



Department of Botany

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College of Arts and Sciences

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Oklahoma State University

An Indoor Greenhouse?

For two decades, the Botany Department had the dubious distinction of being one of the few such units in land grant schools without a working greenhouse. That problem was solved last year, after a fashion, by the renovation of a prep room on the first floor of Life Sciences East into a Plant Growth Facility. With the support of Associate Dean Jack Bantle, Executive Vice-President Marvin Keener provided \$25,000

for the refurbishment. Fifteen 400-W high intensity halide lamps were installed over three 4' x 12' benches, providing 144 square feet of space for growing plants. The halide lamps provide a light intensity about half that of full sunlight, with a similar spectrum. "Dawn" comes promptly at 6 a.m., and "sunset" abruptly at 10 p.m., thanks to timers. The plants seem to like it just fine. Most grow faster and are sturdier than those raised in a growth chamber. The facility has been especially useful in providing live plants for lab exercises in Biol 1114 (Introductory Biology), Biol 1404 (Introductory Plant Biology), and Botany 3460 (Plant Physiology Lab). A good example

in the latter course is the mineral nutrition experiment, in which sunflower and corn are deprived of essential nutrients in a hydroponic medium. The higher light intensity produces rapid, more intense visual symptoms of deficiency as the fast-growing plants quickly exhaust their nutrient supply.

In a real test of the Growth Facility's capability, Arnon Rikin decided to grow corn to fruiting (see photo). The plants soon reached a height of 6 feet and, in due time, tasseled and produced small ears. As far as we know, it was the first crop of "roastin' ears" ever grown in Life Sciences East.

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Bluestem is published annually to inform alumni, faculty and friends about the issues, activities, and news of the Botany Department.

Comments and inquires should be directed to James D. Ownby, Editor, Botany Department, 104 LSE, Stillwater, OK., 405-744-5559 or Email jdownby@okway.okstate.edu

Dr. Arnon Rikin and undergraduate student Chris Sellers admire the crops growing in the new Plant Growth Facility.



Meinke Given New Title, Leaves Town



Dave Meinke

He's still just Dave to his friends, but as of last spring David Meinke is Regents Professor of Botany at OSU. The title of Regents Professor recognizes

OSU faculty members who are exceptional scholars and have achieved an international reputation in their field of research. Of the 950 tenured/tenure-track faculty at OSU, only 46 currently hold this prestigious title. Dave is the first from the Botany Department to earn this honor, and joins two other Regents Professors in the life science departments in the College of Arts & Sciences.

Further evidence of his standing in the field of developmental plant genetics came this past summer. Dave was asked to serve as Program Director for the recently established Plant Genome Research Program at the National Science Foundation. With an operating budget of \$30-40 million [considerably more than the Botany Department's!!], this program makes important decisions on funding support for sequencing plant genomes. During the first half of his one-year appointment, Dave is living near NSF in Virginia and commuting back to Stillwater for about a week each month. In January, his wife Deb and children Scott and Laura will join him for the rest of the academic year. In addition to strengthening his own research program, Dave's appointment will greatly enhance the visibility of OSU in the rapidly expanding field of genome research.

Alumni notes and news

Joan Ratzlaff (M.S. in Environmental Science in 1996 with Bill Henley) lives with her son Russell in Salina, Kansas. She is an Environmental Technician with the Bureau of Water in the Kansas Department of Health & Environment. In this position she works to protect water quality in a 17-county area of southeastern Kansas.

Matt Williams (Visiting Scientist with Mike Palmer in 1996) has returned to Australia, where he works as a Senior Research Scientist with the Department of Conservation and Land Management in Como, Western Australia. Matt is not technically an alum, but we certainly enjoyed having him in the department and wish him well in his current position.

Nisa Blackmon (M.S. in Natural & Applied Sciences in 1995 with Ron Tyrl) is Sciences Lab Manager/Adjunct Instructor at Brenau University, Gainesville, GA. She is currently teaching courses in general biology and plant sciences, the latter her favorite. Nisa's artistic side has not been neglected: her work in metal sculpture and jewelry was recently featured in an exhibition at the Georgia Museum of Art.

Marisa Bunning (M.S. in Botany in 1980 with Eddie Basler) despite her botanical training has gathered no moss, having lived in Canada, Spain, Turkey and the U.S. with husband Mike, a Lt. Colonel in the Air Force. Along the way she has worked at the Harvard University Herbarium, surveyed vegetation at Hickam Air Force Base in Hawaii, and worked as an instructor at the University of Maryland. Home is currently Fort Collins, CO, where the Bunning household includes Abbey, 17, Josh, 15, and Luke 13.

John Huckabay (M.S. in Botany, 1960; Ph.D. in Botany in 1967 with J.M.J. de Wet) joined the Biology Department at Southeast Missouri State University in 1966 and served as Chairman of the department from 1972-78. He retired from SMSU in 1995 after 30 years of service and lives in Cape Girardeau, MO.

Randolph McCoy (B.S. in Botany & Plant Pathology, 1965; M.S. in Botany & Plant Pathology, 1967) received his Ph.D. from Cornell in 1971. After 14 years in the Department of Plant Pathology at the University of Florida, Randolph moved to an island in Lake Champlain (Isle LaMotte, Vermont), and founded his own company, Champlain Isle Agro Associates. This company propagates small fruit planting stock from tissue culture and also tests same for viruses. The source of tissue culture cells is the apical meristem which is generally virus-free, so this approach allows the propagation of plants free of viruses. He is also heavily involved in breeding horses and ponies.

Jack L. Dean (B.S. in Botany & Plant Pathology, 1949; M.S. in Botany & Plant Pathology, 1952) later received his Ph.D. degree at LSU. He reports that he has raised two sons, survived cancer, and has achieved age 72.

Comings and Goings



Mike Palmer

In addition to Dave Meinke, another faculty member who isn't around this year is community ecologist **Mike Palmer**. He and wife **Suzanne McAlister**, who is a

Resident Scholar in the department, and daughter **Emily**, 3, left in July for Uppsala, Sweden for a year's sabbatical leave. While there Mike and Sue will work at the Vaxtbiologiska Institutionen, where Mike will collaborate with Eddy van der Maarel and Graciela Rusch on analyses of data sets collected at the McPherson Botanical Preserve and the Tallgrass Prairie Preserve here in Oklahoma. This work will be done indoors, which is not a bad idea considering the Scandanavian winter.



Suzanne McAlister

In January, Mike & family will move to the University of La Laguna, Tenerife, Canary Islands for six months. In addition to courses and seminars, Mike will study the dynamics of the laurel forests on the islands. This vegetation is very interesting from a biogeographical standpoint. The Lauraceae, well represented in South America, are thought to have evolved when that continent and Africa were much closer together. Most laurel taxa subsequently became extinct in Africa, and the Canary Islands vegetation represents a relict group which evolved in isolation as the continents drifted apart.

Joining us to teach Mike's courses and help supervise his

graduate students is Visiting Assistant Professor **Steve Bousquin**. Steve received his Ph.D. in Ecology last summer at Colorado State, studying the spatial exclusion patterns of shrub species in Sonoran-Mojave desert communities in Arizona and Nevada. He has extensive field experience in such diverse topics as herbivory by feral burros as well as the distribution of an endangered species of *Gilia*. Potentially obstreperous students should be aware that Steve has a black belt in the Japanese martial sport of *Aikido*.



Steve Bousquin



Dr. El-Shourbagy

Another new face in the department is **Dr. Mohamed Nabih El-Shourbagy**, Visiting Professor from the University of Tanta, Tanta, Egypt.

While here, he is teaching a graduate course on desert ecophysiology, something he knows a lot about, having done research on arid zone plants in the Arabian peninsula and Egypt. Dr. Shourbagy's student Eman Basha did the research component of her Ph.D. in the Botany Department from 1994-96. He and Jim Ownby are also writing a grant proposal to study salinity affects in barley and true halophytes.

OSU Makes News

Guess which school in the U.S. is now the Best College Buy? That's right, Oklahoma State University. According to the *Student's Guide to America's 100 Best College Buys*, OSU ranks #1. The selection was based on quality of academic programs, low student faculty ratios, highly qualified faculty, high student ACT scores, and, of course low cost. Others making the list from the state of Oklahoma were Oklahoma City University, University of Science & Arts of Oklahoma, and Bartlesville Wesleyan College.

Students in the Tulsa area will soon be able to become part of America's best college buy without leaving home. As of January 1, 1999, the former Rogers University-Tulsa officially changes its name to OSU-Tulsa. Already on the books are upper division and graduate level courses leading to 8 undergraduate degree programs and 21 graduate programs, mainly in business and engineering. Tulsa Community College maintains franchise rights to first- and second-year courses. Starting next year, faculty in Botany will offer general education and non-lab upper division Botany courses to students at OSU-Tulsa. We expect that OSU-Tulsa will eventually offer a full slate of plant science courses targeted for students in biotechnology, environmental science, and horticulture. OSU President Jim Halligan says he expects enrollment at the undergraduate level and the Graduate Education and Research Center will someday rival that of OSU-Stillwater.

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Alumni information requested

The department is currently updating information from alumni. Please take a moment to complete the questionnaire and return it to the address above.

name

home address

home phone

current professional position

business address

business phone

additional education/degrees

achievements and awards