

# Arkansas Plant Pathology

Newsletter of the Department of Plant Pathology, University of Arkansas Division of Agriculture,  
and Dale Bumpers College of Agricultural, Food & Life Sciences

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UNIVERSITY OF ARKANSAS  
DIVISION OF AGRICULTURE



UNIVERSITY OF ARKANSAS  
DALE BUMPERS COLLEGE  
of AGRICULTURAL, FOOD AND LIFE SCIENCES

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## Major Soybean Research/Education Effort Begins in Arkansas

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Written by David Bennett, Farm Press Editorial Staff, [dbennett@farmpress.com](mailto:dbennett@farmpress.com)

Compared to the Midwest, the South is a difficult environment for growing soybeans. Questions remain on how best to deal with seed and gain a stand in the Mid-South. A new, extensive, three-year research effort – sponsored by the Arkansas Soybean Promotion Board (ASPB) – has begun to address the gaps in knowledge.

“Soybean seed quality varies from year to year,” says Rick Cartwright, University of Arkansas plant pathologist. “It depends on the weather, when and where it was produced, how it was stored and other things. There are good and bad years with soybean seed. Sometimes, though, even what we think is good seed just doesn’t come up.”

This is not the fault of seed companies. “The companies do a great job -- the best they can, no doubt. It’s obviously in their best interest to maintain quality. And they strive for that.”

Yet, there are sometimes “mysterious” stand failures – especially in the South. In Arkansas, growers now plant soybeans from March through mid-July. The seed supply, produced the previous year, must last for a long planting season and needs to maintain quality whether it’s planted in March or July.

“That’s a challenge in itself. Another thing the South is facing that isn’t such a problem in the Midwest is our planting conditions are so diverse. In fact, you could argue that planting conditions in the South are actually hostile to soybean seed. That often leads to mixed results with stand establishment. Even though we use a lot of seed treatments, they don’t always help.



Aaron Palmer, Seed Lab Manager at the Arkansas State Plant Board, rates a soybean germination test.

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“We’re also now planting in no-till seedbeds and in rotation with several different crops – rice, corn, sorghum, cotton.”

*Continued on Pg. 7*

Check out the new Department of Plant Pathology Web site  
<http://plantpathology.uark.edu>

## Tzanetakis Joins Department Faculty

“I grew up in the big city,” says Ioannis Tzanetakis of his native home – Athens, Greece. Tzanetakis is the Department’s newly hired plant pathologist who specializes in virology. He also quickly requests that you call him “Yannis” and that the “Dr.” title is not for him.

Tzanetakis earned his bachelor’s / master’s degree in 1998 in soil science and agricultural chemistry from the Agricultural University of Athens (AUA). “Greek universities are different,” he says. “Your scores on a comprehensive entrance exam determine what department you will enter. My dream was to go into physics and astronomy but I missed it by one point out of 4,000...” Agronomy was his second choice. “I have no regrets, though. It was probably the best thing that ever happened to me,” he adds.

During his education in Greece, it was his plant pathology courses that he enjoyed the most. He joined the lab of Panayota E. Kyriakopoulou, plant virologist at AUA, and conducted his thesis work on the “Comparative Evaluation of Immunological Methods for Detection of *Cucumber mosaic virus*.” His research kept him in the virology lab at both the University in Athens and as a visiting scientist at The International Center of Agricultural Research in the Dry Areas located in Syria.

Tzanetakis pursued his graduate studies at Oregon State University and earned the Ph.D. in molecular and cellular biology in 2004 working with Robert Martin, professor of plant virology. His doctoral research focused on “Molecular Characterization of Criniviruses and Ilarviruses Infecting Strawberry.”

The project focused on strawberry pallidosis disease, first reported during the 1950s. He adds, “It’s the same disease that Joe Fulton worked on at the University of Arkansas in the 1980s.”

“There was a severe strawberry decline outbreak in California which cost growers over \$50 million. Losses to the strawberry crop were devastating,” he explains. “The pallidosis viruses were major players in the decline,” he states. The project helped fund

critical research initiatives to combat the disease, and he found the work to be very professionally satisfying in that it benefitted not only the science of plant virology but working growers in the western states.

“When we started there were about 10 viruses affecting strawberry, we discovered over a dozen more. Now there are up to 25 known viruses affecting strawberry,” he says. “With this discovery, we were able to develop a management program and growers’ losses the following years caused by strawberry decline were minimal.”

His connection with Arkansas began during his graduate and postdoctoral years at Oregon State University. There was a severe decline in blackberry named blackberry yellow vein disease in the southeastern U.S., including Arkansas. He wanted to work with multiple hosts— not just strawberry. He found viruses that were related to the pallidosis associated viruses from blackberry plants with various symptoms and wanted to continue this research.

In 2005, he returned to Greece to perform his obligatory military service in the Greek Navy – doing basic medical lab work. Upon completion of his service, he accepted a postdoctoral research position in the Department of Microbiology at Oregon State University working with Theo Dreher, professor of microbiology. There, he worked on basic virology studying the involvement of virus non-coding regions in translational enhancement. On April 1, he began his job as assistant professor at the University of Arkansas. Or as he likes to call himself, “a plant pathologist working with viruses.”

“The position at Arkansas offers a good opportunity for me to do what I like to do in science,” he says. “I knew and had worked with Rose Gergerich, and I thought it



Yannis Tzanetakis

would be a good place.” Tzanetakis is looking forward to the flexibility this position will allow – basic research, field work, applying for grants, preparing research publications, and teaching. “I don’t want to stay in the office all the time,” he says, “I get to do both sides – field work and traditional research in this job.”

Tzanetakis plans to use reverse genetics using viruses as vectors to study gene function in soybeans in collaboration with

*Continued on Pg. 4*

## Arkansas Plant Pathology

*Arkansas Plant Pathology* is published for faculty, staff, students, alumni, commodity and industry associates and other university colleagues.

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*Arkansas Plant Pathology* is archived on the Department Web site listed above.

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## From the Desk of ... Sung M. Lim

Agriculture in Arkansas remains strong. Our state produces many different agronomic and horticultural crops and the Department of Plant Pathology at the University of Arkansas supports state agriculture with excellent research and extension programs on them. And in 2009, the Department will celebrate its 100-year anniversary!

The University of Arkansas was founded as the Arkansas Industrial University in 1871 established under the authority of the Morrill Land-Grant Colleges Act of 1862. The University adopted its current name in 1899, and classes began in February 1872. In 1887, by provision of the Hatch Act, the Arkansas Agricultural Experiment Station was established. And in 1909, the Department of Plant Pathology was established. It is one of the oldest Plant Pathology departments nationally.

From 1887 to 1909, at least three faculty members, J. T. Stinson, Ernest Walker, and J. Lee Hewitt, in the Department of Horticulture worked with plant diseases and reported their findings in Experiment Station bulletins. They reported on the occurrence of diseases like apple scab, apple bitter rot, apple cedar rust, pear blight, downy mildew of grapes, strawberry leaf blight, and others. During this time, the first chemical-control trials on plant diseases in Arkansas were conducted using Bordeaux mixture and ammonia cal copper carbonate for the control of apple scab, apple bitter rot, downy mildew of grapes, black rot of grapes, and strawberry leaf blight. Other diseases and the use of copper sulphate dips for control of smut in wheat were also reported.

In 1909, J. Lee Hewitt became the first Professor of Plant Pathology and the first Head of the Department of Plant Pathology. Several new faculty members were added while he was Department Head until 1917. Since then, the Department has had seven other department heads: John A. Elliott (1917-1923); Vive H. Young (1923-1953); E. M. "Monty" Cralley (1953-1959); Joseph "Joe" P. Fulton (1959-1964); Derald A. Slack (1964-1990); Howard A. Scott (1990-1991); and, Sung M. Lim (1991-2008). For nearly a century, the Department has been successful in carrying out its mission and goals under the careful guidance and supervision of these individuals.

The Department of Plant Pathology at the University of Arkansas has a long and rich history of research, teaching and extension education in plant pathology since its inception. All aspects have been integrated into an overall plant pathology program that is essential in developing intelligent solutions to the problems that are posed by plant diseases.

Since Arkansas is so agriculturally diverse, plant diseases are of prime concern. Arkansas is the number one state for rice in the United States with about 46% of total U.S. production. Our soybean production is 7<sup>th</sup> in the country and cotton production is 4<sup>th</sup>. In addition, Arkansas produces winter wheat, sorghum, and corn. Apple, peaches, grapes, blackberries, tomato, spinach, and watermelon are some of the important fruits and vegetables produced in the state.

Department faculty continue to conduct extensive research programs targeted at identifying important plant disease problems affecting Arkansas agriculture and implementing economically-sound management strategies.

The Department has continued to strive to provide the best teaching opportunities possible through updating the overall curriculum, as well as assessing student recruitment and graduate programs. Currently, the Department offers four undergraduate and eleven graduate courses, and offers an M.S. degree in Plant Pathology as well as the Ph.D. in Plant Science-Plant Pathology. In addition, our faculty advise graduate students in the Department's Cell and Molecular Biology program.

Modifications to the existing statewide Extension programs and responsibilities have improved the success and function of the Extension Plant Pathology program since its merger with the Department in 2004. New initiatives have enhanced educational programs and increased commodity support and applied research to assist growers, county extension agents, and other clients in the state.

This centennial offers a unique and rare occasion to showcase the Department's history and achievements. But challenges still lay ahead in the decades to come, as we strive to position the Department to more effectively meet and fulfill the changing needs of students, agriculture, and the scientific community.

*Sung M. Lim, Department Head*

## Faculty Notes ...

**Yulin Jia**, Stephano Costanzo, USDA post-doctoral research associate, and **Yuntao Dai**, were invited to present seminars at the University of Arkansas at Pine Bluff on April 25. About 40 undergraduates with disciplines in botany and genetics attended; some UAPB students presented seminars also. **Jia** presented an overview of rice production worldwide, economics and updated projects and accomplishments on host-pathogen interactions. He also distributed brochures on “Science in your Shopping Cart”, Rice-CAP and the Dale Bumpers National Rice Research Facilities. Costanzo, who is from Italy, discussed his education experiences while in the U.S. **Dai** described his education experience as a student from China and his future plans.

## GRANT OPPORTUNITIES

From USDA Cooperative State Research,  
Education & Extension Service:

### Supplemental and Alternative Crops Competitive Grants Program

Deadline—June 9, 2008

This grant program will support **Canola crop research** in the development of superior germplasm, establishment and extension of various methods of planting, cultivation, harvesting, processing, and transfer of such applied research from experimental sites to on farm practice as soon as practicable. The amount available for support of this program in FY 2008 is approximately \$780,000.

[http://www.csrees.usda.gov/funding/rfas/pdfs/08\\_alt\\_crops.pdf](http://www.csrees.usda.gov/funding/rfas/pdfs/08_alt_crops.pdf)

### **TZANETAKIS**— *Continued from Page 2*

Pengyin Chen, associate professor of plant breeding and genetics. “I hope the results from this work will provide tools for breeders to understand gene function and develop resistant cultivars,” he adds.

He describes this work as “moving in fast forward. With infectious clones, it’s feasible to manipulate viruses and introduce host sequences to the virus genome inducing RNA interference. Using this approach you can study genes that breeders can use to manufacture resistant cultivars,” he says.

He continues to work on blackberry yellow vein disease with John Clark, University professor of horticulture. Yellow vein disease affects blackberries from Arkansas to Virginia, with severe infection leading to plant death.

“We are learning that multiple viruses must be present in blackberry to get yellow vein disease,” Tzanetakis says. In his research efforts, he will collect sample plants to identify what viruses are currently present and identify their vectors. Then he will infect plants with various combinations of viruses in order to reconstruct yellow vein

disease infection. Once that virus infection combination(s) has been identified, he plans to develop an effective IPM program that growers can utilize to eliminate the weakest virus vector in order to prevent onset of yellow vein disease.

He also plans to work on historical diseases on rose and red bud to determine their virus infection streams and vectors.

Tzanetakis will be teaching virology as well as assist with general plant pathology courses. As for now, he is enjoying the Fayetteville area and the University setting.

by Debby Monfort

## DEPARTMENT ANNOUNCEMENTS

### Farewell Reception for Eberle and Toksoz

Craig Rothrock invites faculty, staff and students to attend a farewell reception in honor of Michelle A. Eberle and Harun Toksoz on Tuesday, May 13 at 10:30 a.m. in the Library.

### Students Selected for Adair & Bollenbacher Internships

The Department is proud to announce the winners of the C. Roy Adair Undergraduate Research Internship and Katharina Bollenbacher Undergraduate Research Internship awards. The 2008 Adair Undergraduate Intern Scholars include Michele Burnham of Lancaster, S.C., Angela Maria Iglesias Garcia of Colombia, and Mauricio Antonio Cuzato Mancuso of Brazil. Bryan Petty of Manchester, Mo. received the Bollenbacher scholarship.

These Department scholarships are for undergraduate juniors and/or seniors studying at any university in the U.S. or abroad. Internship participants enroll in the full, 12-week, summer session at the UofA to work on a specific research topic in Plant Pathology. They also receive a monetary stipend in the amount of \$5,600 each. All students are also enrolled in one semester hour of PLPA-400V-Research. Upon completion of their research programs, students may choose to pursue graduate studies in the plant pathology field.

Students will study with three of the Department’s faculty — Burt Bluhm, assistant professor, and Professors Jim Correll and John Rupe. Bluhm and Michele Burnham will research “Molecular-Plant Microbe Interactions; detection/identification of fungal pathogens.” Correll and Angela Maria Iglesias Garcia will work together on “DNA Fingerprinting of Globally Distributed Plant Pathogenic Fungi.” And Rupe will work with both Mauricio Antonio Cuzato Mancuso and Bryan Petty. Mancuso and Rupe will research “Epidemiology of Frog-eye Leafspot: Modeling the Effect of Temperature and Leaf Wetness on Infection,” while Rupe and Petty will research “Characterization of *Phythophthora Sojae* in Arkansas.”

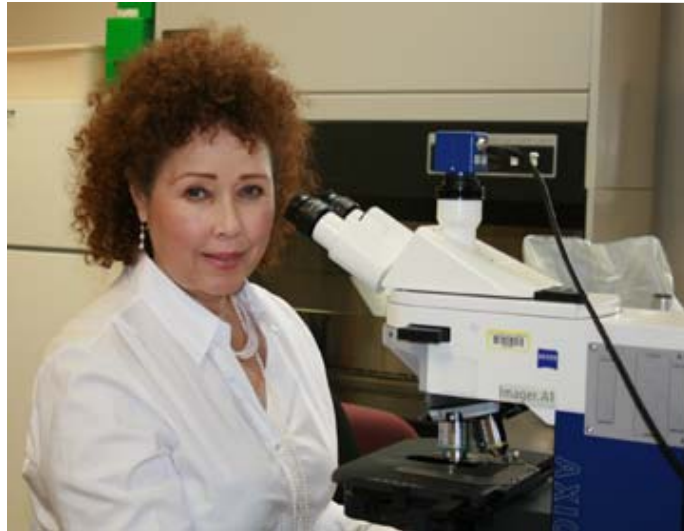
## Sherrie Smith, Plant Diagnostician

In Arkansas, growers, homeowners and nurserymen, have a powerful ally at the Plant Health Clinic in Lonoke. Sherrie Smith, plant diagnostician, identifies and diagnoses diseases on thousands of samples each year – everything from row crops to fruit trees, ornamentals and even turf grass. “Sherrie’s experience in the nursery business, her eye and expertise in the art of diagnosis, and her tremendous work ethic have all been key to the recent success and upsurge in the Plant Health Clinic. She is certainly a great asset to the state and the Cooperative Extension Service, as one of the best diagnosticians I have worked with,” says Plant Health Clinic Director Rick Cartwright.

Sherrie began her career at the Plant Health Clinic in January 2006 after completing her M.S. degree in plant pathology at the University of Arkansas under the direction of the late Professor Pat Fenn. A native of Joplin, Mo., she received her bachelor’s degree in biology with an emphasis in botany from Missouri Southern University in Joplin. Smith’s career endeavors have always followed her deep interest in the natural world. Before pursuing graduate courses, she worked as a Missouri Nurseryman and entrepreneur, owning a tropical fish store.

On a typical day, she receives many plant samples, mostly by mail. She inspects the symptoms, and then examines affected tissue with a microscope to help identify telltale signs of the pathogen to help confirm a diagnosis. Depending on the problem, she may also use Enzyme Linked ImmunoSorbent Assay (ELISA) to test for certain fungi, bacteria and viruses.

Based on her examination and test results, she provides a diagnosis and recommendations for each sample that is submitted to the Clinic. She keeps extensive records of all samples using the new DDDI



Sherrie Smith

DEBBY MONFORT

web-based database pioneered by the University of Georgia. This database keeps track of digital images submitted as samples, as well as information on physical samples sent via mail. The information is compiled into the annual Plant Health Clinic report.

Currently, Sherrie is working on the start of another busy season of diagnosing

crop and ornamental plant diseases. “Right now the crop emphasis is wheat. After the wheat season, I expect to receive lots of corn, rice and soybean samples along with many, many ornamental and landscape plant samples with various problems.” Sherrie also works closely with members of the Soybean Rust Working Group in their efforts to monitor the development and spread of Asian soybean rust each year into the state.

Smith has seen firsthand the value of extension and Plant Pathology to Arkansawyers, through her use of the Portable Plant Health Clinic that she created and takes to field days and flower and garden shows for invited talks and demonstrations. The Portable Clinic allows her to demonstrate what she does as a diagnostician as well as show some of the tools she uses in the lab. With the Portable Clinic, she can also diagnose on site.

Sherrie writes a very popular weekly newsletter during the growing season to assist county extension agents, growers, and homeowners about current disease problems coming through the Clinic. This newsletter can be found on the Extension Web site at [http://www.aragriculture.org/News/plant\\_clinic/default.htm](http://www.aragriculture.org/News/plant_clinic/default.htm)

In the future, she would like to see the Clinic advance in diagnostic technology by continuing to expand the use of the serological testing services and someday begin to offer molecular (DNA) based diagnoses. “It’s not practical at the Clinic’s current location to engage in DNA work. But I would like for the Clinic to offer real time PCR diagnostics at some point in the future,” she says.

Sherrie’s work philosophy of “stay curious and interested” has helped her be successful in the face of the many challenges of a highly public position like the Clinic diagnostician. As with most situations today, there is always a shortage of funds for modern equipment and technology, and improvements can take a lot of time and effort to obtain but she has seen gradual progress so remains positive about the future of plant diagnostics in the state.

*Continued on Pg. 8*



Smith uses a quick test on a tomato sample received in the mail. Based on Smith’s visual inspection, she believes the plant has Tomato Spotted Wilt Virus (TSWV). The test detects four different diseases including TSWV.

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## Toksoz Receives Masters Degree & Slack Graduate Scholarship Award

Harun Toksoz was born and grew up in Ugrak, a small village in the south part of Turkey by the Mediterranean Sea. He graduated from the high school close to his village in 1999. Then, in 2000, he moved to the city of Bursa and began his university education. He received his Bachelor's degree in plant production and protection from Uludag University in 2005.

"I wanted to work on my master's degree in the U.S.," he said. "I applied for and received a Fulbright Scholarship, sponsored by the United States Department of State. The scholarship and the opportunity to study in the U.S. were more than I ever hoped for," Toksoz adds. In 2006, he started his master's program at the University of Arkansas in the Department of Plant Pathology.

Toksoz has finished his master's program under the direction of Craig Rothrock, professor of plant pathology, and will graduate this May. His thesis focuses on "Control of Black Root Rot of Cotton by Using Fungicides and Host-Resistance Inducers."

"I have learned a lot during my time here," Toksoz says. "Having had the chance to meet and know people from different cultures and countries will be one of my most meaningful experiences."

He has also enjoyed traveling in the U.S. "I always like to see different places. That's why I did my best to travel; I've been to San Francisco, San Diego, Los Angeles and New York. San Francisco ranks at the top of my list," he says.

After graduation, Toksoz will return to Turkey. At present, he does not have a job prospect. "But I think positive all the time," he adds. He has his sights set on an international company in Istanbul. And he hopes that, in whatever job he takes, it will require a lot of traveling so he can see other places in the world.

Toksoz has excelled academically and professionally during his career in the Department. He has presented his work at national meetings and at the Gamma Sigma Delta - Arkansas

Chapter research competition, held this spring, where he placed third in the master's degree oral presentation category.

Most recently, Toksoz was awarded the prestigious Derald A. and Betty L. Slack Graduate Scholarship Award for his outstanding achievements. The Department's Scholarship Committee specifically cited "his academic and

professional growth by presenting his research findings at numerous regional and national meetings, and distinguishing himself as an outstanding graduate student."

The award consists of a one-time monetary award intended to further educational and professional development and a plaque. The Derald A. and Betty L. Slack Graduate Scholarship Award was established within the Department of Plant Pathology by Steven A. Slack in honor of his late parents, Dr. and Mrs. Slack. Derald A. Slack served the Department, College and University with distinction from 1952 until his retirement in 1990.

"I will miss my new friends in Fayetteville – it will be hard for me to leave," he says. Toksoz leaves for Turkey on May 17. He can be reached by email at [toksozharun@gmail.com](mailto:toksozharun@gmail.com).

by Debby Monfort & Harun Toksoz



CRAIG ROTHROCK

Harun Toksoz receives a plaque in recognition of the Slack Graduate Scholarship Award.

### For More News & Information

#### Cotton Update

<http://www.aragriculture.org/News/cotton/default.htm>

#### Plant Health Clinic Newsletter

[http://www.aragriculture.org/News/plant\\_clinic/default.htm](http://www.aragriculture.org/News/plant_clinic/default.htm)

#### Soybean Notes

[http://www.aragriculture.org/News/soybean\\_notes/default.htm](http://www.aragriculture.org/News/soybean_notes/default.htm)

#### Arkansas Rice Newsletter

<http://www.aragriculture.org/News/rice/default.htm>

#### Arkansas Wheat Newsletter

<http://www.aragriculture.org/News/Wheat/default.htm>

#### Multi-institutional RiceCAP project

<http://www.ricecap.uark.edu/>

**SOYBEAN**— *Continued from Page 1*

In a bid to save money due to increase expense of modern seed, farmers are also willing to cut seeding rates. For those in a non-ideal planting situation doing so can cause problems in getting a stand.

**Questions**

Complicating the situation is seed quality can't be judged based on one thing.

Germination – the process of seed taking in water and producing a seedling under optimum conditions – is checked in a lab test and the results, by law, must be printed on seed bags. For many years, farmers have relied on germination test data.

However, seed quality isn't solely defined by the germination test. There's also a very complex characteristic of seed called 'vigor.' The vigor of seed includes a set of factors that still aren't fully understood. However, in the last few years, there has been a lot of progress in measuring it.

In most states, and companies, "there's a lot of emphasis on testing seed for vigor. There are all kinds of tests to determine the seed's properties – will it produce a normal seedling under certain conditions? Maybe conditions being checked are cold temperatures, accelerated aging under hot, humid conditions, membrane leakage tests, and so on.

"Put all those tests together and you'll have a better idea that the seed being tested has good potential for germination under optimum conditions but you'll also know that the seed has better potential to produce a normal seedling that'll survive under less than optimum conditions."

The Association of Official Seed Analysts and the International Seed Testing Association write the rules for the world's official seed testing. A few years ago, both adopted the accelerated aging test as a standard, reproducible vigor test of soybeans. Since then, many companies and states have used accelerated aging tests to supplement germination and other tests to further define seed quality.

"It's a good way to get information about your seed lot and where you might use it, or not. If the seed has low vigor you might not want to plant it. If there's moderate vigor, you might

still use it under optimum conditions but avoid using it in certain tough planting situation. Seed testing high in both the standard germ test and the accelerated aging test would be the lots you could have the highest confidence in."

**Research project**

With that background, the ASPB asked researchers at the University of Arkansas to conduct a comprehensive project looking at soybean seed quality issues.

Over the years, much of the seed quality research has been done in the Midwest. "Certainly, that done in their fields might not correlate as well in the Mid-South. We need to validate some of this information under our conditions."

Also part of the effort is an education component. "We'll try

to explain as much as we can about all this to our growers and the industry. That could include how farmers can find out particular data on seed they're interested in purchasing. And, once procured, how they can use that information most effectively.

"Also, we want to know where seed treatments, new seed-coating technologies and the like fit into this. Do they really help preserve seed quality in storage and the field? Which do the best job? Where is it most appropriate to use those?"

Currently, a small, seed-quality test lab is being established at the University of Arkansas in Fayetteville.

"We'll also be working with the Arkansas Plant Board and other states' seed testing labs. At planting, beginning on April 28, we're asking Extension personnel in the field and grower organizations to help us collect planting seed being used in fields across the state. The sampling will continue through mid-July."

Those samples will be taken to the aforementioned labs for germ and accelerated aging tests. It's hoped that the 500 to 1,000 evaluated samples will provide a good initial dataset on soybean seed quality being used

during the entire planting season in the state, and what factors may have contributed to that quality.

"And we're not just looking for stand failures. Knowing what seed came up perfectly for a great stand is just as important."



*Standard germination testing show soybean seed with poor germination, left, and good germination, right.*

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*Accelerated aging test . Poor accelerated aging, left, versus good accelerated aging, right.*

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# Alumni Updates

## 1980s

**Musa A. Abdelshife, Ph.D. '83**, has been employed as a Plant Pathologist/ Mycologist working for the USDA-APHIS-Plant Protection and Quarantine Program (PPQ) in the port of Los Angeles, Calif. since 1991. He is in charge of the fungi taxonomical identification laboratory. His main role is to identify any kind of fungi intercepted on plant materials, cut flowers, seeds, and fruits imported from foreign countries to prevent and protect U.S. agriculture and native plants from the introduction of invasive and exotic plant diseases.

Currently, he is working on an unknown group of fungi belonging to Coelomycetes, Ascomycetes, and Basidiomycetes fungi intercepted on propagated plant shipments imported from Korea, China, Vietnam, and New Zealand to California. The infected plant shipments with actionable plant pathogen will be re-exported to the country of origin or destroyed.



Submitted by Musa Abdelshife

*Musa Abdelshife in his lab at the USDA-APHIS-PPQ Plant Inspection Station in California.*

### **SMITH**— *Continued from Page 5*

Her biggest personal challenge comes from being so far from her extended family, most of whom still live in Joplin. She regrets not being able to spend more time with her son, daughter-in-law, and three grandchildren – as well as her daughter and son-in-law in Oklahoma.

But, she truly enjoys her job, and has an optimistic outlook for the Clinic. “My reward comes from helping Arkansas growers and homeowners with their plant problems. I talk to a lot of great people every day.” *CS by Kim Hurst*

### **SOYBEAN**— *Continued from Page 7*

Another aspect of the research will be field tests. This year, an industry cooperator has provided seed from a variety that was determined to have varying quality – “some very good, some middling, some poorer.

“Using that seed, we’ll work with Chuck Farr, a crop consultant in Crittenden County, who has a strong interest in seed quality. The seed will be planted in some different conditions in his area.”

Another planned location for field tests is near Waldenburg in Poinsett County. “There are some stand problems with soybeans on the silt loams around there. Having two different locales and soil types – but planted in the same seed – should provide some interesting data.”

### **Tying it together**

Tying the various aspects of the project together will be a

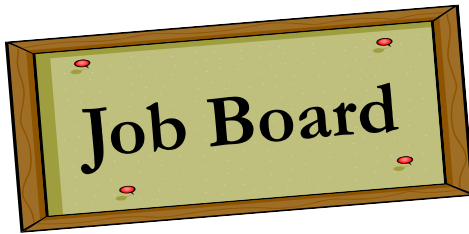
“major chore,” admits Cartwright. “But we’ve got a great group in the division focused on it. We’ve got a staff person already reassigned to work on lab testing. We also have a coordinator reassigned to work the education program.

“We’ll use every opportunity to provide growers this information – field days, winter grower meetings, even a Web site.”

The first year will largely be an establishment phase of the project. “But we expect to get a lot done. The successes or failures in the initial year will define the research and education efforts in years two and three. We’ll push hard to see what we can get done this first year.

“Frankly, when going into a new program like this, the first year involves a lot of brush cutting. The subsequent years are where you narrow focus on the things that have promise and impact.

“Growers need this information because, these days, within objective information lies the potential for success.” *CS*



### Biological Science Technician

The USDA, Agricultural Research Service, Dale Bumpers National Rice Research Center in Stuttgart, Ark., is seeking a biological science technician who will provide technical support to the Research Plant Pathologist in rice research initiatives. Duties will include active participation in one or more phases of the research process by performing a variety of complex technical duties, in a laboratory, field, and greenhouse environment, common to the assigned area of work, and contributes ideas towards the planning and sequencing of the technical aspects of the research. There are some citizenship requirements. This is a full-time term position not to exceed 2 years.

**Salary:** \$36,882 – \$58,557 per year.

**Closing Date:** May 21, 2008.

**Full Position Announcement, Application Instructions and Information at:**

[www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

**Job Announcement No.:** ARS-D8S-0124

**Contact:** Deanna C. Walls

**Phone:** (301) 504-1507

**Fax:** (301) 504-1535

**Email:** [scirecruit@ars.usda.gov](mailto:scirecruit@ars.usda.gov)

**Web:** [www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

### Postdoctoral Associate

The Department of Plant Pathology and Plant-Microbe Biology at Cornell University—New York State Agricultural Experiment Station in Geneva, NY, has an opening for a post doctoral associate available beginning August 2008. Research will include aspects of *Xylella fastidiosa* biology. Research focus will be directed toward understanding cell movement, colonization, biofilm development, and cell communication by the bacterium that causes Pierce's disease of grape. Bacterial activity will be studied in planta as well as in 'artificial' xylem vessels (flow chambers) constructed using nano- and microfabrication technologies. The person filling this position must have an interest in developing the necessary skills to integrate microbiology and nanofabrication. Fabrication of artificial vessels will be done at Cornell University's Nanofabrication Facility ([www.cnf.cornell.edu](http://www.cnf.cornell.edu)) where biologists are guided through fabrication processes. It is expected that the individual also will participate in the activities of the Nanobiotechnology Center (NBTC) ([www.nbtc.cornell.edu](http://www.nbtc.cornell.edu)). The candidate will be involved with a well established research team and program of in the area of *Xylella* biology in the laboratories of

Drs. Harvey Hoch and Tom Burr.

Applicants with a Ph.D. degree in Plant Pathology, Microbiology or related field will be considered. Candidates should be skilled in the understanding and use of state-of-the-art technologies employed for investigating the biology of bacteria. Individuals with backgrounds in cell biology, plant-microbe interactions, molecular biology, and/or possessing microscopy skills are especially encouraged to apply.

Applications should include curriculum vitae, a brief description of future interest, and names, addresses, phone numbers and email addresses of three references.

**Salary:** Based on experience. Excellent benefits package.

**Closing Date:** Position available for August 2008. Open until filled.

**Send application materials to:**

Dr. H.C. Hoch, Department Chair & Professor  
Department of Plant Pathology & Plant-Microbe Biology  
Cornell University, NYSAES  
630 W. North Street  
Geneva, NY 14456  
[hch1@cornell.edu](mailto:hch1@cornell.edu), (315) 787-2332

### Biological Science Technician (Plants)

The Department of Agriculture, Agricultural Research Service, MSA, Southern Regional Research Center located in Houma, La., is seeking a permanent, full-time, Biological Science Technician (Plants) who will work in a laboratory, field and greenhouse environment, and provide support for the molecular component of the breeding and pathology programs.

**Salary:** \$29,726 – \$58,557 per year.

**Closing Date:** June 6, 2008.

**Full Position Announcement, Application Instructions and Information at:**

[www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

**Job Announcement No.:** ARS-X8S-0136

**Contact:** Jeanette Hubbard

**Phone:** (301) 504-1499

**Fax:** (301) 504-1535

**Email:** [scirecruit@ars.usda.gov](mailto:scirecruit@ars.usda.gov)

**Web:** [www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

### Biological Science Laboratory Technician (Plants)

The USDA, Agricultural Research Service, Grain, Forage and Bio-Energy Research unit located in Lincoln, Neb., is seeking a permanent, full-time, Biological Science Laboratory Technician (Plants) who will provide support in a plant pathology research program investigating viruses and virus diseases of wheat and other cereals. The Grain, Forage and Bio-Energy Research Units overall mission is to improve the productivity, stability of production and value of grain, forage, and bio-energy

crops. A number of technical and laboratory duties are associated with this position. There are some citizenship requirements.

**Salary:** \$29,726 – \$47,864 per year.

**Closing Date:** June 9, 2008.

**Full Position Announcement, Application Instructions and Information at:**

[www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

**Job Announcement No.:** ARS-X8W-0212

**Contact:** Mary Beth Donoghue

**Phone:** (301) 504-1399

**Fax:** (301) 504-1535

**Email:** [scirecruit@ars.usda.gov](mailto:scirecruit@ars.usda.gov)

**Web:** [www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

### Geneticist/Molecular Biologist

The USDA, Agricultural Research Service, Vegetable and Forage Crops Research unit in Prosser, Wa., is seeking a geneticist/molecular biologist who will enhance the ongoing research in the area of forage variety improvement. The position offers an opportunity to work in a multi-disciplinary research project. The incumbent will identify molecular markers linked to agronomically important traits in tetraploid alfalfa. Traits of interest include resistance to diseases, insect pests, and abiotic stress. This is a mature project, for which two reciprocal backcross populations have been developed. Each backcross population, along with both parental genotypes and F1 have been planted using replicated design in prescribed approaches. Incumbent will devise and recommend alternative methods of standardized analysis to solve problems, prepare manuscripts, report findings, including initial interpretation of significance to the overall project. A Ph.D. is required for this position. There are some citizenship requirements. This is a full-time temporary position not to exceed 2 years.

**Salary:** \$45,040 – \$58,557 per year.

**Closing Date:** June 27, 2008.

**Full Position Announcement, Application Instructions and Information at:**

[www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

**Job Announcement No.:** ARS-R8W-0001

**Contact:** Dr. Phil Miklas

**Phone:** (509) 786-9258

**Fax:** (509) 786-9277

**Email:** [pmiklas@pars.ars.usda.gov](mailto:pmiklas@pars.ars.usda.gov)

**Web:** [www.usajobs.opm.gov/](http://www.usajobs.opm.gov/)

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[www.apsnet.org/careers/jobfind.asp](http://www.apsnet.org/careers/jobfind.asp)

<http://division.uaex.edu/jobs.htm>

<http://www.usajobs.opm.gov/>

## Calendar of Events

- 3-9 — Final Exams.
- 6 — Department Faculty Mtg.  
2:00 p.m.  
Rosen APC Conf. Room 201
- 10 — Spring Commencement.
- 13 — Final Grades Due
- 13 — Farewell Reception for Eberle & Toksoz. 10:30 a.m.  
PLPA Library.
- 18-June 8 — Rice Production Workshop.  
Philippines.  
Application & Registration fee req'd.  
<http://www.ricecap.uark.edu>
- 19 — Summer Classes start.
- 26 — Memorial Day Holiday.
- 28-June 1 — Genetics & Cell Biology of Basidiomycetes VII.  
Cape Girardeau, MO.  
[www.basidiomycetes.org/events.htm](http://www.basidiomycetes.org/events.htm)

# May 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3 May 3-9 Final Exams
4	5	6 Faculty Meeting	7	8	9	10 Spring Graduation
11	12	13 Final Grades Due. Eberle & Toksoz Farewell Reception	14	15	16	17
18 May 18-June 8 Rice Production Workshop Philippines	19 Summer Classes Start	20	21	22	23	24
25	26 Memorial Day	27	28 May 28-June 1 Genetics & Cell Biology Conf. Cape Girardeau, Mo	29	30	31

## Upcoming Events

### June 2008

- 21 — AES Forestry Field Day.  
Savoy Research Unit
- 24 — AES Field Day & Building Dedication.  
Fruit Research Station, Clarksville
- 28-July 2 — 8th International Oat Conference. Minneapolis, MN.  
[stuth001@umn.edu](mailto:stuth001@umn.edu)
- 30-July 3 — International Durham Wheat Symposium. Bologna, Italy.  
[www.fromseedtopasta2008.it](http://www.fromseedtopasta2008.it)

### July 2008

- 4 — Fourth of July Holiday.
- 13-18 — 5th International Congress of Nematology.  
Brisbane, Queensland, Australia.  
[www.5icn.org](http://www.5icn.org)

### July 2008

- 17 or 24 — AES Field Day & Building Dedication.  
Southeast Research & Extension Center, Rohwer
- 20-23 — 9th International Conference on Precision Agriculture.  
Denver, CO. [www.icpaonline.org](http://www.icpaonline.org).
- 26-30 — APS Centennial Meeting.  
Minneapolis, MN.  
<http://meeting.apsnet.org>

### August 2008

- 3-7 — 35th Annual Meeting of the Plant Growth Regulation Society of America. San Francisco, CA.  
[www.pgrsa.org](http://www.pgrsa.org).
- 6 — AES Turfgrass Field Day.  
Arkansas Agricultural Research & Extension Center, Fayetteville  
[turf.uark.edu/education/field.html](http://turf.uark.edu/education/field.html)

### August 2008

- 13 — AES Field Day.  
Rice Research & Extension Center, Stuttgart
- 17-22 — 16th Congress of the Federation of European Societies of Plant Biology. Tampere, Finland.  
[www.fespb2008.org](http://www.fespb2008.org).
- 20-22 — 4th International Symposium on Rhizoctonia.  
Berlin, Germany. [www.rhizoctonia.org](http://www.rhizoctonia.org)
- 23-24 — 3rd International *Phytophthora/Pythium* Workshop (w/9th ICPP). Torino, Italy.  
[www.icpp2008.org/workshops\\_det1.php](http://www.icpp2008.org/workshops_det1.php)
- 24-29 — 9th International Congress of Plant Pathology. Torino, Italy.  
[www.icpp2008.org](http://www.icpp2008.org)
- 30-Sept 2 — 10th International *Fusarium* Workshop.  
Alghero, Sardinia, Italy.  
[www.ars.usda.gov/Main/docs.htm?docid=9850](http://www.ars.usda.gov/Main/docs.htm?docid=9850)