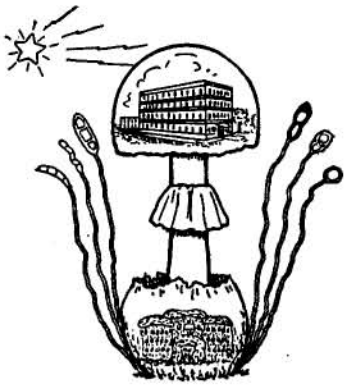
Aurora Sporealis

Wherein are recorded the recollections, the ruminations and the raspirations of those who have drunk from the foaming fount of the Department of Plant Pathology of the University of Minnesota and who now spout forth in divers ways

Let the fount foam and never run dry

Let the spout squirt and never lose power



PLANT PATHOLOGY SEMINAR

UNIVERSITY OF MINNESOTA
ST. PAUL, MINNESOTA 55101

October, 1971

Dear Old Timer:

A few days after we learned of the passing of Helen Hart, the graduate students in the department suggested that we should develop some kind of a memorial for Miss Hart. The subject was discussed at Seminar, a committee was appointed to look into possible uses of a memorial, and several ideas came forth.

Three suggestions were adopted by the Seminar if a memorial fund is established. One idea is to select the best paper by a graduate student for the annual meetings and pay part or all of his expenses to the meetings. The second thought is to annually select the student who has made the most outstanding contribution to our knowledge of plant pathology and pay part or all of his tuition for a quarter or more, depending on how much money is available. The third idea is to establish a Memorial Library, and place a plate such as "Helen Hart Memorial Library" in each volume that is purchased.

Miss Hart's sister was consulted and is very much in favor of the project.

Now we would like to ask for your comments on the proposals, and all comments will be appreciated.

This enclosure announces the Helen Hart Memorial to commemorate her contributions to the many graduate students whom she knew during her career in the department.

Anyone wishing to contribute should make a check payable to the University of Minnesota and send it to the Plant Pathology Seminar, Department of Plant Pathology, University of Minnesota, St. Paul, Minnesota, 55101.

Sincerely yours,

James C Wolf

The Seminar Committee

OLD TIMERS

B. B. Vance wrote about his traveling around the world, mostly "below the belt" and his presumed retirement while laboring part time at the University of Miami as Supervisor of Science Teaching. His current address is 7850 S. W. 145th St., Miami, Florida 33158.

Hoo Sup Chung (M.S., 1957, Ph.D., 1967) is reported to have become Acting President of the Society for Plant Protection in Korea.

Yong Sup Cho (M. S., 1961, Ph.D., 1970 was promoted to Assistant Professor. Both Chung and Cho are on the faculty of the Agricultural Biology Department, Seoul National University, Suwon, Korea.

Paul Ming-hsien Sun (M.S., 1966) was awarded the Ph.D. degree at Purdue University in June, 1971.

Charles E. Logsdon (Ph.D., 1954) was appointed Associate Director of the Alaska Agricultural Experiment Station, July 1, 1970. Chuck is also Professor and Head, Department of Plant Pathology, University of Alaska.

If you read Phytopathology News you learn about other OT's who travel thither and yon, making speeches, giving Seminars, conferring and throwing their weight around as they go. F. A. "Al" Wood (Ph.D., 1961) and professor of plant pathology, Penn State, gave a seminar at Cornell. G. C. "George" Papavizas (M.S., 1953, Ph.D., 1957) now plant pathologist, USDA, Beltsville, gave a seminar at Wisconsin. Last year James M. "Peewee" Wallace (M.S., 1927, Ph.D., 1929) Professor Emeritus, University of California, Riverside, spent a month in Morocco looking for the tristeza disease of citrus. He did not find it. Eric G. Sharvelle (Ph.D., 1934) Extension Plant Pathologist, Purdue University, spoke at the first meeting of the Texas Association of Plant Pathologists and Nematologists at Texas A & M University. Eric was also selected first honorary member of that organization.

Lawrence I. Miller (Ph.D., 1953) Professor of Plant Pathology, VPI, did some rather extensive traveling in England and Western Europe doing research on nematodes and, with the help of his wife, collected cyst nematodes. We hope he killed the latter before bringing them into the U.S.A.

H. David Thurston (M.S., 1953, Ph.D., 1958) Professor of Plant Pathology, Cornell University, attended the meetings of the Caribbean Division of APS in Bogota, Colombia in November, 1970. Dave also attended the 2nd International Symposium on Plant Pathology in New Delhi, India, January 27 - February 3, 1971. Enroute home he observed agricultural research in Ethiopia, Kenya, Nigeria, and Turkey.

C. C. Allison (MS., 1930, Ph.D., 1935) Ohio State University, assessed and advised on coffee rust research in Brazil in November - December, 1970.

David Gottlieb (Ph.D., 1942) Professor of Plant Pathology, University of Illinois, presented a seminar on Germination of Fungal Spores to the Department of Plant Pathology, Botany and Microbiology, University of Hawaii, January, 1971.

C. S. "Stu" Holton (M.S., 1929, Ph. D., 1932) is now on a two-year assignment with the University of Wisconsin--AID projectin Ile - Ife, Nigeria. He is working there with O.T. Earl W. Hanson (M.S., 1939, Ph.D. 1942) Professor of Plant Pathology, University of Wisconsin.

L. W. Melander (M.S.,1924, Ph.D., 1930) 320 Maxine Drive, Baton Rouge, Louisiana, 70808, still fights diseases on rose bushes, and enjoys his retirement.

James Groth (M.S., 1969) completed his military service and is now a graduate student at the University of British Columbia working with Professor Clayton Person on genetics of Ustilago hordei.

John Menge (M.S., 1969) returned from military service and is now continuing studies for the Ph.D. at North Carolina State University.

Jon M. "Mike" Prescott (Ph.D., 1970) has been transferred by the Roclefeller Foundation from India to Turkey. The Prescotts will be living in Ankara.

END OF AN ERA

Agricultural Botany (Phytobrickhaus tremuloides) 1893-1971.

During the academic year, 1970-1971, a chain reaction was started and culminated with the demise of the Agricultural Botany Building, Tottering Tower, (Phytobrickhaus tremuloides, ECS, JJC). The reaction started when the Central Administration decided to construct a new building for Agricultural Economics, Agricultural Education and Rural Sociology on the site of the Ag Botany Building, and the latter became scheduled for demolition, June 15, 1971. The urgent question became, where does the Rust Lab go if their home goes?

The problem was solved in this manner. Horticultural Science moved into a new building, vacating the old Hort Building, the Rust Lab moved into the old Hort building and greenhouse, and God willing, they will move to their new home next Spring.

On August 3, 1971, the wreckers moved in, and the Tottering Tower tottered for the last time. Matt Moore was on the scene to decry the wheels of "progress". Eide was present to oversee the project and take pictures. Kerny was doing likewise and feeling very nostalgic when the smut lab on the third floor became a gaping hole in the remains. Ruth Haga, who worked for the Ag Botany crew, had tears in her eyes. All in all, it was a traumatic experience, but seriously one cannot help recall the historic, far reaching, imaginative, creative research and teaching and everlasting friendships the "everlasting" seminars, the "everlasting" lights burning at night, and the scientific esprit de corps that developed in that building. It truly was a scientific fount.

LOCAL NEWS

On May 1, 1971, Dr. Robert Brambl was appointed Assistant Professor in Plant Pathology. His research area is physiology and biochemistry of diseases of forest trees and will involve cooperation with Dave French, our erstwhile forest pathologist. Bob came to Minnesota from Stanford University where he had a post doctoral fellowship. He earned the B.S. at Hendrix College, Arkansas, M. S. at the University of Arkansas, and Ph.D., at the University of Nebraska.

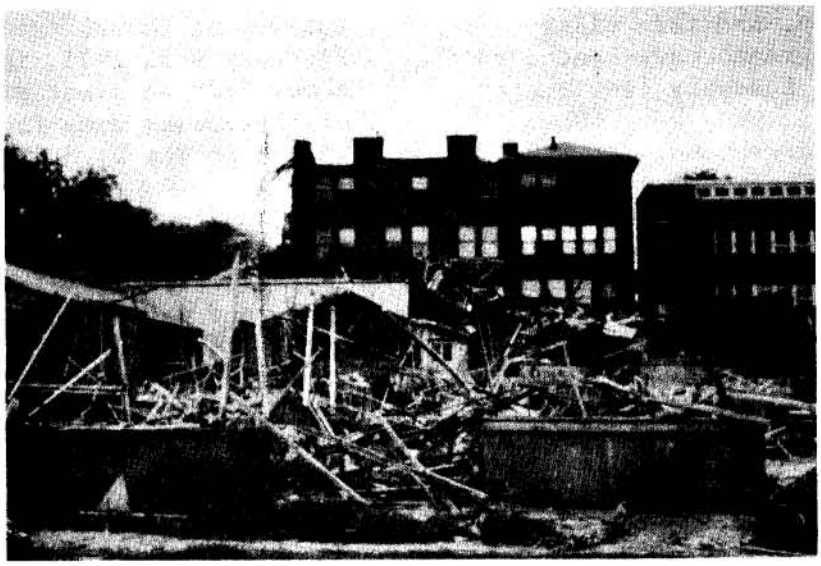
Shortly after Brambl's arrival Tom King departed for an assignment with MUCIA (Midwest Universities Consortium on International Activities) in Jojakarta, Indonesia on a MUCIA - USAID Indonesian Higher Education Project. His job is to advise Gadjah Mada University on agricultural research and curriculums. Tom retains his professorship in the University of Minnesota in International Agricultural Programs.

Soon after King left, Lucas Calpouzos was offered the position of Head of the Department of Plant Science, University of Idaho. He is planning on moving to Idaho sometime in October, if all goes well.

Another bomb hit the staff on July 18, 1971, when Kerny announced that he has asked the Dean of the Institute of Agriculture to relieve him of Headship of the Department effective June 30, 1972. His plans are to Chair the Local Arrangements Committee for the 2nd International Congress of Plant Pathology, return to the classroom to teach and to do some research. Details of the latter are not established.

PROMOTIONS

Matt Moore and Lucas Calpouzos were promoted to Professor, July 1, 1971.



Agricultural Botany Greenhouses
and Headhouse - Aug. 4, 1971.

Ag Botany - going down
Aug. 5, 1971.

GREENHOUSE

Last year Aurora reported that money had been appropriated, plans were made, plans were bogged down, and more plans were made to build a greenhouse--headhouse for plant pathology. Suddenly last winter the log jam was broken, bids were submitted and accepted to proceed. At 8:00 A.M., April 26, 1971, bulldozers and shovels broke ground for the facility and construction began on 2 greenhouses 30' x 150' and a headhouse 32' x 97' directly east of the plant pathology building.

The appropriation for Cooperative Rust Laboratory offices and laboratories was bogged down in Washington--Beltsville red tape quagmire for 5 1/2 years. Finally after innumerable conferences, politicing, headaches, and frustrations, the project was given the green light by Washington. Bids were let and found acceptable, and on May 13, 1971, ground was broken and construction begun. The facility will include offices, laboratories, an incubator growth-chamber area and space that can be used for a headhouse, if greenhouses are forthcoming. Until that time the CRL will use space in the new PP greenhouses.

D. J. "Don" Fitchett, PPD Supervisor in Charge of Barberry Irradication in Minnesota and Wisconsin retired July 31, 1970. He was replaced by John Hayward, and the office is now in the Federal Building, Minneapolis.

North Central Division, American Phytopathological Society, was hosted by our department, July 15-17, 1970. One hundred ten visitors registered and about sixty local residents participated. The meetings comprised tours of the experimental fields at St. Paul and Rosemount, laboratories at St. Paul, and two discussion sessions on mycotoxins and chemical control of cereal diseases. If comments and compliments from our visitors can be accepted as valid, we had a most successful informative meeting, and a social gathering at Hamm's Rathskeller on the Roof was a memorable event.

Lucas Calpouzos organized and hosted a Workshop on Principles and Methods for Estimating Losses from Plant Diseases, February 4-5, 1971, in the PP Seminar Room. About fifteen plant pathologists and statisticians came from various laboratories in the U. S. and Canada.

Don Stewart was on leave of absence from his appointment in the Cooperative Rust Lab from July 1, 1970 through June 30, 1971, and was on an assignment with FAO in Egypt to help development of crop production. He came home recently and is returning to Egypt where he will be in charge of plant protection for an extensive FAO project for three to five years, if everything goes as planned. The Stewarts future home in the USA will be Arizona.

REMODELING - January 29, 1971

For the last 10 years we have been working on a project to modernize our teaching and research laboratories in Phytobrickhaus erectus. Many of you will recall the move of furniture from Phyto brickhaus tremuloides to P. erectus in in 1942. The Legislature did not provide money for new laboratory desks, sinks, and other facilities, so most of the old furnishings were transported to the new building, installed, set up, and used. A lot of it still is, but piece by piece, room by room, old facilities have been replaced by new.

Today the last finishing touch was completed in the classroom laboratory (room 105). It, along with Rooms 106, 108 and 110 on the first floor have been completely remodeled and modernized. Most of the work was paid for by balances from research projects that accumulated each year. The last project, room 105, was paid for by funds from a special Legislative appropriation in 1969.

Those of you who did your classroom laboratory work or instruction in 105 would be envious, and I hope, proud, of the improvements that have been made, including

new desks with slate tops, new ventilation system, new wall cabinets, sinks, and a blackboard on the side wall so students do not have to have their backs to the blackboard. The blackboard even raises and lowers so wall cabinets are easily accessible.

It has been a long struggle to remodel the first floor, but it is done and we are happy with the results.

HONORS

The greatest honor ever to come to an Old Timer was, of course, the 1970 Nobel Peace Prize to Norman E. Borlaug (M.S., 1941, Ph.D., 1942). Much has been written and said about this event, so anything added here would do little justice to the volumes that have been printed. However, a brief report of some of the local happenings may be of interest. MFK was on his way home from Morocco when he read the announcement in a Madrid, Spain, newspaper. Eide was Acting Head, and the day after the announcement, the press, radio, and TV personnel descended on the department. Eide, Moore and Christensen appeared on a TV program where they reminisced about Borlaug as a student.

You can be sure we are all proud, and we all walked with our heads considerably higher after this event. The University of Minnesota was represented at the presentation ceremonies in Oslo by President and Mrs. Malcolm Moos, Dean and Mrs. Sherwood O. Berg, and Mr. and Mrs. Lester Malkerson, the latter Chairman of the Board of Regents at that time.

On March 2, 1971, the State of Minnesota and the University of Minnesota declared a Norman Borlaug Day. The day started with a convocation by Norm. He had an informal box lunch with about 80 students, and in the afternoon addressed a joint session of the Minnesota Legislature. That evening he was honored at a Recognition Dinner at the Radisson South Hotel where about 900 guests and friends were in attendance. There he was presented with many awards and eulogies by officials and dignitaries of State and City government, the University of Minnesota and industry.

The cost of the dinner was $25.00 per person, half of which was a contribution to a Norman Borlaug fund. A little more than $6000 accrued, and it is now being held for additions and a final decision as to how it will be used. The latter will depend on the total amount of money and deliberations of University staff to decide what can be done most effectively in the University's fellowship or scholarship program.

Your correspondent is aware of many honors, awards, and testimonials that have come to Norm since last October, but they are not on record here, they are too numerous to mention, and we could not add much by enumerating them even if we knew. One thing is clear. Norm Borlaug considers this an honor, not to him, but to his colleagues, his associates, his fellow agricultural scientists and all of agriculture, to Minnesota and to his home state of Iowa.

C. M. Christensen was named a Fellow of the American Phytopathological Society at the annual meeting in Hot Springs, Arkansas, in October, 1970.

Although Karl Quisenberry, Olaf Aamodt, and Cyril Goulden got their degrees in Agronomy and Plant Genetics, they were very close to plant pathology here and throughout their careers. Thus it is a pleasure to report that all three of them received the University of Minnesota Outstanding Achievement Award.

Lee Ling (M.S., 1936 and Ph.D., 1937), Director of Plant Protection, FAO, Rome, Italy, was given the University of Minnesota Outstanding Achievement Award recently. The award was presented at a dinner on the St. Paul Campus on Sept. 23, 1971. His son Dan,on his way to Stanford University, accompanied his father to St. Paul. Congratulations, Lee!

C. S. Holton (see OT's) and H. Asuyama, Professor Emeritus, University of Tokyo, were recipients of the Elvin Charles Stakman Award in 1971.

Leonel Robles (M.S., 1946) Instituto Technilogico, Monterrey, Mexico, was

recipient of a Gold Medal and Award for his contributions to agricultural and food research.

Thor Kommedahl was named President of the American Phytopathological Society at the annual meeting in Hot Springs, Arkansas, October, 1970. He will complete his term at the annual meeting in Philadelphia in August, 1971, and assume the office of Past President.

COMINGS AND GOINGS

The Moldy Gang has become extensive world travelers, participating in congresses, symposia, conferences, sabbatics, short-term leaves and various other methods of spouting forth. The writer hopes they absorb as well as spout.

Neil Anderson returned July 1, 1971, from a 10-month sabbatic leave during which he did research on Rhizoctonia solani (Praticola type), at the Waite Agricultural Research Institute, University of Adelaide, Australia, with O.T. Noel Flentje. The latter being a Deputy Vice Chancellor did not get around to the laboratory very often, but Neil and family had a most enjoyable and educational time in Australia.

Kerny went back to Rabat, Morocco, last October to provide more help in developing the Hassan II Institut de Agronomique.

Chet Mirocha participated in an International Symposium on Mycotoxins in Bari, Italy, and then traveled in several Western European countries.

Roy Wilcoxson and John Rowell took in the 2nd International Symposium on Plant Pathology of the Indian Phytopathological Society in New Delhi Jan. 27 to Feb. 3, 1971.

Thor Kommedahl traveled far and wide this past year doing justice to Southern corn leaf blight and to his assignment as President of the American Phytopathological Society. The latter took him on a big trip to Bogota, Columbia, S.A., where he represented the APS at the Caribbean Division meetings last fall.

Bill Kennedy went to the 3rd International Conference on Plant Pathogenic Bacteria in England in April, 1971, came home, and in June turned around and went back to East Malling, England, where he was on a quarter leave until September, working with Jesse Crosse.

Lucas Calpouzos flew to Wageningen, The Netherlands, and Yugoslavia to do some work on plant disease losses in connection with the International Biology Program. He also traveled to Puerto Rico several times where he had experimental plots on disease losses. At one stage of this experiment he lost all of his plots.

GRADUATE STUDENTS

Ricardo Mont, M. S., July, 1970, returned to his native country of Peru and is continuing research on cereal diseases.

John Schwandt, M. S. August, 1970, enlisted in the Navy.

John Lieberman, M. S., June, 1971, is continuing graduate work with "OT" Dave Gottlieb, University of Illinois.

Richard J. Zeyen, Ph.D., December, 1970, is a Research Associate in Plant Pathology here and is our expert in electron microscopy.

Delfin B. Lapis, Ph.D., December, 1970, returned to the Faculty of Plant Pathology, University of the Philippines, Los Banos, The Philippines.

Frank H. Tainter, Ph.D., December,1970,is Forest Pathologist on the staff of the Dept. of Plant Pathology, University of Arkansas.

Richard A. Meronuck, Ph.D., March,1971, is Assistant Professor in Special Programs, Agricultural Extension Service, University of Minnesota.

Old Timers who signed the guest book between July 1, 1970 and July, 1971: Ricardo A. Rodrigue , Dudley A. Preston, John Gibler, Louis Palmer, Fred Davies, Yong Joon La, A. A. Anwar, Dave Gerwitz, Cam Lefebvre, Stu Holton, Roland Line, Faustino Orillo, W. E. Sackston,

Arvid Monson, E. L. LeClerg, Larry Littlefield, Chuck Logsdon, H. H. Thornberry, Thomas Laskaris, Art Elliott, Paul Sun, John Menge, Geno Saari, Roger Lambert, Dexter Douglas, Gil Stallknecht, and Bernardo Castillo.

NECROLOGY

Dr. James L. Seal (Ph.D., 1927) passed away September 18, 1970, at the home of his son, William L. Seal, in Edina, Minnesota.

Dr. Lee H. Person (M.S., 1929, Ph. D., 1937) passed away in Raleigh, North Carolina, November, 1970.

Dr. Helen Hart (M.S., 1924, Ph. D., 1929) passed away May 2, 1971, in Grants Pass, Oregon. Helen had moved from St. Paul to Oregon in February, 1970.

TUESDAY AFTERNOON SEMINAR

The relationship of environment to plant disease served as the theme of the fall quarter series. Leading off was our wheat pathologist Luke Calpouzos who illuminated us with the effects of light on disease development. The effects of high temperature in causing or affecting disease was described by Dickson Phiri and John Siwula, and the effects of low temperature by Bob Crow. The effects of free water were covered by Bob Slattery and that of relative humidity by Tom Mew. So much for climatic factors.

Edaphic factors treated were the influence of CO_2 and O_2 in soil by Alfredo Palaez, the effects of nitrogen by Bryan Shearer, potassium by Larry Singleton, micro-elements by Gloria Warner and soil moisture by Carol Windels. Dr. Houston Couch from Virginia Polytechnic Institute ended the quarter with the topic of soil moisture measurement.

The status of technology made up 9 topics for the winter quarter. Bob Romig former Robigalia celebrant, now hybrid wheat researcher for Northrup King, started with an analysis of epidemics and statistical formulae. Automated information retrieval, surveys of remote sensing and controlled environments were topics treated by Steele, Anderson and Ooka, respectively. Babu Jagarlamudi described culturing of plant parasitic nematodes and Ho-shii Chang covered disease forecasting. The measurement of microclimate, the use of electrophoresis in pathogen taxonomy and nomenclature, and the use of serology for pathogen detection and disease diagnosis, by Kroll, Ohh, and Skovmand respectively, completed the winter quarter.

In spring, the theme shifted to classic papers and their significance. The transmission of lettuce big vein virus by Olpidium (Ohh), phytoalexins (Shearer), gene-for-gene hypothesis (Singleton), function of pycnospores in rust (Manzo), mixed host genotypes for stem rust control (Siwula), host specialization among nematodes (Hudler), and soil fumigation for nematodes (Atif) ended student presentations of these milestones in plant pathology. Two guest speakers were Gary Strobel from Montana, who described his work on characterization of bacterial toxins, and Dr. Ercolani (Bari, Italy) who spoke on population dynamics of plant pathogenic bacteria.

So ended a rich intellectual fare for speakers, discussants, and listeners.

THURSDAY NIGHT SEMINARS

Yes, there is and always will be a Seminar. If not in Room 401, then over coffee, in labs, in hallways, most anywhere. It exists as a state of intellectual euphoria. Thought is generated, perplexity resolved, curiosity aroused, usefulness of information discovered, respect for man and principle engendered, and growth in the profession enhanced. But it is still there in Room 401 as signaled initially by the reverberation of the cowbell through hallways, where visions of yesteryears greet seminarians in the array of Old Timers, APS presidents, and other famous botanists and plant pathologists pictured

along the walls of the fourth floor of Phyto-brickhaus erectus.

As chairman Jim Wolf valiantly calls seminar to order, Matt is pushing chairs aside in search of a wooden one that tilts well and comfortably. All the time Eide mutters sometimes wittily and sometimes incoherently at the proceedings. A motion for adjournment at this point gets voted down by majority vote (MFK). Fred Frosheiser from the northwest corner of the seminar room begins framing questions between pipe puffs as speakers, discussants, reviewers, and visiting firemen cast their bits of wisdom before the assembled multitude.

The"assembled multitude" numbers 23 on the average, down from the halcyon decades of the forties, fifties and sixties. Though fewer in number the quality of performance remains undiminished, or so we like to think.

Staff members contribute their share to the effort, averaging 7 per night. Kerny talked once on air pollution and again of changes in plant pathology in 3 decades. Matt dangles oat diseases before us; physiopathologist Mirocha never lets us forget toxins from fungi; nematologist MacDonald kindles interest in roses and their worms; Michigander Stienstra makes turf a disease garden instead of a putting green; Utahan Wilcoxson waxes elequent in discussing agriculture in India and singing praises for Old Timers there; Neil Anderson tells of Rhizoctonia genetics as conceived by him and Australians Flentje and Stretton; and crew-cut Finlander Banttari ultrastructurally separates viruses and mycoplasma on flax.

Idaho-bound Calpouzos unravels the complexities of disease losses and reports on NATO-sponsored conferences in various places of the world; extension pathologist Johnson keeps us abreast of Southern corn leaf blight; Wyoming-bred Frosheiser ambles to the board to portray Phytophthora root rot of alfalfa; sometime-acting-head Eide ruminates among potato journals and divulges salient data and philosophy found therein; and ex-flax wilter Kommedahl reviews Fusarium literature.

Visiting firemen came and some were Old Timers. The latter included anti-air polluter Al Heagle; cereal rustologist, Rolly Line, one of Eide's ex-potato boys; disease-loss E. L. LeClerg; Super Explorer Scout, aegricorpus-proponent and rust geneticist Bill Loegering; ex-quack grass, sugar beet, wheat rust physiologist Gil Stallknecht; Helminthosporiogenetic epidemiologist Dick Nelson; Ex-mayor, staff and head plant pathologist of Alaska, Chuck Logsdon; medico-mycologist and onetime Delphinium crown rot expert Tommy Laskaris; charming potato pathologist from Colombia, Julia Guzman; Rockefeller cereal pathologist from India, Louis Palmer; and former rust epidemiologist with Rowell, Don Knutson.

Others gathered at the "foaming fount". There were Samborski and Green from Canada; Colin Booth from Kew, England; O.Ladislav from Yugoslavia; Jim Burleigh from Kansas; Kingsolver from Maryland and others.

Topics were covered by some staff members at Minnesota outside out department. Protein supplements from microorganisms were described by Busta and Morr; weather problems by Kuehnast; special programs in extension education by Vern Freeh; research and conservation aspects of pesticides by Cutcomp and Elder; drugs by Bigelow; and fish and aquatic plants by Hill.

Lest the impression be gained that students were not participants, we should tell of the research reported and literature reviewed by them. North Dakotan Dick Meronuck described toxins from Alternaria; volleyball champion Dick Morrison and Korean S. Ohh gave us the "lowdown" on pea root rot; physiologist John Lieberman biosynthesized Fusarium estrogens; Canadian John Dueck portrayed systemic toxemia of soybean; Iowan Craig Grau covered Rhizoctonia research; Babu from India treated nemas from roses and Pilorget from Calif. described problems of stored grain in India.

Literature was reviewed by at least 18 students, maybe more. These included papers reviewed by Steele (Alabama), Singleton (Oklahoma), Anderson, Crow, and Windels (Minnesota, Schwartz (Nebraska), Ooka (Hawaii) Palaez (Colombia), Mew (Malaysia), Phiri (Rhodesia), Skovmand (Denmark), Alabanza (Philippines), Gibbs and Shearer (Australia) Dueck (Canada), and Chang (Taiwan).

A mycological foray was dramatically described by Gloria Warner. Atif pictured Afghanistan in a slide show and Manzo did the same for Nigeria. Thus the variety that one has come to expect in seminar was here again and contributed to the general education, professional expertise, and insights into our fellow man throughout the country and the world.