD 1968, now Superintendent of the Southern Research Center, Huntley, Montana.

September 8. **Lois E. B. Johnson**, PhD 1980. Lois is still with the Agricultural Products Division of the DuPont Co., Wilmington, Delaware and was about to start working with tropical crops.

September 30. **Peter Bedker**, PhD 1986, now Assistant Professor of Urban Forestry, Cook College/Rutgers University. Peter was here again April 16 and 17, 1987 to participate in the meeting on pine wilt.

October 20-21. **Dr. Norman Borlaug** visited the Department and conferred with various people on various matters. At a meeting in Borlaug Hall he spoke briefly of the problems of acceptance of new agricultural methods by third world farmers. He also told of efforts being made to establish a prize in agriculture similar in prestige to the Nobel prizes. On October 21 there was a reception for

him in Room 401 Stakman Hall (the old seminar room). To some it was like old times, but the pictures that adorned the walls had all been removed except one—that of Borlaug himself. We hope that he will believe that it wasn't dragged out and hung for the occasion.

October 27. **Leif Sundheim**, PhD 1964. Leif is Pathologist at the Norwegian Agricultural University, Ås. He is spending a sabbatical year at the University of Wisconsin where he is working with Al Ellingboe. Leif and Mrs. Sundheim arrived in Wisconsin August 26 and Mrs. Sundheim, a biochemist, also is doing research at University of Wisconsin.

October 27. **Dr. John Fulkerson**, USDA, CSRS was in the Department attending a meeting of the National Microbial Culture Committee.

November 6. Old Timer **Dr. Richard Durbin**, USDA, ARS at the University of Wisconsin, presented a seminar.

November 6. **Dr. Richard Kiesling**, Professor and Head of Plant Pathology, North Dakota State University addressed a workshop meeting in the Department of Agronomy and Plant Genetics.

November 11. **Dr. James Tammen**, formerly Dean of the College of Agriculture, University of Minnesota and Professor of Plant Pathology (1976-1981). Dr. Tammen left Minnesota to become President of Oglivie Associates, Connellsville, Pennsylvania. He recently accepted an administrative position with the University of Florida where his special responsibility will be promoting cooperation between business institutions and the university.

December 4. **Wm. Haglund**, PhD 1960, Pathologist at the Washington State University Northwest Experiment Station, Mt. Vernon. Bill was visiting his family in the Twin Cities.

### 1987

January 7. **Professor Paul Williams**, Plant Pathology, University of Wisconsin. Professor Williams took coffee with the staff. He was on the campus to give a seminar in the Department of Horticulture.

January 21. **Glenn Furnier**, MS 1980. Glenn presented a seminar in the College of Forestry.

February 26. **Winston Hagler**, PhD 1979, presented a lecture on mycotoxins to a commercial group in Minneapolis. Winston is on the faculty of the

## OBITUARIES

**Irvin L. Forbes**, PhD 1935, died March 4, 1987 in Baton Rouge, LA. Irvin had been in poor health since suffering a stroke in 1979. A native of Louisiana, he received the BS (1925) and MS (1928) in plant pathology from Louisiana State University. He was Instructor in plant pathology at the U of Minnesota in 1929-30 and 1931-32, and received the PhD from the U of M in 1935. Irvin was on the faculty in botany and plant pathology at L.S.U., becoming Professor in 1946. He retired June 30, 1972. In addition to his professorship he was Assistant Director of the Louisiana Agricultural Experiment Station from 1942 to 1956. He was 84 years old when he died and is survived by his widow, Elsie, and a son, Ben.

**Clyde P. Shumway**, MS 1931, died May 16, 1986 in Minneapolis. He was born April 11, 1904 at Robbinsdale, MN and received his BS in agriculture at the University of Minnesota in 1929. He continued graduate work in plant pathology until 1936 and then taught agriculture in the high school at Cambridge, MN. Later he was county agent in Pine County, MN and then teacher in the Pine City high school. He bought a farm near Pine City where the family lived until he retired. Clyde is survived by his widow, Margaret, five sons and one daughter and 16 grandchildren.

**Dean Harold (Jo) Macy** died November 30, 1986 at the age of 91. Macy held the BS in bacteriology from Cornell (1917) and the PhD from Iowa State College (1929). He came to Minnesota as dairy bacteriologist in 1918, was Associate Director of the

University of Minnesota Agricultural Experiment Station 1946-50; Director, 1950-53 and Dean of the Institute of Agriculture from 1953 until he retired in 1963. He served with distinction in both world wars. Dean Macy is survived by his wife, Rae.

**Elmer R. Ausemus** died October 12, 1986. He was born at Cherokee, Kansas, June 22, 1895. Elmer held the BS degree from Kansas State College (1923), the MS from Washington State College (1924) and the PhD in plant genetics from the University of Minnesota (1932). He was stationed at the Northern Plains Experiment Station, USDA, near Mandan, N.D., 1925-29 as Associate Agronomist, USDA. He transferred to the U of Minnesota St. Paul in 1929 where he was stationed until his retirement in 1964, advancing to agronomist, 1944, and to Coordinator of the Spring Wheat Region in 1950. In 1947 he was appointed Adjunct Professor in plant breeding, U of Minnesota. As a USDA wheat breeder Elmer was closely associated with Minnesota plant pathologists in the development of rust resistant spring wheats. He is remembered by many Old Timers as a congenial friend and a highly competent scientist. He is survived by his widow, Wencel, a son and several grandchildren and great grandchildren.

**Orrin C. (Clint) Turnquist**, Professor Emeritus in extension horticulture, died of leukemia November 17, 1986. Clint took his PhD in horticulture in 1951 and served most of his professional life in that department. He was Extension Horticulturist from 1949 until he retired in 1978. Clint worked diligently and effectively in potato improvement and often cooperated with Minnesota plant pathologists.

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### Visitors -- continued

Department of Poultry Science, North Carolina State University.

March 24. **Myron E. (Mike) Tumbleson**, MS 1961, now Associate Dean for Research, Assistant Director, Agricultural Experiment Station, College of Agriculture, University of Illinois, Urbana, was on the campus to attend a meeting.

April 3. **Patti and Steve Sebesta and Ashley** (21 months) dropped in while on a week end trip to the Twin Cities. The Sebestas live in Fargo, North Dakota where Steve is plant breeder for Cargill, Inc. and Patti works for the public T.V. station in Fargo.

April 13. **Robert Deitrich**, MS 1985 and candidate for the PhD at the University of California,

Davis. Bob was in town for a meeting. Bob had visited the Department on December 30, 1986.

April 14. **Donald E. Munnecke**, PhD 1950 and Mrs. Munnecke visited relatives in Minneapolis. Don, who retired from the University of California, Riverside in 1985, still has a graduate student and keeps busy in his profession.

April 15. **Craig Grau**, PhD 1975, Professor at the University of Wisconsin, presented a short course in plant Pathology at Wisconsin State University, River Falls. Being near (about 40 miles) to St. Paul he thoughtfully decided to visit his Alma Mater.

April 15. **Kelly and Paul Karelis** and daughter Molly, Markesan, Wisconsin. Paul teaches courses in agriculture to 132 high school students at Markesan.

## HONORS

Two Minnesotans were made Fellows of the American Phytopathological Society at the annual meetings in Florida, August 1986. They are:

**Alan P. Roelfs**, PhD 1970. Alan's citation emphasized his research on the epidemiology and population dynamics of cereal rusts, the identification of sources of resistance and their evaluation for practical use. Alan is Adjunct Professor in the Department and actively participates in teaching classes as well as serving on departmental committees and advising graduate students. He has travelled as consultant to Europe, Morocco, China and other countries.

**Dr. Isaac Wahl** does not hold a degree from Minnesota but, beginning in 1947, he has spent several periods of different lengths of time doing research in the Department and sharing his rich store of knowledge with the students and faculty. Recently he has been a leader in formalizing and funding cooperative work between the Department and Tel Aviv University, where he is Professor and Head of the Division of Mycology and Plant Pathology. His citation emphasizes his studies of the co-evolution of wild plants and obligate parasites, knowledge which is potentially valuable in breeding rust-resistant cereals.

**Ross McQueen** received the Thomas French Award for 1986. Ross attended the 3rd International Symposium on Molecular Genetics of Plant-Microbe Interactions at Montreal, Canada.

**Professor D. W. French** received the Gamma Sigma Delta Award of Merit at a meeting of the Minnesota chapter April 23, 1987. The award is made for 'outstanding service to agriculture and related sciences and arts.' Others in the Department who have won the award were: E. C. Stakman (1951), Helen Hart (1965), J. J. Christensen (1967), C. J. Eide (1972), C. M. Christensen (1973), J. B. Rowell (1981), F. I. Frosheiser (1983) and D. D. Skilling (1986)

**Wm. Q. Loegering**, (PhD 1949) was named as one of the first six Fellows of the Missouri Academy of Science, April 24, 1986. Bill was cited for nearly 20 years of active and financial support as well as his contributions as a judge and for his paper presentations.

**Malcolm C. Shurtleff**, PhD 1953, received the Distinguished Service Award of the U. S. Department of Agriculture in 1986 for outstanding service in Extension

plant pathology. Mal is Professor of Plant Pathology, University of Illinois, Urbana-Champaign.

**Susan M. Bissonnette**, a graduate student in plant pathology at the U. of Illinois, Urbana-Champaign, shared with one other student the North Central Division Outstanding Student Presentation Award at the annual meeting of the Division, June 16-18, 1986, at the University of Nebraska. Her paper was entitled "Biological control of *Pythium ultimum* on red kidney bean by bacterial and fungal biocontrol agents." Barry Jacobsen, PhD 1973, was Susan's adviser. Susan was awarded the MS in May 1987 and will continue work for the PhD at Urbana.

At the same meeting the North Central Division instituted a Distinguished Service Award for outstanding contributions. The first nominees to receive the award were **Michael G. Boosalis**, PhD 1951, of the U of Nebraska and **Thomas D. Wyllie**, PhD 1960, of the U. of Missouri. Each received a plaque and a monetary award.

**Darroll Skilling**, PhD 1968, Principal Plant Pathologist, North Central Forest Experiment Station and Professor, Department of Plant Pathology, U of M was awarded the Forest Service Certificate of Merit. The award was made for research and leadership in controlling *Scleroderris* canker on conifers.

## Recognition Program

Members of the Department assembled in the large lecture room in Borlaug Hall, May 29, 1987 to witness the presentation by Prof. Larsen of several awards of honor and join in congratulating the recipients. The recipients were:

**Jean Ciborowski**, MS candidate, who received the M. F. Kernkamp Award.

**David Linde**, MS candidate, who received the Fred I. Frosheiser Scholarship.

**Gilbert Ahlstrand**, Associate Scientist, who received the Civil Service Award. Gib has worked in the EM lab for 8 years and has helped many people from all departments on the campus in using the electron microscopes and related equipment and techniques.

Each of the above three received a plaque and a check. The scholarships were funded by income from bequests by the former faculty members M. F. Kernkamp and Fred I. Frosheiser. The Civil Service Award was made for the first time and recognized the great

contributions made by people on the civil service staff. It is funded by the Department. All of the awards were sponsored by the Committee on Public, Alumni and International Relations and the Faculty Council.

It was announced that the E. C. Stakman Award for 1987 will go to Professor Arthur Kelman of the University of Wisconsin. This award will be made at a later date.

Finally the recipients of honors during the past year were announced (see Honors). These were **Alan Roelfs** and **Isaak Wahl**, who were made Fellows of the APS in August 1986, and **D. W. French**, who received the Gamma Sigma Delta Award of Merit in April, 1987.

After the ceremonies, there was an excellent wine, cheese and veggie party, which was a great comfort to those who didn't rate any honors.

## SOCIAL

### The Corn and Hog Party

**Jim Rowe**, **Cheri Olson**, and **Kimon Karelis** did another wonderful job of preparing and hosting the annual corn and hog roast, which was held on Sept. 20, 1986. There were about 115 guests including Gene Allen, Dean - College of Ag., and Dept. Heads Burnside (Agronomy), Jones (Entomology), Larson (Soil Science) and Wilcox (Rosemount Exp. Sta.). Staff and families from Entomology also joined in. Shelley Long won the balloon breaking contest, Mandy Larsen and Christy Giese won the egg throwing contest, and Mark Fuller won the cupcake eating contest by skipping the paper removal step.

Hayrides were given and the riders decided there would be a class action suit for whip lash injury against the tractor driver, Dr. P. O. Larsen. Indian corn, apples, and gourds decorated the tables and everyone was welcome to keep them as souvenirs of the evening. The evening was completed with a huge bonfire and lots of smores.

-Connie Post

The Committee: Decorating and Food: Jim & Sandra Rowe, Cheri Olson and Kimon Karelis. Planning and Coordinating Recreational Activities: German Hoyas, Jim Percich, Connie Post and Scott Sherman. Reservations: Sue Grayden.

## Winter Party

Alan Pierce said he knew he was having a good time when he noticed his watch crystal was fogged over. Jim Percich said he perspired. That was after the dancing was in progress and a few beers at the Winter Party, February 21, 1987. There were very few "slow" dancers (old fashioned) and the modern style is similar to jogging in physical energy required.

The party was held at Lemonts in St. Paul and after a buffet dinner music was furnished by a group of four musicians featuring Dann Adair, who plays a number of instruments, including violin and guitar. Door prizes (bottled goods) were won by Mrs. Lewis Otjen and Mrs. Mirocha. Arrangements were made by the Social Committee: J. Percich, G. Hoyas, S. Sherman, and Connie Post. They did a good job.

## Traditional Coffee Hour

Seasonal and ethnic foods were served at the 10 AM coffee break on December 16, 1987 in the Old Seminar Room in Stakman Hall. Several people contributed delicacies appropriate to the season: Lutefisk (Loren Nickelson), lefse (Jim Groth), Swedish sausage, home made with "natural" casing, (Neil Anderson), Norwegian rice pudding (Connie Post). There were also delightful homemade baked goods, most of Scandinavian types. So far as we know, no one came back for seconds of the lutefisk, although Loren did a good job of promoting the delicacy. People raised on hamburgers and pizza just don't appreciate haute cuisine.

## VITAL STATISTICS

### Marriages

June 21, 1986. David Linde and Patti Santangelo  
 July 13, 1986. Dr. Bruce Potter and Patricia Brekke  
 January 10, 1987. Dr. Chad Hagen and Janet Green  
 June 1, 1987. Rod Moberg and Mary Sortland

### Births

September 18, 1986. Molly Marie to Kelly and Paul Karelis. 9 lb, 6 oz.  
 October 10, 1986. Aaron Christopher to Helen and Carl Matyac. 10 lb.  
 November 1, 1986. Laura Michelle to Susan and Kenneth Johnson, 8 lb, 5 oz.  
 November 18, 1986. Kathryn Mariel to Gail and John McCain. 7 lb, 1 oz.  
 November 29, 1986. Lindsay Nicole to Debbie and Scott Enebeck. 7 lb, 10 oz.  
 May 9, 1987. Anthony Martin to Tania and Conrad Buhr, 8 lb, 10 oz.

## Visiting Scientists

**Dr. Angelo Visconti** was back in Minnesota from August 1 to September 1, 1986 working in Dr. Mirocha's laboratory on *Fusarium* toxins under a bilateral program sponsored by Italy and the United States. Dr. Visconti is a Research Chemist at the Institute of Toxins of Plant Parasites of the Italian National Council for Research. He did research on *Fusarium* toxins in the Department from October 1, 1983 to March, 1985.

**Dr. Jacob Manisterski** visited the Department July 1, to August 5, 1986 under the Exchange Program sponsored by the U of M and Tel Aviv University. Dr. Manisterski works at the Institute for Cereal Crops Improvement of the Tel Aviv U. While in Minnesota he conferred with students and faculty and gave a seminar at the Cereal Rust Laboratory.

**Dr. Horonori Koga** of the Hokuriku National Agricultural Experiment Station, New Niigata, arrived July 25, 1986 to spend a year working in the laboratories of Drs. Bushnell and Zeyen. Dr. Koga received the PhD in 1985 from the University of Kato where he worked in the laboratory of Dr. J. Shishiyama. He investigated fluorescent and other cytological responses of host tissue to infection by powdery mildew. He is supported by the Japanese Science and Technology Agency.

**Dr. Helmut Bochow**, Professor and Head of the Department of Plant Pathology of Humboldt University, Berlin, arrived in August, 1986 and worked in the Department until October 31, 1986. While here he investigated problems in mycology and soil borne diseases in Prof. Neil Anderson's laboratory. His stimulating presence was much appreciated at the 10 AM coffee break.

From February 1986 to February 1987 Old Timer **Dr. Isaak Wahl** was on sabbatic leave from his position as Professor and Head of the Division of Mycology and Plant Pathology, Tel Aviv University. He made good use of this opportunity, his schedule being approximately as follows: February to May, 1986 - Beltsville; June and July - Texas A. and M. University; August - APS meeting; August through October - University of Minnesota; November and December - Peru; December to February, 1987 - University of Minnesota. During the year he worked on a book (Beltsville and Minnesota), did research on cereal diseases, (Texas and Minnesota) and made further arrangements for cooperative research involving Tel Aviv University, the University of Minnesota and Peru.

**Dr. Donald J. Maclean** arrived in July 1986 to spend several months in the Cereal Rust Laboratory evaluating immunological and molecular genetic methods for investigating specificity in cereal rusts. He worked with Professors Bushnell, Zeyen and Carroll Vance. Dr. Maclean is Senior Lecturer in the Department of Biochemistry, University of Queensland, Brisbane, Australia, where he has worked extensively on the biochemistry of *Puccinia graminis* grown in axenic culture.

**Ing. Agr. Ursula Bosch** of Gottingen, West Germany, arrived about September 1, 1986 to spend a year working with mycotoxins in Dr. Mirocha's laboratory. Her background and degrees, from the University of Gottingen, are in general agriculture.

**Dr. Bernard Millet** spent two months (February 24 - April 20, 1987) in the Department studying the effects of infections on the circadian rhythms and resistance to disease in cucumbers and bean. Dr. Millet is Professor in the Faculty of Sciences and Vice-President of the University of Besancon, France. Dr. Millet did his research in the laboratories of Dr. Bill Kennedy, Plant Pathology, and Dr. W. L. Koukkari, Botany.

**Dr. S. M. Paul Khurana** arrived March 8, 1987 to spend a year doing research in Dr. Banttari's laboratory on immune diagnosis of low concentration, phloem limited and or unstable viruses of potato or other plants for field testing of plants or in individual insect vectors. Dr. Khurana is Senior Virus Pathologist and Head of the Virus/Seed Laboratory, Central Potato Research Institute, Simla, India.

**Mr. Peikun Zhu** arrived in January 1987 to spend a year in the Department doing research on viruses in Dr. Banttari's laboratory. Mr. Zhu holds the MS degree from Fudan University, Shanghai. Peoples' Republic of China. He is on the faculty in Plant Pathology at Fudan where C. S. Wang, PhD 1937, is Head.

**Ms. Rhonda Conlon**, Research Specialist in the Department of Horticulture, North Dakota State University, was a visitor during the winter quarter, January 1 - March 31, 1987. She took courses in computer modelling and worked on potato crop and pest models with Dr. Kenneth Johnson. Rhonda holds an MS in horticulture from N.D.S.U. and will continue work toward the PhD when she returns.

NEW STAFF AND VISITING SCIENTISTS



Ursula Bosch



Bernard Millet



Rhonda Conlon



S. M. Paul Khurana



Cynthia Ash



Peikun Zhu



Kory Cease



Robert Doudrick



Andre Abad

## Visiting Scientists -- continued

**Shih-I Lu**

Shih-I Lu, PhD 1952, arrived in St. Paul May 30, 1987 to spend a couple of months promoting scientific collaboration between the People's Republic of China and the U. S. More specifically he is seeking support for research on the genetics and culture of edible fungi as well as on mycotoxins, genetics and breeding for disease resistance in plants. He hopes to get financial support from N. S. F. and other agencies. The project would involve exchange of Chinese and American investigators with special interest in these fields.

Dr. Lu, who is Geneticist in the Institute of Microbiology, Academia Sinica, Beijing, has worked extensively with the culture and genetics of edible fungi. He says that in China high yields of *Pleurotus* spp. are produced on cotton seed hulls in about a month. A crop of the Shiitake fungus can be produced in 2 1/2 months on sawdust.

In mid-June Dr. Lu spent several days at the University of Wisconsin, where he presented two seminars and interviewed commercial mushroom growers who are much interested in Chinese techniques. He will also visit with mushroom growers in Minnesota and other parts of the U. S.

In December, 1986 the Chinese National Science Association made Dr. Lu a special award for his contributions to learned societies in China.

**Ms. Elizabeth Alvarez** returned to the Department and spent July - October 1986 in Dr. Bantari's laboratory learning virus research methods which she hopes to apply in her studies of rice diseases in Colombia. Elizabeth is Research Scientist in the Department of Plant Pathology, International Center of Tropical Agriculture (CIAT), Cali, Colombia. She took graduate work in Minnesota in 1983-1984.

**PERSONNEL CHANGES****Additions**

**Cynthia Ash** started work as Assistant Extension Specialist in Plant Pathology on January 2, 1987. She will work with the Dial-U Insect and Plant Information Service (70%) and Extension Plant Pathology (30%). Cynthia has the MS degree in plant pathology from North Dakota State University and worked as plant diagnostician in the plant Pest Diagnostic Clinic at N.D.S.U.

**Mark Ferry** became a Junior Scientist in September, 1986 working on a PCB project headed by Prof. Sagar Krupa. He is working in the laboratory of Dr. Rex Lovrien in Gortner Hall. Mark, a Minnesota native, has a BSc degree in microbiology.

**Sandra Gould** began work as Sr. Laboratory Technician on the Clinic staff January 30, 1986. Sandra attended Macalaster College and took courses in medical technology at the U of M. She also took courses in the Plant Health Technology Program. Sandra has worked in the Department previously on a temporary basis.

**Andre Abad** and **Kory Cease** were appointed Junior Scientists July 1, 1986 to work with Professor Bob Blanchette.

Andre, a native of Algiers, France, has a BS degree in biochemistry from the U. of Wisconsin at River Falls. He will work on the histology of wood decay, especially the degradation of lignin.

Kory will also work on wood degradation, specializing in biological control of decay. He has a BA in biology from Concordia College, 1984. He attended high school in Bagley, MN.

**Promotions, July 1, 1987**

**Richard Meronuck**, from Associate Professor to Full Professor

**Paul Teng**, from Associate Professor to Full Professor

## MEETINGS

### APS at Disneyworld

To the Land of Sunshine and Orange Blossoms, discovered first by Ponce de Leon in 1513 in a search for the Fountain of Youth (now called Disneyworld), traveled nearly 1700 plant pathologists, many with families, ostensibly to hear the scientific reports and view the posters represented by the 729 abstracts and 1071 authors. Disneyworld and the EPCOT (an acronym for "Every Person Comes Out Tired") Center claimed considerable attention and competed with the programs held in the Hyatt Orlando Hotel in Kissimmee--a discus throw away from the fabled Disneyworld. Interestingly, 9% of the abstracts, representing 6% of the authors, were written by alumni, faculty and students of the University of Minnesota. Is it a fair measure of the influence scientifically of Minnesota Old Timers in the field of plant pathology. Forty-six Old Timers were represented on APS committees, nine on editorial boards but none on Council. USDA rust pathologist Alan Roelfs was elected a Fellow to become the 33rd Minnesota Old Timer to be so honored by the Society.

It was said that Richard M. Nixon prepared himself for the presidency, following his defeat by John F. Kennedy in 1960, by "reading, travel, and a study of personalities." Plant pathologists apparently believe in this strategy for self improvement because of the many who appear at such meetings and the hours spent in personality study, or is it adjustment? Many shared experiences at Kissimmee and appreciated the hospitality of the Floridians and the local arrangements committee of which Old Timer Tom Kucharek was a member. Phytobacteriologist and former Kennedy advisee Tom Mew invited all to come to the Philippines for the International Congress of Plant Protection in October 1987--where Paul Teng is currently working. Whether the 11 million residents of Florida benefitted by APS is problematical, but we as conventioners profited in a variety of ways from the brief sojourn to this subtropical state, first settled in 1565.

-T. Kommedahl

### Living Culture Resource

A workshop was held in the Department October 27-29, 1986 to evaluate the establishment of a national interactive network of scientists who maintain "living" cultures of microorganisms and sub-cellular entities. Plans were made to set up a national interactive computer network which in essence would enable investigators to find "who has what" in the realm of microorganisms,

viruses, recombinant organisms and other sub-cellular entities. The conference was organized by Dr. Larry Moore, Oregon State University and hosted by Drs. Elwin Stewart and Paul Teng, University of Minnesota. It was attended by about 20 people including federal, university and private sector personnel.

### Forest Pathologists Meet

The Department was host, February 8-10, 1987, to a group of forest pathologists from the U.S. Forest Service and universities. Prof. D. W. French hosted the sessions which planned how to improve forest pathology in the United States. Dr. Arthur Kelman, U of Wisconsin, and Dr. John Fulkerson, CPSR, Washington, D. C., were present for the first days. Others in attendance were Dr. Dave Drummond, USFS, Pineville, LA, Terry Shaw, USFA, Ft. Collins, CO, Dave Houston, USFA, Hamden, CT, Bill MacDonald, U of West Virginia and Fields Cobb, U of California, Berkeley, D. Wayne Sinclair, Cornell was unable to attend because of the inclement weather at Ithaca.

The group discussed research and teaching and a draft was prepared of objectives and plans to increase the output of forest pathologists.

### Microcomputers in Developing Countries

Fifteen participants from two states, the District of Columbia and seven foreign countries paid \$3,500 each (not including air fare) to spend about 18 days learning about "Microcomputers for improved plant protection in developing countries." The workshop was sponsored by the University of Minnesota Extension Service, the Department of Plant Pathology, The Consortium for International Crop Protection (CICP)/USAID Pest and Pesticide Management Project, and the Food and Agriculture Organization, UN. It was held in Borlaug Hall, September 2-19, 1986. Among the seventeen speakers there were 10 from the St. Paul Campus (six from Plant Pathology), four from other states and three from foreign countries. Minnesota plant pathologists were: Paul Teng, Kenneth Johnson, R. A. Meronuck, C. J. Mirocha, Joe O'Brien and Bruce Potter. Old Timers Rae Montgomery (now in Extension Agromony) and Bill Shane, Ohio State U. were also speakers.

### Pine Wilt

The annual meeting of the NC-172 project on "Biology and Management of the Pine Wilt Complex" was held in Borlaug Hall April 16-17, 1987. It was attended by more than 20 people including five from Canada, two from Norway and one from Finland. Among the speakers were Bob Blanchette, Professor, Peter Bedker, PhD 1986 and Dale Bergdahl, PhD 1979.

## RETIREMENT AND DEPARTURES

### John F. Schafer

Professor Schafer plans to retire from his position as Research Leader of the Cereal Rust Laboratory August 31, 1987. He has held the position since 1982. Dr. Schafer received the BS from Washington State University in 1942 and the PhD from the University of Wisconsin in 1950.

Dr. Schafer was Professor of Plant Pathology at Purdue, 1949-1968; Professor and Head, Kansas State University, 1968-1972; Professor and Chairman, Washington State University, 1972-1980; IMP Coordinator, USDA, 1980-1981; Acting National Research Progress Leader, Plant Pathology and Nematology, ARS, USDA, 1981-1982; Research Leader, Cereal Rust Laboratory, ARS, St. Paul, MN, 1982-present. He also was Adjunct Professor of Plant Pathology, University of Minnesota, 1982-present.

His research, published in more than 100 papers, has emphasized new and unique aspects of resistance to disease, principally in small grain crops. He helped pioneer the concept of cultivar diversity and regional deployment of genes to increase durability of resistance against new races of pathogens. He also pioneered in the use of tolerance as a useful form of disease resistance, and helped clarify the concept, definition and potential of tolerance. He also demonstrated that certain broadly effective genes for leaf rust resistance in wheat could be combined to obtain lines more resistant than either parent. He is largely responsible for several cultivars of barley, oats and wheat that have been released and are resistant to several diseases. By showing how various genes for smut resistance in wheat are expressed histologically, Dr. Schafer provided an important tool for identifying these genes in breeding lines.

Dr. Schafer has been an active member of The American Phytopathological Society, serving on numerous committees and as President, 1978-1979.

As Leader of CRL Dr. Schafer has enlarged the laboratory's work on leaf rust of wheat, facilitated new initiatives in molecular biology of rust and taken a leading role in coordinating rust research in the USA.

During his tenure in Minnesota he has helped in every possible way to serve the interests of the Department of Plant Pathology as well as of the CRL and of science in general. In so doing he helped to maintain and strengthen a bond that has existed since 1907 and has been of great benefit to many people in many ways.

### Paul Rothman

Dr. Paul G. Rothman, Research Plant Pathologist at the Cereal Rust Laboratory, retired on September 30, 1986, after 31 years of federal service. Dr. Rothman is a native of Michigan and a graduate of Michigan State University. He received his Ph.D. degree from the University of Illinois in 1955. He was then employed by the Agricultural Research Service of the USDA and assigned to the Oat Investigations project at Stoneville, Mississippi. In 1967 he transferred to the USDA Cereal Rust Laboratory, located with the Plant Pathology Department on the University of Minnesota Campus in St. Paul. In addition to his federal employment he had an adjunct faculty appointment with the University.

Dr. Rothman is particularly noted for his development of rust resistant oat germplasm for use by oat breeders throughout the world. He has made many interspecies crosses from which he transferred rust resistance from lower ploidy species to the agriculturally adapted hexaploid oats. His work overcame many interspecies fertility problems and yielded rust resistant progeny lines that readily intercross with common oats. Much of the germplasm that Dr. Rothman developed is resistant to stem rust, crown rust, and the yellow dwarf virus. The resistance to stem rust has been effective to all known races and isolates. His resistance sources have been widely used in oat breeding programs worldwide. Several cultivars incorporating his resistance have been recently released or are in an advanced increase stage for release. Other advanced breeding lines have been entered into regional testing programs. Dr. Rothman is also the cobreeder of a number of oat cultivars released jointly by the Minnesota Agricultural Experiment Station and the USDA.

Dr. and Mrs. Rothman are remaining in St. Paul.

- J. F. Schafer

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## Departures

There was a farewell tea August 26, 1986 for Dr. Sang Sun Lee, who returned to his native Korea. Dr. Lee will be Assistant Professor in the Department of Biology Education, Korean National University of Education, Cheong Puk. He came to Minnesota January 1, 1986 and worked as Research Associate with Professors Kommedahl and Krupa on the isolation from soils of fungi and bacteria with potential to degrade polychlorinated biphenyls. Lee was awarded the PhD in plant pathology by North Dakota State University, December 15, 1985.

## Old Timers Retire

**Curt Roane**, PhD 1953, retired August 29, 1986 from his professorship at Virginia State University and Polytechnic Institute. He kept on working but expected to give up field work after the 1988 growing season when his collaborator in cereal breeding retires. Curt was honored at a departmental retirement luncheon October 30, 1986, one of several receptions and similar affairs given in his honor.

**Paul Fridlund**, PhD 1954, retired January 31, 1987. Paul was Pathologist at the Irrigated Agricultural Research and Extension Center, Washington State University at Prosser, Washington. Paul is known internationally for his work on virus diseases of fruit trees, especially for collecting planting stock and testing it for the presence of viruses. He maintained virus-free clones in an isolated field in the desert.

**In Sung Hoang**, who passed his PhD final August 1, 1986, returned to his native Korea for a few weeks and then went to Manila, the Philippines where he holds a post doctoral position with the International Rice Research Institute.

**Abdelhaq Khabouze**, a student from Morocco, returned to his native country October 17, 1986 and **Dr. Helmut Bochow** returned to Germany, October 24. (See Visiting Scientists). **Muhammed K. Kardin**, who took his PhD final in October, 1986, returned soon after to Indonesia.

**Dr. James Burleigh**, who has been Professor on the Minnesota-USAID program in Rabat, Morocco for several years, is leaving July 1 and will not be replaced (see Morocco item). He will assume a similar position on a project in Rwanda sponsored by the University of Arkansas - USAID.

**Janet Green-Hagen** resigned from her job with the Plant Disease Clinic and accepted a position as Research Aide with Green Giant in LeSueur, MN. A farewell tea for her was held June 12. Janet graduated from the Integrated Pest Management Program in 1986. Her new husband, Chad, (see Marriages) holds a PhD in livestock nutrition and works for Cargill, Inc. in Minnetonka.

On December 28, 1986, **Dr. Kamel K. Sabet**, his wife Iman and two children, returned to Cairo University in Giza, Egypt, where Dr. Sabet is a Lecturer in Plant Pathology. Dr. Sabet spent a year at Minnesota on an AMIDEAST Peace Fellowship working with Professor Thor Kommedahl on biocontrol of root diseases in corn.

## Teng Takes Leave

Dr. Paul Teng left March 31, 1987 to work at the International Rice Research Institute (IRRI) at Los Banos, The Philippines. Paul had been on the faculty of the Department since 1979 and was granted a 2-year study leave. Paul had "reached a point where he needs a period of time to explore some new avenues of research concerning theories and concepts of epidemiology of plant diseases as they may or may not apply to continuous cropping systems found in tropical regions of the world."

During his absence his research program will be continued by Kenneth Johnson, PhD 1986; Joe O'Brien, PhD 1985 and Kathy Kromroy, MS 1982. In the spring quarter, 1987 Johnson taught Paul's course in Plant Disease Management and Epidemiology (5500) and part of the PhD core course, Plant Disease Theory III: Populations.

Paul sold his house, car, piano and other household equipment before he left. He also had installed an electronic mail system, via ITT Dialcom, linking IRRI and Minnesota (Room 420, Stakman Hall). He also planned to visit Minnesota in August 1987 and August, 1988.

In May, 1987 Paul wrote that he and his family were living in the housing area of the University of the Philippines with the help of a live-in maid and a part-time gardener.

Paul had several impressive sounding field research projects started. He had hired an Associate Scientist, two research assistants and a secretary. He still had to hire two more RAs and a field crew of six. He was appointed to the graduate faculty of the U and had one post-doc, another to come and two MS advisees.

His travels had taken him to other parts of the Philippines and he expected in the near future to visit Malaysia, India, Thailand and West Germany, then on to Cincinnati, St. Paul and Maryland, stopping in Tsukuba, Japan on the trip back. He was organizing a crop loss workshop for next October.

Paul was "looking forward to the season, and a chance to get back to some hands on research." Maybe he will have time for that because he said he doesn't have to look for money to support research as he did in Minnesota.

## RECENT GRADUATE STUDENTS

### Name, Academic Background, Starting Date, Adviser

**Bouhida, Mohamed.** HS, Morocco; BS, Institut Agronomique et Veterinaire Hassan II, 1978; MS, U of California, Riverside, Plant Pathology, 1984.

F, 1986 Lockhart

**Bucher, Grace.** HS, New York City, 1952; BA, Hunter College, NY City, Botany, 1956.

S, 1986 French

**Ferji, Zohra.** HS, Azrou, Morocco; BS, Institut Agronomique et Veterinaire Hassan II, 1982.

F, 1986 Lockhart

**Fetzer, Jody.** HS, Mequon, WI. BS, U of Minnesota, PHT, 1977.

F, 1986 Kennedy

Jody has worked for the Dahlgren Co., Crookston and on the Dial-U program for the Clinic.

**Khaless, Nezha.** HS, Morocco, 1979. BS, Institut Agronomique et Veterinaire Hassan II, 1983.

F, 1986 Lockhart

**Lorang, Jennifer.** HS, Mundelein, IL, 1982; BS, St. Mary's College, Winona, MN, Biology, 1986.

S, 1986 Anderson

**Ocamb-Basu, Cynthia.** HS, Tecumseh, MI, 1978; BS, North Carolina State U, Horticulture, 1983; MS, NCSU, Plant Pathology, 1986.

W, 1987 Kommedahl

**Todd, Laura.** HS, Platteville, WI, BS, Carleton College, Northfield, MN, Biology, 1981; MS U of M, Plant Pathology, 1983.

F, 1986 Kommedahl/Windels

Laura will continue in her position as pathologist with Jaques Seed Co., Prescott, WI.

**Wallace, Monica.** HS, Owatonna, MN, 1970; BS, U of M, College of Biological Sciences, 1973; MS, U of M, Plant Pathology, 1978.

Since receiving her MS Monica has worked for the Wisconsin Department of Agriculture as Plant Industry Specialist, and as a contact worker in the area of hazardous waste management.

## ENDOWMENT PROGRAMS

The Department now has 13 endowment trust funds made possible by philanthropic gifts from interested alumni, faculty and friends. Interest from these funds partially supports the renewed Plant Pathology Library, student scholarships and travel to scientific meetings, visiting scientists, the *Aurora Sporealis* and several other important departmental functions. During the 1986-87 academic year a total of \$75,877.98 was contributed to Departmental endowment programs.

We have received \$250,000 toward our initial goal of \$500,000 to establish "The University of Minnesota/University of Tel-Aviv Endowed Land-Grant Chair for Disease Resistance Breeding in Cereal Crops." Contributions to this fund are matched dollar for dollar by the Permanent University Fund (PUF). The \$250,000 amount brings us to the halfway point and allows us to receive matching funds from PUF. The interest from this fund will yield about \$26,000 a year to be used for joint University of Minnesota and University of Tel Aviv research on disease resistance breeding in cereal crops. We would like to raise the second \$250,000 in the near future to complete this \$1,000,000 endowment program. Anyone interested in contributing to this project should contact Dr. Philip Larsen, Head of the Department of Plant Pathology, 495 Borlaug Hall, 1991 Upper Buford Circle, University of Minnesota, St. Paul, MN 55108, phone (612-625-8200).

We are very fortunate to have a valuable resource, the specialized Plant Pathology Library. We continue to need support for the library to provide for salaries and fringe benefits of the library staff. Another important part of our endowment program is the "where needed most" service fund. This fund allows us flexibility in reaching Departmental objectives not specifically mentioned. We can use the interest accumulated for projects and activities for Departmental efforts in areas where funding is currently unavailable.

Departmental endowments are very important in assisting present endeavors and for initiating and facilitating new projects. We appreciate the interest and contributions of all alumni, faculty and friends.

- Delores Huebner

RECENT GRADUATE STUDENTS



Jennifer Lorang



Zohra Ferji



Nezha Khaless



Jody Fetzer



Grace Bucher



Cynthia Ocamb-Basu



Lewis Otjen



Mohamed Bouhida

## SEMINAR SPEAKERS

Speakers at seminars held in the Department since June 30, 1986 are given below. The type of seminar is shown, PIPa 8201 being a scheduled course, Thursday referring to the Thursday Night Seminar, now discontinued, and special seminars held when speakers were available. The information was taken from the weekly Plant Pathology Newsletter.

### 1986

Alan R. Biggs, Research Scientist, Agriculture Canada. September 9. Special

Jose Carmine Dianese, University of Brasilia, Brazil. September 11. Special

Elizabeth Alvarez, Department of Plant Pathology, CIAT, Cali, Colombia. October 9. Thursday

Paul Daly, Research Scientist, Lawrence Livermore Laboratory. October 14. PIPa 8201

Donald Maclean, Department of Biochemistry, University of Queensland, Australia. October 16. Thursday

Ian Crute, National Vegetable Research Station, Wellesbourne, U.K. October 22. Special

Hugo Rogers, USDA-ARS, National Soil Dynamics Laboratory, Auburn. October 23. PIPa 8201

Alan P. Roelfs, CRL-USDA, St. Paul. October 23. Thursday

Donald Maclean, University of Queensland. November 4. PIPa 8201

Richard Durbin, ARS-USDA, University of Wisconsin. November 6. PIPa 8201

Vincent Russo, Research Associate, CRL. October 30. Thursday

Donald Maclean, University of Queensland. November 4. Thursday.

Richard Kiesling, Head, Plant Pathology, North Dakota State University. November 6. Special.

Brahim Ezzahiri, PhD, Morocco. November 13. Thursday

Rick Gilbertson, President, Independent Crop Consultants Association. November 20. Special

Koga Hironori, Hokuriku National Agricultural Experiment Station. Joetsu-Niigata, Japan. November 20. Thursday

Mouna Tajani, Student, Morocco. December 2. PIPa 8201

Richard Staples, Professor, Boyce Thompson Institute, December 9, PIPa 8201

### 1987

Jean Ciboroski, Student. February 17. PIPa 8201

Beatriz Perez, Student, Argentina, March 3. PIPa 8201.

Shih-I Lu, PhD 1952, Geneticist, Institute of Microbiology, Academia Sinica, Bieijing, China. June 25. Special

## ANNUAL REPORT ISSUED

The second annual report of the Department (1985-1986) was issued in February, 1987--131 pages of useful information, including the following facts:

**Graduate students** - 27. Undergraduates - 19.

**Publications:** Books - 3 (two of these were noticed in the 1986 Aurora). Chapters in books - 15. Refereed papers - 69. Technical articles, not refereed - 26. Popular articles - 18 (these included three items published in Aurora Sporealis). Abstracts - 42. Extension publications - 3. "Visual" aids - 1. Computer software - 9. Patents - 1 (a method of quantifying mold contamination, pending).

**Financial support:** Teaching, state-\$371,942. Research, state-\$1,038,201; Hatch-\$151,356; other-\$1,133,653. Extension, state-\$15,600. "Other" support came through 38 grants-in-aid, 2 contracts, 6 cooperative agreements, 2 sub-contracts and 5 memoranda of agreement.

**Breeding for resistance** still occupies part of the time of Minnesota pathologists. Crops involved were: wheat, oats, barley, wild rice, blue grass, soybeans, peas, dry beans, corn (sweet and field), potatoes, carrots, beets, parsnips and chrysanthemums.

## NEW RESEARCH AT CRL

Administrative approval and funding have made it possible for the Cereal Rust Laboratory to plan a program of research in the genetic and molecular aspects of resistance and specificity. The work will begin in October, 1987. Dr. John F. Schafer, Research Director of CRL since 1982, has announced his retirement effective August 31, 1987 (see Retirements). It is expected that two new positions, in addition to Dr. Schafer's, will be opened in the next couple of years.

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### Clinic Does Useful Research

The Plant Disease Clinic studied nearly 200 samples of scabby wheat during the winter of 1986-87 at \$20./sample. Farmers who sent in the samples paid, cheerfully and were well satisfied.

Scab of wheat caused by *Fusarium* spp. was unusually severe in Minnesota in 1986. Anticipating trouble if the scabby wheat was used for seed, Howard Bissonnette warned farmers, via the county agents, of the danger and urged them to have their seed wheat tested. The samples received by the Clinic were tested for germination, cultured for fungi and planted in the greenhouse to determine the potential stand if used for seed. In late April some of the samples were also planted in the field at St. Paul to compare with the greenhouse results. The germination and greenhouse tests showed that as the percentage germination went down from 95% to 80% the potential stand decreased from 88% to 75%. Farmers were advised that if the stand potential was below 95% the grain should be cleaned and treated with a fungicide before planting. If the stand potential was below 85% it would be wise to look for another source of seed for 1987.

The farmers were pleased to get this service and the chemical companies reported the best business in seed treatments that they had done for years.

This is a good example of the kind of practical plant pathology dispensed by the Clinic, which offers routine diagnoses (\$15), nematode analysis (\$15), ELISA tests for viruses (\$20) and identification of races of *Phytophthora megasperma* on soybeans (\$50). They also do contract research such as fungicide tests, host bioassays, isolation and identification of pathogens and others. Phone calls are charged (\$2) to the caller's telephone account under a Dial-U system.

The permanent staff of the Clinic consists of Jill Pokorny, Director and Sandra Gould, Senior Laboratory Technician. During the growing season there is a secretary, Susie Polski, and six laboratory technicians; Janet Hagen, Julie Jenkins, Mary Bergstedt, Tom Frye, Phyllis Carlson and Dan Gilman. All are students in the Integrated Pest Management Program except Janet, who graduated in IPM in 1986 and Dan Gilman, a former graduate student in plant pathology. Thus the Clinic provides a wonderful educational opportunity for the students as well as valuable service to the public.

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### Mycorrhizae in the Prep Lab.

The old "prep lab.", room 307 Stakman Hall is now the scene of research on mycorrhizae. Robert Doudrick, a student in the College of Forestry, moved in a lot of incubators and other equipment in January, 1987 and began research on the genetics of *Laccaria* spp. which forms mycorrhizae on the roots of black spruce. The project is cooperative, involving the Department of Forest Resources of the College of Forestry, Plant Pathology (lead by Neil Anderson and Elwin Stewart), and the Department of Biochemistry of the College of Biological Sciences.

Bob Doudrick, MS, plant pathology, University of Missouri, 1984, is a candidate for the PhD in the College of Forestry. Dave French, who holds a joint appointment in Forestry and Plant Pathology, is his adviser.

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## ORAL EXAMINATIONS PASSED

### 1986

August 1	In-Sung Hoang	PhD final
October 13	Ross McQueen	PhD final
October 22	Kosim Kardin	PhD final
October 22	Brahim Ezzahiri	PhD final
October 31	German Hoyas	MS

### 1987

June 10	Hamed K. Abbas	PhD final
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## INTERNATIONAL AFFAIRS

### Morocco Project to Terminate in 1990

In 1986, the Department's participation in the project between the University of Minnesota and the Institute Agronomique et Veterinaire began to wind down in anticipation of the project terminating in early 1990.

Ben Lockhart returned home after working in Morocco since 1971 and Jim Burleigh terminated his Moroccan activities on June 30, 1987. Roy Wilcoxson completed 3 1/2 years as director of the project in March, 1987. The last Moroccan students arrived at the Department in Fall, 1986.

The cooperation of our department with the Institute's Department of Plant Pathology began in 1970 as a result of a visit to Morocco by M. F. Kernkamp to evaluate prospects for our department to be more directly and heavily involved in international studies.

Kerny concluded that there was an excellent opportunity for productive collaboration between the two Departments of Plant Pathology. This opinion proved to be correct. The general activities are summarized below.

Ten faculty members went to Morocco as advisors and consultants.

Names	Wks./Yr.	Years
M. F. Kernkamp	4	1960-1970
R. D. Wilcoxson	8	1971-1987
A. F. Wood	2	1973
D. H. MacDonald	3	1975
D. W. French	2	1979
T. Kommedahl	1	1979
A. P. Roelfs	4	1984, 1986
E. L. Stewart	4	1984, 1987
J. F. Tammen	4	1980
P. O. Larsen	3	1986

Two faculty persons were assigned to Morocco as members of the University of Minnesota resident team. They were: B. E. L. Lockhart, 1971-1975; 1981-1986 and J. R. Burleigh, 1978-1981; 1983-1987.

Faculty members of Minnesota also served as advisors to Moroccans in graduate programs. Advisors were: N. A. Anderson, J. B. Baumer, B. W. Kennedy, T. Kommedahl, B. E. L. Lockhart, D. H. MacDonald, A. P. Roelfs, E. L. Stewart and R. D. Wilcoxson.

Thirty-five Moroccans came to the United States to study plant pathology. All came to the department for orientation. Sixteen stayed at Minnesota for the Master's Degree and four for the PhD. The others moved to the University of California-Riverside, University of Idaho, North Carolina State University, Iowa State University, University of Illinois, and University of Wisconsin.

Moroccans who have completed or who are enrolled in graduate studies in plant pathology at the University of Minnesota.

#### Name Specialization Year Degree Awarded

##### PhD Program

Achouri, M.	Mycology	-
Boulif, M.	Cereals	1986
Bouhida, M.	Virology	-
Ezzahiri, B.	Cereals	1986

##### MS Program

Achouri, M.	Potatoes	1979
Boudlali, A.	Mycology	-
Boulif, M.	Cereals	1975
Ezzahiri, B.	Cereals	1979
El Yamani, M.	Virology	1980
El Yousfi, B.	Cereals	1985
Ferji, Zohara	Virology	-
Hafidi, B.	Virology	1980
Khabouse, A.	Cereals	1978
Khaless, Nezha	Virology	-
Moujane, R.	Bacteriology	1980
Rahel, M.	Potatoes	1983
Saadaoui, E.	Cereals	1975
Sahouani, H.	Cereals	1982
Tajani, Mouna	Cereals	1987
Tofiq, M.	Cereals	-

Library materials were donated by the Department to support the Institute's Documentation Center. Contributed were 650 volumes of 19 journals important for plant disease research including Phytopathology, Plant Disease and Plant Disease Reporter. Also, contributed were 150 books on botany and plant pathology.

- Roy D. Wilcoxson

## ALUMNI QUESTIONNAIRE

### Summary

The Departmental Public, Alumni and Institutional Relations Committee thanks all alumni who responded to the questionnaire asking for opinions and comments on a variety of Departmental matters. For analysis, respondents were divided into 3 chronological groups: 1986-76, 1975-65, and pre-1965 alumni.

All groups, regardless of graduation era, gave very favorable opinions on relations between faculty and students, relations among students during their graduate experience, the value of formal student seminars, the ability of their graduate programs to prepare them for university teaching-research and problem solving, and on the Departmental Endowment program, industry advisory committee and plans to meet future needs. Also given very favorable ratings were the Plant Pathology Library, field plot space and design, graduate student funding, and field equipment utilization.

Alumni from the past 20 years were most critical of the adequacy of classroom and laboratory teaching space and instructional equipment, greenhouse space and equipment for instructional purposes, interdepartmental communications, and the lack of specialized equipment for research. Fortunately, the Department was acutely aware of these needs and many of these items were corrected during the building program that culminated with the dedication of Borlaug Hall in 1985 and the new greenhouse teaching facility in 1987. There is also an effort being put forward to improve interdepartmental communications and collaboration.

When comparing questionnaire responses between the 1986-76 and 1975-65 groups, it appears that there were improvements in the quality of instructional methods, general laboratory equipment and space for research, greenhouse quality and space, funding for research and graduate students, and the ability to prepare students for administration of scientific programs. Slight declines were noted in the national ranking of the department (dropping from 4 to 5), in the motivation and enthusiasm of faculty, and in the ability of graduate programs to prepare students for college teaching careers.

Many alumni wrote separate and highly informative comments when returning their questionnaires. It was apparent from these comments that we have produced alumni who support and are interested in the Department and its future, and are willing to assist by sharing their thoughts. Also, we seem to have produced strong alumni, there were very few "wall flower" responses! A

synthesis of all written comments was made and these will be valuable as we progress into the future.

Alumni are the most important products of any academic unit, and alumni feedback is an invaluable asset. Again, we thank all alumni for taking the time to respond.

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*-R. J. Zeyen*

### Travel

Only four faculty members admitted that they travelled outside of the U.S.A. in 1986-87. They were:

Dr. Thor Kommedahl who, as Secretary of ISPP and guest of the Montreal Convention Bureau, visited that city in October, 1986 to evaluate the facilities there as a possible site for the 1993 Congress of the ISPP (International Society for Plant Pathology). A similar mission took him to Bulgaria in May 1987 where a workshop of the International Congress and Convention Association evaluated facilities provided by European bureaus for the 1993 ISPP congress.

Dr. Philip Larsen made a trip to Israel April 1-16, 1987 to consult with pathologists there concerning the collaborative project on breeding cereal crops for disease resistance. He had the opportunity of visiting with Old Timers Isaak Wahl, Jacob Manisterski and Yehoshna Anikster.

Dr. Alan Roelfs spent March 30 - April 10, 1987 in Ciudad Obregon, Mexico as consultant and teacher of CIMMYT trainees. He had a chance to visit with Old Timers Santiago Fuentes and Mike Prescott, both with CIMMYT in Mexico and with Bent Skovmand and Bulent Kiral of CIMMYT stationed in Turkey. Alan was in Mexico again June 29 - July 1, 1987 as consultant on the CIMMYT leaf rust project.

Dr. Roy Wilcoxson as Director of the Minnesota Aid Project in Morocco, made three trips to that country in 1986-87: June 1 - July 4, October 1-28 and January 17-24. Besides attending to his administrative duties Roy advised Mostapha Toufiq on his graduate work. He also visited with Old Timers Mohammed Boulif, Brahim Ezzahiri and Mohammed Achouri.

Dr. Howard Bissonnette reported a trip to North Dakota under the impression that he was in a foreign country. We didn't take it seriously because (1) Howard spent several years there as extension plant pathologist and (2) his trip allegedly took place April 1.

## THE WINNERS



Standing, l-r: Gib Ahlstrand, Dann Adair, Phil Larsen, Loren Nickelson, Myron Nickerson, Donald McVey, Debbie Baden-Drange, Connie Post, Kevin Brandt and daughter Kristin, Kenneth Johnson.  
In front: Dick Zeyen, Jim Percich.

## SPORTS

The faculty-staff team defeated the students 11 - 4 in the annual Stakman Softball Classic, played June 5, 1987. Beer and bratwurst and similar refreshments increased the enjoyment of the victors and helped to soften the pain of defeat for the students.

Last fall, 1986, Joe O'Brien won the St. Paul Golf Bugs 1986 Match Play Championship. He won a 3 and 2 victory over Don Bates of Agricultural Engineering.

Aside from these events it seems that plant

pathologists have little interest in competitive sports. Perhaps it is only poor coverage by Aurora reporters. We know that Dave French plays tennis because he pulled a muscle in his leg while playing in May and was on crutches for a few days.

Otherwise people in plant path seem to be getting their exercise by jogging, skiing and bicycle riding. Professor Mirocha takes these activities seriously and his reports thereon provide entertainment for the 10 AM coffee drinkers. We also hear about Howard Bissonnette's sailing. Now Jim Groth has a sail boat. Sailing may be a sport, but is it exercise?