

Highlights

- From the field: Decline in turkey oak
- Who is who in Plant Pathology

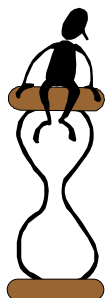
Highlights

- New members of our department
- New section on Computer Review



PLP News

*The Newsletter of
the Plant Pathology
Department
Volume 3 • Issue 1
January 1999*



1998: The year past – 1999: The year ahead

*by Dr. George Agrios
Chairman*

It is that time of the year again! Time to stop for a few moments and reflect on what happened and what was accomplished by the Department in the past year. It is also time to look ahead, and perhaps speculate a little, as to what may happen in the Department in the year ahead.

1998 was, by most accounts, a tumultuous and yet eventful year at all levels. At the national level, disruptive politics ruled the day, and yet otherwise it was a good and prosperous year with all sorts of new scientific and technological developments. At the state and the university level, more politics and more upheaval at the very top level, but the university has continued to make progress in virtually all directions. IFAS went through the year in a succession of three vice presidents, and yet continuity and optimism have ruled and “all systems are go” for improvements in teaching, research, and extension. The Plant Pathology Department went through its own version of turmoil, but still we made progress in all of our programmatic areas and we have entered a new era of personnel and program rejuvenation.

Undoubtedly the biggest news for the Department in 1998 was our being authorized first to hire a new faculty member with expertise in molecular genetics of disease resistance, and later to

hire a second faculty member with primarily teaching responsibility but also partial responsibility to do research in turfgrass pathology. Dr. Prem Chourey chaired the Search and Screening Committee for the first position and, after a national search, they gave us three excellent candidates to be interviewed. The Department quickly and overwhelmingly chose the best of the three candidates in the person of Dr. Wen-Yuan Song. Dr. Song did his graduate work at the Institute of Genetics, Academia Sinica, Beijing, China, and at the University of California at Davis (1993-1995) and received his PhD in 1995. He continued to work as a postdoctorate at UC-Davis where he isolated the rice bacterial blight disease resistance gene Xa21. This gene encodes a receptor-like kinase with serine/threonine specificity, the first such kinase with a defined function, and an ideal system to study the signaling pathway and molecular mechanisms in disease resistance. Dr. Song is expected to join the Department February 8, 1999.

The search for candidates for the 70% teaching/ 30% turfgrass pathology position has just begun. Job announcements have been sent to appropriate journals and applications for the position will be accepted until April 15, 1999. Dr. Bill Zettler chairs the Search and Screening Committee for this position.

Another very important change to our campus departmental faculty came about by the sudden retirement of Dr. Robert Stall, which was brought about by his desire to stay home and assist his ailing wife. Immediately following the retirement of Dr. Stall, Dr. Jeffrey B. Jones, a close collaborator of Dr. Stall, transferred his program from Bradenton to Gainesville. The transfer was made possible by the coincidence of Dr. Stall's retirement and the fact that Dr. Jones had been offered a position as Leader of a USDA Laboratory in another state and so, unless transferred, he would be leaving Bradenton and IFAS. Dr. Jones will continue his, and for a while Dr. Stall's, program in plant bacteriology.

We also had changes in faculty personnel at the North Florida Research Center at Quincy. Dr. Timor Momol, a 1986 Ph.D. graduate of our Department, was hired last October as 60% extension: 40% research pathologist for horticultural crops. At the same time, Dr. Fred Shokes, who studied foliar diseases of peanut and soybean, resigned his position in December and moved to Virginia Tech where he became Director of one of their Research Centers.

In 1998, both our undergraduate and graduate programs made great strides. We had more undergraduate majors (25) than ever before. Several of them again took advantage of the de-

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partmental work-study program for our majors and worked in the laboratories and on projects of our faculty, thus gaining valuable research experience. Of the 7 graduating, 3 went on to graduate school, all of them in our Department. Enrollments continue to rise in "Fundamentals of Plant Pathology", and even more in PLP 2000 "Plants, Plagues, and People" and PLP 2060 "Molds, Mildews, Mushrooms, and Man". Both of these courses are taught twice a year and each has enrollment of over 100 each time they are taught. The new faculty position in teaching given to our Department last year was primarily the result of increased enrollments in these courses. Also, as a result of PLP 2000, Drs. Zettler and Carlye Baker finished putting the lectures into a book form and had it published by the publishers Simon and Schuster under the title "Biohistory: Plants, Plagues and People". General Plant Pathology courses were also taught at the Indian River Research Center (Ft. Pierce) by Dr. Ron Sonoda and at the Research Center at Jay (Milton) by Dr. Fred Shokes.

The number of graduate students in our Department varied from 33 to 37, and we graduated five of them, one Ph.D. and four Masters. Last year the department, at the urging of our college administrators and in line with other Departments, abandoned the Master of Agriculture degree in favor of the Master of Science Non-thesis degree. Our Department was also one of the first to receive approval and to participate in the 3/2 Program. In this program, outstanding juniors (3.5 or better GPA, 1200 or better GRE) can take graduate courses in the 4th and 5th year, and at the end of the fifth year can receive both a Bachelor's and a Master's degree. Our undergraduate student Jessica Roberts more than met the criteria, joined the 3/2 Program, and was also offered an IFAS fellowship. Now she is an undergraduate/graduate student.

1998 may have also been the year that got the Doctor of Plant Medicine (DPM) Professional Degree Program on its way. The University of Florida administration and the Florida Board of Regents approved the pre-proposal for the DPM in July. A full proposal was submitted in September and it is making its way through some more University committees back to the Board of Regents. So far all is going well. The DPM degree program is interdisciplinary, professional (like physicians, veterinarians, dentists, etc.) rather than graduate (no thesis), has a two-semester internship, and if approved, it will accept its first students in August 2000.

Among the other teaching-related activities we can mention the participation of our graduate and undergraduate students in the IFAS exhibits, such as the "Gator Encounter" held in and around Fifield Hall for High School students, the "TailGator" held on the main campus for early undergraduates and alumni, etc. Our students put together excellent exhibits and made us all proud. Many thanks again to all who helped. The students also organized and participated in a field trip to the Dover strawberry Research Center where Dr. Dan Legard had prepared an excellent program for them.

Our students, and some of the postdocs and USPS, also put together spring and fall picnics and an excellent Christmas party for enjoyment by all in the Department and their families. I am grateful to them for their initiative and their hard work.

Research activities in the Department continued at their usual hectic pace. Characterization of viruses, gene isolation and sequencing, genetic engineering of plants for disease resistance, plant infection and cell death, bacteriocin characterization, infection and photosynthesis, genetics of plant-pathogen interaction, biological control of plant diseases and weeds, postharvest pathology of tomatoes and strawberries, soil

solarization, population genetics of pathogens, silicon effects on disease development, and several other topics, were studied by our faculty, postdocs, graduate students, and USPS, both in the main campus and at the Research Centers, often in collaboration among several of them.

The interaction of researchers in Gainesville and in Research Centers has been steadily increasing. This is shown by the increasing number of our graduate students doing part of their research at Centers. (It is also partially indicated by the fact that two of our three station wagons wore out and had to be abandoned during the year because of the increased travel between Gainesville and the Centers).

Our faculty, postdocs, graduate students, and even some USPS, continued to publish the results of their research in prestigious scientific journals and to present abstracts at national and international meetings. Several of our scientists attended and presented talks at the International Plant Pathology Congress at Edinburgh, Scotland. Several also serve as editors of scientific journals, editors of books, members of grant review panels, etc.

Funding for research continues to come overwhelmingly from grants and contracts received by our faculty and to some extent from SHARE funds given our faculty by industry or commodity groups. State funding continues at approximately the same level as before and is used to pay for the main functions of the Department (graduate assistantships, undergraduate work-study program, telephones, computers, copying, transportation, greenhouses, repairs, etc.), which are used in proportion to the size and activity of each research, teaching, or extension program. This year we also had to use a good portion of the state-provided budget towards start-up funds for the new faculty member we hired.

The important plant disease problems in the state continue to be basi-

cally the same as in 1997, with a few important developments. Tomato yellow leafroll virus seems to have spread statewide and some tomato fields were totally destroyed by the virus. This raises serious concerns about the future of the tomato industry in Florida in the presence of this virus and increases the pressure on us plant pathologists to find or develop means to deal with tomato yellow leafroll virus as soon as possible. Another disease, citrus canker, was found in more and more widely distributed areas in south Florida. So far, the disease has been found in urban areas, which makes it very difficult to nearly impossible to eradicate. The fear is that continued presence and spread in urban areas will eventually lead to spread to commercial groves, especially during severe storms and hurricanes. *Phytophthora infestans* on potato and tomato, and *Phytophthora capsici* on cucurbits and pepper continued to be of great concern last year. Citrus tristeza virus threatens to become of even greater importance to the citrus industry now that the brown citrus aphid has become widespread, but the visible situation has not changed so far.

The appearance of many new, introduced, damaging pathogens, insects, weeds, etc., in Florida in the last few years has become of concern to federal, state, and IFAS officials and has generated much interest and some activity towards creating a Center for the Study of Invasive Pests in Florida. Stay tuned...

Extension activities continued last year along the lines followed in the recent past. Extension programming and its implementation were carried out by all our pathologists with a majority extension FTE. Additional extension activities were carried out by our plant pathologists with smaller extension assignment and by other colleagues located primarily at IFAS Research Centers. The personnel at the Plant Disease Clinics in Gainesville, Immokalee, Homestead, and Quincy carried out their responsibilities of diagnosing the diseases in submitted plant

samples and in providing recommendations for their management and control. Dr. Pam Roberts completed her first year as Extension Plant Pathologist at Immokalee, while Dr. Tim Momol began his employment as Extension Plant Pathologist at Quincy in October. The directors of the Plant Disease Clinics voted last October to increase the per sample diagnostic fee from \$15 to \$20, beginning January 1, 1999.

1999 is about two weeks old as this is being written. A lot of work lies ahead of us. Improvement of understanding and mutual respect within the Department is greatly needed for the benefit of all individually, and of the Department as a whole. Also, in spite of the great cooperation existing among faculty in Gainesville and at the Centers, more and better cooperation is desirable and, with the new technology, it is almost within reach. We now can become better connected through computers so that we can do more and better research faster. We can have more people statewide enjoy the satisfaction of teaching and to contribute towards more courses offered and to more effective teaching. Additionally, we can use computer connections between county faculty and our four Plant Disease Clinics for immediate and on-the-spot diagnosis of plant diseases by our expert diagnostician colleagues. The Department intends to promote such statewide faculty cooperation to the greatest extent possible with the resources available.

Our teaching program has made great progress in several directions but it is time we take a closer look at the areas that are likely to advance even more as well as at those that need help to meet their goals. Our lower level courses PLP 2000 "Plants, Plagues and People" and PLP 2060 "Molds, Mildews, Mushrooms and Man" are likely to reach enrollments of 200 or more every time each of them is taught. For example, PLP 2000, taught by Dr. Zettler, already has 177 students in the 1999 spring semester. Dr. Carlye

Baker, one of our Courtesy Assistant Professors, will also be offering PLP 2000 this Fall Semester as a Distance Learning Class through the Internet.

On the other hand, some of our advanced courses (PLP 5053 "Tropical Plant Pathology", PLP 6262 "Plant Pathogenic Fungi", and PLP 6502 "Genetics of Host/Parasite Interactions"), all of them excellent and very useful courses, are not being taught due to lack of student enrollment. Our graduate students would benefit considerably if they could take at least some of these courses. Of course, we will have some additional flexibility in offering these and other courses through the new faculty coming in, that is, Dr. Song, who has 20% teaching, and through the other new faculty member yet to be hired, who will have 70% teaching responsibility.

If and when the Doctor of Plant Medicine professional degree program is given final approval this Spring, we will be busy on at least two fronts: 1) Preparing and distributing advertising information about the DPM program for recruiting and admitting students in this unique program; and 2) Looking for fellowship and tuition-waver funds for these students.

One problem that has surfaced in the last year or so and may have repercussions in this and subsequent years is the fact that some of the faculty, who say they may be retiring in the next two or three years, are no longer accepting new graduate students. This somehow reduces their efforts to obtain grants and significantly limits the choice of on-campus programs and faculty with whom new graduate students can work. We hope our Center faculty can help us fill some of the need.

Our research programs are continuing to be carried out and to be re-evaluated around the state. Most programs, because of their importance and productivity, or, a few of them, because the faculty are near retirement, are being continued with minor adjustment. Sev-

eral others are being modified to keep up with developments, and some new ones are expected to be started, for example, on molecular genetics of disease resistance and on turfgrass pathology. Research on diseases of various crops continues in Gainesville and also in Research Centers near which these crops are grown. Newly introduced pathogens and alternative control methods are and will continue consuming much time and effort of our researchers.

The study of the molecular biology of geminiviruses, potyviruses and closteroviruses will continue at a high level due to the importance of these viruses to Florida vegetables and to citrus. The molecular genetics of *Xanthomonas* and other bacteria, and their epidemiology, are also being studied to learn how better to control the diseases they cause on vegetables, ornamentals, tropical fruits and citrus. Molecular genetics, ecology, epidemiology, biological control and other aspects of fungal pathogens of many crops are being studied in almost every one of our Research Centers and at Gainesville. Fungal, bacterial, and even viral pathogens are also being studied for their efficacy as biocontrol agents of important weeds.

Our extension programs continue to transfer the science and to provide recommendations about disease diagnosis, management and control to the growers who will be using them. With the hiring of Dr. Tim Momol at Quincy last October, in 1999 all our Plant Disease Clinics will again have a faculty member in charge, and horticultural crop diseases will receive the attention they deserve. Probably the biggest news in Florida plant pathology since the establishment of the Plant Disease Clinics at three Research Centers is the recent authorization to hire a plant pathologist for research on fungal, mostly foliar, diseases of citrus while the present faculty, Dr. Pete Timmer, who is doing such research now, will take on a majority extension citrus pathology responsibility.

This arrangement will fill a long and serious gap in our extension service to the most important crop of the state, which for many years until now has been managed with makeshift measures.

Some of our Extension Plant Pathologists are interested in promoting Distance Learning and have been preparing teaching materials on disease development, diagnosis and control that will be used to teach classes of professionals through distance education. Also, some discussions are taking place among administrators about the feasibility of equipping the rest of our county faculty specialists with computers, cameras, microscopes, and related equipment, as well as appropriate training, for distance diagnosis. This will make possible disease diagnosis in the county faculty's office, or even in the field, through computer and camera connections of the county persons with diagnosticians at our Plant Disease Clinics or other diagnostic services.

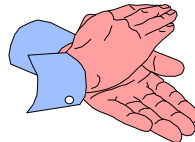
So, everything considered, 1998 has been quite a good year for our statewide Department, and we have plenty of new and important things to work on and to make progress in during 1999. Many thanks for your cooperation and help in 1998 and I am looking forward to a great year for everyone in 1999.

Faculty, staff, and students

Awards:

* Congratulations to **Jessica Roberts!** Jessica was selected as the recipient of the George Webber Award. The award is granted to an undergraduate who has excelled in the Plant Pathology program.

* Also congratulations to **Bob Kemerait** and **Gustavo Astua-Monge!** Gustavo and Bob were selected as recipients of the Francis A. Wood Award. This award goes to masters or doctorate students who have shown outstanding research effort in Plant Pathol-



ogy. A travel grant, to present related research, is part of the award.

* **Dr. Kucharek** and **Charudattan** received the Professorial Excellence Award from IFAS. This award includes also a \$5,000 raise.

Meetings:

* **Dr. Tom Kucharek** recently traveled to the Florida Panhandle Watermelon and Cucurbit Meeting. Dr. Kucharek presented a course on disease management, with emphasis on gummy stem blight. The meeting was held to inform growers of the latest production practices, disease management techniques, and irrigation techniques, among other issues.

* **Dr. Zettler** returned last week from Taiwan. He participated in the International Symposium on Development of Bulb Flower Industry, and gave a talk entitled: "Perspectives for controlling Dasheen mosaic virus in cultivated aroids by micropropagation." Besides enjoying the meeting, Dr. Zettler could spend some time with some of his former graduate students, Drs. Tso-Chi Yang ("George") and Ting-Chin Deng, and with Dr. Purcifull's former student, Dr. Chin-An Chang.

Consulting abroad:

* **Dr. Dean Gabriel** recently traveled to Brazil to review grant proposals submitted for a functional genomics project. Dr. Gabriel was part of a team brought in by FAPESP to São Paulo as experts in genetics and plant pathology. The grants are for functional studies of the world's first sequenced plant pathogen, *Xylella fastidiosa*, the causal agent of Citrus variegated chlorosis (CVC). Dr. Gabriel plans to return for a second round of reviews as well as to make recommendations on future projects.

New members of our department:

* The new faculty member of our department, **Dr. Song**, will be joining us on February 8th. Dr. Song will be working in

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the field of molecular genetics of disease resistance.

* Mr. **Eduardo Carlos**, from Brazil, is a recent addition to the graduate student program of Plant Pathology. More information about Eduardo can be found in this issue of the PLPNews.

Welcome on board!!

Who is leaving us:

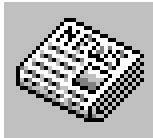
* **Dr. Laurence Marais** is going back to his country, South Africa, after a one-year sabbatical. Dr. Marais stayed in Lake Alfred, but he had the opportunity to interact with members of Dr. Niblett's lab and also to present a seminar for our department in Gainesville.

We wish him the best back home!

Various:

* **Kenny Seebold's** dissertation and **Sherri Angels's** thesis were submitted for IFAS awards of best dissertation and best thesis.

* Have you recognized the pictures of two students of our in the new issue of "Impact magazine"? The pictures of undergraduate students **Melanie Cash** and **Lisa Nozdon** are, respectively, on pages 30 and 31 of that magazine...



* There are some "new members" in our department. **Dr. Song** and his wife had a baby girl, named Joanna, last December 28th. Also, former grad student and former post-doc **Dr. Ping Duan** and his wife had a baby boy named Kevin, last December 15th.

We want to congratulate the four of you and wish the best for your babies!!!

Chili in the News

The 11th Annual Fifield Hall Chili Contest was held from 12-1 Jan. 25, 1999. This yearly



event organized by the USPS Organization is a much-anticipated friendly competition and every chili chef is encouraged to enter. Proceeds directly support acquisitions for the Plant Pathology Reading Room.

This year's results are proof that members of our department are really good cooks! Members of the Plant Pathology department dominated the competition (for the first time in awhile).

Jerry Minsavage and **Richard Blacharski** (coincidentally the presidents of the USPS and Graduate Student Organizations, respectively) shared 1st place in the 'Chili with Meat' category.



Mark Gooch, who submitted two entries in the 'Vegetarian Chili' category, captured first place despite splitting his votes! Post-doc **Chandrika Ramadugu** won in the 'Exotic' category. Chandrika also won as 'Overall Best Chili'.

We would like to thank **Maureen Petersen** for sewing the aprons used as prizes in the Chili Contest. **Beth Mitchell** kindly donated an appealing looking bottle of red and green chilis in vinegar, and red chili shaped salt and pepper shakers. We all really appreciate the help of the many people who contributed to the success of the event.

By the way, did everyone see the end of channel 20's six o'clock news the day of the chili contest? We have had our 15 seconds of fame! Betcha President Lombardi wants to come next year.

General Announcements

* A job announcement for a 70% teaching, 30% research position in Turfgrass Pathology have been sent to Phytopathology News and Science.

* The ICBR Genomic Seminar Series of January and February are:

January 29th - "Large-scale gene trap mutagenesis in mice", by Dr. Arthur Snyder



(Yale University).

February 5th - "Plant Genomics and the future of food and nutrition", by Dr. Ganesh Kishore (Monsanto).

February 19th - "Genomics and Epigenomics in maize", by Dr. Joachim Messing (Waksman Institute of Microbiology).

Seminars location: C1-7, HSC.

Time: 3pm.

* The message below was sent to all grad students via e-mail by Ms. Joann Fischer, of the Graduate Programs. Because of its importance and relevance, we decided to publish it in the PLPNews:

Just before graduating you will need to:

1. Fill out a degree application for the correct degree and submit it to the Registrar's Office.
2. All courses on the Program of Study (Form 2) must have been (or are currently) being taken. If not, we will need a short memo stating the entire committee agrees to the deletions and/or additions.
3. All "I" grades must be cleared by the Graduate School deadline (always the Monday of graduation week).
4. All graduate students are required to have an exit interview with Dr. Shireman (call our office to schedule). M.S. and Ph.D. students should schedule their appointments when they have their FINAL, corrected thesis/dissertation ready to be signed and they need to bring the entire thesis/dissertation, not just the signature page. Dr. Shireman will not sign the first submission and her signature is not required for the first submission to the Graduate School. Non-thesis students can schedule their exit interview as soon as they have set up the date of their oral exam.
5. All graduate students must turn in to our office the COA exit questionnaire. We have sent them to all of our departments and ask that you give them out to your graduating students.
6. After the final exam form is signed we will keep a copy here and send one copy

back to the department. Please be sure all three copies are sent here because we must send the original over to the Graduate School after Dr. Shireman signs it.

7. The college copy of the thesis/dissertation needs to be in our office by the Monday of graduation week. It must be in a letter size expanding binder (not legal size) on 100% rag bond like the original.

* The series of professional development seminars during the Spring semester have already started last January 21st. The seminars are open to all graduate students. The second seminar will cover issues in Intellectual property rights and the Internet. It will be held on February 24, from 4-6:00 p.m., at Rm. NEB 100. If you want more information about the forthcoming seminars, you can check the site: <http://web.ortge.ufl.edu/education>

* The Workshops for teaching assistants are happening every Tuesday from 5-7:00 p.m., at Rm. TUR 2354 and will continue until the end of February. The next training sessions will be:
Feb. 2nd - Testing and grading
Feb. 9th - Basic principles of learning
Feb. 16th - Diversity in the classroom
Feb. 23rd - Troubled and disruptive students
The workshops are free, but if you want to attend them, you should call OIR Teaching Center at 392-2010 or pre-register on line at <http://grove.ufl.edu/~teachctr/main.html>

Friday's coffee break

The labs in charge of the coffee break for the month of February are:



February 5th - Drs. Kimbrough's and Kucharek's labs

February 12th - Drs. Pring's and Chourey's labs

February 19th - Dr. Niblett's lab

February 26th - Drs. Simone's and Purcifull's labs

Remember that on February 26th we will be celebrating the "birthdays of the month".

Important Dates

January 29th

- Last day to withdraw with 25% refund.
- Last day to apply to Office of the University Registrar for degree to be conferred at the end of the spring semester.

February 15th

- President's day.

February 20th

- CLAST test.

Birthdays of the month

Henry Ross	2/03
Dauri Tessmann	2/05
Jeff Jones	2/05
Chuck Niblett	2/15
Clint Warren	2/16
Maureen Peterson	2/17
Gary Marlow	2/17
Mayra Vega	2/18
Juliana Freitas-Astua	2/22
Asha Brunings	2/24
Brian Siegmann	2/24
Manjunath Keremane	2/27



Happy birthday to you all!!

Who is Who in our Department



Dr. Tom Kucharek, extension/research plant pathologist of our department, is originally from Ohio. Dr. Kucharek did his B.Sc. in Biology at Kent State University in Ohio, and he completed both his M.Sc. and Ph.D. at the University of Minnesota. His master's thesis was in the Department of Plant Pathology examining *Fusarium moniliforme* in corn stalks under the supervision of Dr. Kommedahl. His Ph.D. dissertation focused on teliospore germination of leaf rust on wheat under Dr. Harry Young Jr. and Dr. M.F. Kernkamp. Dr. Kucharek's interest in plant pathology dates back to the summer between his junior and senior years at Kent State. It was a summer work/study position at an experimental station at Ohio State University under Dr. J.D. Wilson where he got his first taste of plant pathology. Since that time, Dr. Kucharek has worked in many different areas of applied and extension plant pathology, with emphasis on agronomic and vegetable crops. Crops of particular interest are peanuts, tobacco, grains and cucurbits. A few of his current research endeavors include: *Cylindrocladum* black rot in peanut, Gummy stem blight of watermelon, SAR (systemic acquired resistance) for blue mold of tobacco, *Rhizoctonia*-induced diseases of tobacco, and some work with transgenic squashes against viral pathogens (in conjunction with Dr. Purcifull). His main focus is to find economically feasible control measures for plant diseases. Dr. Kucharek would like to dispel the myth that extension plant pathology is primarily concerned with chemical pesticides, and that he strives to recommend the most practical control measures, regardless of what they may be.

Robert Kemerait Jr. is native to Gainesville, with ties to the University of Florida that date back as far as 3 gen-



erations. Bob has a B.Sc. in Biology from Davidson College in North Carolina and a B.Sc. in Chemistry from the University of Florida. He also did some post baccalaureate work in the botany department at the UF. Bob has converted his Master's thesis into a Ph.D. under the direction of Dr. Tom Kucharek. His main interest is in the soil borne fungal pathogens that are affecting peanut crops in Florida, and he plans to work in applied extension plant pathology after completing his Ph.D. Bob finds that dealing with growers enriches his experience as a research plant pathologist because it forces him to think of the practical application of plant pathology, and also has found that dealing with growers is challenging and rewarding. Bob says that you must first earn the respect and trust of the growers, and then talk science regarding the appropriate control measures.

Mr. **Chuck R. Semer IV** is originally from Treepport, Louisiana but was raised in the San Francisco area of California. Chuck completed his B.Sc. in Biology at the University of Akron, in Ohio; and later pursued a M.Sc. in Plant Pathology at Ohio State University, where he worked on using *Bacillus subtilis* as a biological control agent for Dutch elm disease. He has worked in a variety of places within Florida, in both industry and academia. For 8 years, Chuck worked for Yoder brothers in south Florida. He has been with the Department of Plant Pathology for quite some time. During that time here, he has worked for Dr. Frank Martin on biological control of tomato pathogens, Dr. Charudattan on biological control of weeds, and currently works with Dr. Kucharek. Chuck's major research interest is in plant disease diagnosis. Chuck has been working on a comprehensive compilation of plant disease diagnosis with the APS Diagnostic Committee since 1986. The Plant Disease Diagnosis web site is <http://hammock.ifas.ufl.edu/mppdd/index.html>.

<http://gnv.ifas.ufl.edu/scssfweb/scssf.html>. Chuck also has been working with Dr Kucharek on maintaining and updating a web site for the Soil and Crop Science Society of America, which address is <http://gnv.ifas.ufl.edu/scssfweb/scssf.html>

Misty Nielsen is a native of Minneapolis, Minnesota. She came to the University of Florida after high school to pursue a B.Sc. in Microbiology, but in the Spring of 1998 she decided to switch into the Plant Pathology Department. She likes our smaller department, more personal contact with instructors, and the opportunity to get involved in the departmental work study program. Misty currently does undergraduate research with Dr. Tom Kucharek on peanut rust. Her project involves studying spore survival of *Puccinia arachidis* to show peanut debris in the field can serve as a source of inoculum for the next season. Misty enjoys her project and after she graduates, she would like to continue to work on her masters in our department with Dr. Kucharek. In her spare time Misty enjoys rock climbing, roller blading, watching movies, and supporting environmental causes.

Did you know that...

Dr. Kucharek enjoys gardening, fishing, hiking, and reading about history. Dr. Kucharek told me a fish story in which he claims to have caught some bass. I asked him where he fishes and he said that he couldn't tell me. After all, two things you don't tell people are: 1) where your fishing holes are and 2) where to find morels.

Bob Kemerait Jr. enjoys hunting fossils and arrowheads. Bob also told me that both his mother and father have degrees from the University of Florida, and that his grandmother worked for the Graduate School of the University of Florida for 30 years.

Chuck R. Semer IV enjoys traveling with his wife and restoring antique automobiles. His current restoration project involves an automobile that he purchased from a faculty member in the department. He has been working on the car for the last 10 years.

Misty Nielsen has a Mexican red knee tarantula that she keeps as a pet. Misty also spent the last two summers working in the zoo at Busch Gardens (Tampa, Florida).



A new graduate student

Eduardo Carlos Fermino is the new addition to the UF's Plant Pathology team! Mr. Fermino (or "Eduardo" as he likes to be called) was born in Votuporanga, São Paulo, in the Southeast of Brazil. He comes from a family with old ties to the citrus industry in Brazil. In 1996, he completed his Master's degree working with disease-related proteins of a particular disease, with a controversial etiology (i.e. heated discussion where nobody really knows what's going on!) at the Paraná State University, in Londrina, Brazil. The disease, normally called "Citrus decline", causes blight symptoms in citrus trees resulting in important losses for farmers. He also attended a short course in plant breeding at the Wageningen Agricultural University (Netherlands) in 1998.

Before coming to UF, Eduardo spent three years researching CVC (Citrus variegated chlorosis) and 'Citrus blight' with a prestigious foundation in Brazil (Fundecitrus). He also worked at the Citrus Research Center at Limeira (São Paulo State) using molecular markers for breeding programs. Eduardo will be working on his Ph.D. under **Dr. Kenneth S. Derrick's** guidance, researching CVC.

In his leisure time Eduardo likes to play sports, go out, have fun and mainly share some high quality time with his 2 daughters Luisa and Ligia, and his wife Darlene.

Visiting scientists and post-docs

Dr. **Rupali Datta** was born in Calcutta, India where she lived until the age of five; at which time her family moved to Hyderabad, India (about 1,000 km from Calcutta).

Rupali received a B.Sc. in Life Sciences from the University of Hyderabad after which she completed a M.Sc. on the photoregulation of amylases at the same university. Her M.Sc. thesis was entitled: "Interaction between cellular differentiation and light-mediated amylase induction in greening maize leaves." She later earned a Ph.D. in the same department as a continuation of her Master's thesis. The title of her dissertation was "The interrelationship between leaf development and light-regulated amylase expression in maize."



After completing her Ph.D., Rupali went on to do a post-doc in Niigatu, Japan at the University of Niigatu. She spent one year exploring the regulation of amylases by histone acetylation. We are now fortunate to have Rupali here in our department working as a post-doctorate in Dr. Prem Chourey's lab investigating the complexities of sugar regulation, tubulin, and invertase in maize.

On the rare occasion that Rupali has some free time to herself, she enjoys listening to Indian classical music, embroidering and other types of needleworking, reading, and traveling.

We wish Rupali and Eduardo a warm welcome and hope that their time here with us is both enriching and enjoyable!!

From the field

***Xylella fastidiosa* and decline in turkey oak (*Quercus laevis*)**

by Bob Kemeraйт

Anyone who has traveled to Crescent Beach or St. Augustine from Gainesville has passed through western Putnam County on Highway 20, known locally as Hawthorne Road. The scenery is pleasant and deceptively unremarkable. Rolling terrain covered with towering pines and smaller turkey oaks (*Quercus laevis*) is broken by sandy roads and pierced by shimmering lakes. Growing up in Florida, I spent many weekends and holidays in this area near the small town of Interlachen. As a boy, I had free roam of the woods around my grandmother's house and was dismayed by what I considered then to be the severe shortcomings of the scrawny, yet abundant, turkey oak. Unlike its cousin the live oak (*Quercus virginiana*), turkey oaks were poor for climbing, inadequate for tree forts, and provided little relief from the heat of the summer's sun. As I grew, I began to appreciate them more for their ability to survive on dry, sandy, sterile soils that might have been too poor to support other species (7). I also observed that the trees provided habitat for a number of different birds and their acorns were eaten by small mammals; perhaps they were important after all.

Within the past ten years, I began to notice that more and more of the larger trees were beginning to show symptoms of stress, dieback, and even death. As more trees began to die, people in the area believed that the trees were "just getting old" and that "old age" was responsible for the decline. In the spring, when the trees should have been producing new flushes of leaves, many remained dormant, some still covered with the dried leaves from the previous year. During the spring and summer, these diseased trees are very apparent as

individuals or in small groups as one drives east from Gainesville. I had accepted the "old age" diagnosis without question until early in 1998 when Dr. Dave Mitchell mentioned to me that some of the largest turkey oaks on his property near the Alachua-Putnam County line were suffering from what he described as "Ed Barnard's disease". Knowing that Dr. Barnard was a forest pathologist with the Florida Department of Agriculture's Division of Forestry, my curiosity was aroused. I was to learn that decline of these oaks was not necessarily the result of "old age", but perhaps due at least in part to the xylem limited bacterium, *Xylella fastidiosa*. This was a pathogen to which I had paid scarce attention since studying Pierce's disease of grape in the introductory plant pathology course.

In a paper from May, 1998, Drs. Ed Barnard, Don Hopkins, Bob McGovern, and Mr. Ernest Ash showed that *X. fastidiosa* is commonly associated with declining turkey oaks and was detectable in other species of oaks in Florida exhibiting leaf scorch symptoms (1). The researchers consistently found the pathogen associated with diseased trees, but normally absent from symptomless ones. It was also determined that current-year shoots on turkey oaks with leaf scorch symptoms were 29% shorter than those from asymptomatic trees (1). Shoots on trees that tested positive for the presence of *Xylella fastidiosa* were approximately 38% shorter than on trees in which the pathogen was not detected (1). Although Koch's postulates have not yet been satisfied for this pathosystem, Chang and Walker from the University of Georgia were able to demonstrate that a xylem-limited bacterium, likely a strain of *X. fastidiosa*, is responsible for the leaf scorch disease in the related northern red oak (*Q. rubra*) (3).

For those who, like me, have forgotten some of what they learned about xylem-limited bacteria and *X. fastidiosa*, here is a quick refresher on an intriguing pathogen. *Xylella fastidiosa* is

best known as the causal agent of Pierce's disease of grapevine which severely limits grape production in our state. Because the disease was found to be graft-transmissible and the pathogen was vectored by insects (leafhoppers, sharpshooters, and spittlebugs) but could not be isolated on artificial media, it was believed to be caused by a virus (6,11). After it was found that the symptoms of Pierce's disease could be suppressed using tetracycline antibiotics, Hopkins and Mollenhauer and Goheen et al. were able to observe rickettsia-like bacteria consistently associated with the xylem tissue of diseased grapevines (5,9). However, it was not until 1978 that Davis et al were finally able to isolate the Gram-negative, rod-shaped bacterium and successfully complete Koch's postulates (4). The pathogen became officially known as *Xylella fastidiosa* in 1987 (12). In Florida, *X. fastidiosa* affects not only grapevines and turkey oaks, but also American elder, Virginia creeper, eastern baccharis, sumac, golden rod, peach, blackberry, black cherry, southern red oak, laurel oak, water oak, sycamore, mulberry, live oak, post oak, and bluejack oak (1,8,10). Questions have been raised as to the role of *X. fastidiosa* in the region-wide decline of oak trees and in the decline of shade trees in South Carolina (1,2).

Control of diseases caused by *X. fastidiosa* is difficult. In some instances the pathogen can be controlled if antibiotics such as tetracycline hydrochloride are injected into the trunk of the tree, though this may not be effective if the xylem is severely plugged (11). The planting of tolerant cultivars is likely to be the most successful solution (11).

At this time, Dr. Barnard says that he is not ready to believe that xylem-limited bacteria are responsible for all of the declining turkey oaks in Florida. On a recent visit to his office, he explained to me that the root pathogen *Armillaria* is also frequently found in association with these trees. Further research is needed to determine if the bacterial and fungal

pathogens may both be involved. Dr. Barnard also added that future research may explain the phenomenon where trees symptomatic for leaf scorch are found in close proximity to apparently healthy ones. Possible reasons include preferential feeding by the insect vectors and some degree of resistance in the "healthier" oaks.

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PLP monthly computer review

by Mike Mahovic



While every one of us either finds computers to be a helpful tool in our research/work, or a necessary evil thereof, we all have to face these technological wonders sooner or later. Whether we do it with grace or with constant system error messages, and perhaps intense aggravation leading to unnecessary kinetic system maintenance, can be highly dependent on some few little things we may or may not do. Fortunately, we have recently brought on board a computer administrator who not only has vast knowledge of various computer intricacies, but has been (so far) blessed with the patience to sit down with us and walk us through some of the more exasperating moments. In an effort to maintain Mark Ross's sanity and patience with us, as well as to hopefully ease some of our computing pains, he and I will work together on putting forth an article once a month with various computer tidbits that should be helpful to the entire department. Here we will answer questions you may have had that would be helpful for all to see on paper; we will keep you as up to date as possible on implemented policies; and we will try to keep you generally informed as to what is going on with the computers of the department.

As things stand now, we are expecting a second new machine for the

library, and Mark is looking into possible sources of funding for some more new computers. Mark is also attempting to procure use of a back-up server such that during server down time (for network maintenance, etc.) the basic use will still be available (e-mail, forms folders, et. al.).

In order to streamline functionality of the library computers, the computer committee is trying to implement some policies (both new and old) in the reading room. For example, all of the machines should soon have all of the same programs on them (Office 97, Corel Suite 8, either Corel Draw or Photo Shop for picture editing, and so forth) so that we no longer will we have to fight over the one machine with a working copy of SAS. This will of course be limited to each machine's capabilities. Also, we would like to mention that the rules for whom may use the computers (PLP departmental members *only!*) and the disallowing of unauthorized software installation on them will be more strictly enforced.

With some standardization and new equipment, the computers in the library should be a lot easier for us to muddle through using. With Mark around, we should also be a little more able to have our own computers up and running more often than in the past. In an effort to begin the tradition, here are the patented, much anticipated, PLP Newsletter's "Mark's Bytes o' Computer Wisdom" for the month:

"This issues' tip involves file management. Computers have made it very convenient to produce large numbers of documents quickly. Unfortunately, it is difficult for us 'mere' humans to keep up without a system. First and foremost, remember to keep AT LEAST TWO copies of important files in TWO different places. Floppies and hard disks will eventually fail.

"Second, devise a file naming convention and stick to it. Consistent file names go a long way in the memory process. Use meaningful names.

"Third, use sub-directories (folders) to organize different types of files (data files, correspondence, spreadsheets, etc.). Store all sub-folders under one main document folder. This really helps in the backup process.

"Fourth, clean out old files ruthlessly. Multiple revisions of a document are good while writing, but when the project's finished, it's time for 'house-cleaning'."

If you have any other questions, ideas, comments, etc. that you would like to see here in future articles, feel free to e-mail me at mmahovic@gnv.ifas.ufl.edu or Mark at maross@gnv.ifas.ufl.edu and we'll try to get it in a future edition.

-Good computing to you all!

Recent Publications

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