

Plant Science Says



*Happy
Thanksgiving!*

November, 2003

Cripps Joins Tenure Track Faculty By Dr. Sherwood



I would like to welcome Dr. Cathy Cripps to the Department as a tenure-track Assistant Professor. Dr. Cripps has been in the Department since 1996 as a Research

Assistant Professor in Mycology. Her research includes an NSF - funded project entitled "Survey of Alpine Fungi" and a project on mushroom farming in Western Montana funded by a Research and Commercialization grant. She will continue to teach mycology, will teach a class in the new Biology curriculum starting next spring, and will develop new courses in fungal biology. Her expertise in identifying fungi and mushrooms has been greatly appreciated, especially by the general public.

Travels in Yemen By Gary Strobel

In early September, I received a call from Dr. Mostafa Sirhan in the President's office of the country of Yemen. This country is known to most of us as the ancestral home of Osama bin Laden, the place of the USS Cole episode, the Biblical origins of the Incense Trade Route to the north including Israel. Dr. Sirhan invited me to give the plenary lecture at the largest science oriented

conference held annually in the Moslem World. Yemen usually hosts this meeting. A quick look at the globe will tell you that Yemen is located at the roof of the Arabic peninsula and thus is at a critical juncture of the Red sea and the north Indian Ocean (Arabic sea). With the invitation also came a completely escorted trip to Socotra, the forbidden island in the Arabic sea that is home to over 300 endemic plant species (one of the highest of any comparable sized island on earth). After examining two warnings from the U.S. State Dept. for



Gary observing a Socotran Chameleon

Americans not to travel in Yemen, my curiosity about Socotra got the better of me and I accepted the invitation.

It turns out that the island was used as a harbor for the Russian fleet during the cold war when Yemen was a socialist country. Thus, until a couple of years ago, all visitation was forbidden. Now the unification with North Yemen and an uncivil war in the 90's, Yemen is united under a very functional democracy. Meeting me in Aden was Dr A.K. Eleriani (past prime minister of Yemen and now principal advisor to the president and head of the majority Congress party); Ms. Eva Sohlman, a Reuters reporter and daughter of Dr. Sohlman the chairman of the Nobel committee,

Amal Al Juboruri, a poetess from Baghdad and wife of the current mayor of that city, and finally Selma, a world class archaeologist.

Some of the people mentioned above arrived in Hadibu, Socotra on one of the two weekly flights. Together we traveled into all corners of the island by sea and land.



Socotran Boab

Collections were made of the more unusual macrophytic species including the cucumber tree (the only tree in the family curcurbitaceae), the dragon blood (a truly unique species) and several species of *Boswellia* (frankincense) and *Commiphora* spp. (myrrh). We went deep into this mountainous island (20 miles x 60 miles), camped and collected specimens. Everyone on the excursion had fun being involved in this botanical adventure. One of the highlights of the trip was a two day camping trip to the heart of the island. Here local people, on the morning of our departure, sacrificed their best cow for our breakfast. What a deal that was- trying to stop the killing of a cow and at the same time not humiliating them and their gesture of kindness toward us. The cow died!

After Socotra we headed to Seiyun in Eastern Yemen to the science conference. I was given the opening hour to present a summary of our work. I finished the talk with a discussion of EPSCOR and how it may be used as a



Lunch in Hadibu, Socotra

model to improve the support and science related activities in the Arab world. They loved it and in fact Rich Stone has written about it in the October 24 issue of Science.

Overall, it was a wonderful trip and it had many highlights. One of the things that impressed me the most was the number of people in leadership positions who received their PhD's at U.S. universities including many from EPSCOR states. We now have the job of finding out how many endophytic organisms live on Socotra.

Annual Cereal Chemists Meeting By Jackie Kennedy



Arriving September 27 to record high temperatures in Portland, Oregon, Harvey TeSlaa and I attended the 2003 Annual American Academy of Cereal Chemists (AACC) Meetings. Because this is an international meeting, technical sessions, poster exhibits, lectures, symposiums and "Hot Topic" forums were diverse and depending on your interests, there was something for everyone.

Attending the technical meetings and a symposium in statistics informed Harvey and I that the practice by our group of interjecting random internal controls and set standard controls into nursery samples and lab procedures for the past several years is a positive practice; one that is just now being encouraged and implemented by the cereal community.

Biotechnology, obesity and grain nutrition were very hot topics. The rise of diabetes in the United States is of great concern. What direction to take in helping control diabetes by the cereal community was reflected in the meetings and follow up discussions.

Defining grain quality and standards by individual countries was enlightening. France, England, Canada, Australia and the United States were represented in the presentation with lively discussion evolving afterwards. An organic farmer from Oregon gave a presentation during this particular symposium. His view of large corporations having sufficient monies to fund research and the individual or public interests being shut out triggered mixed responses. There was considerable concern regarding the very real possibility of a few large companies eventually controlling the world's food source.

While there was a lot to learn from the meetings, the Portland Grain District Post-Convention Tour was a highlight. The Pacific Northwest exports over 40 percent of the wheat grown in the U.S. It is not surprising that Portland is home to a thriving grain-based economy that includes not only exportation but also growing, testing, processing, marketing and baking. On this tour, we visited some of Portland's local companies specializing in these areas. Stops included the Wheat Marketing Center, the Federal Grain Inspection Services and the west coast office of the U.S. Wheat Associates, followed by a tour of the Pearl Bakery, one of our country's most celebrated artisan bakeries. Afterwards, we enjoyed a drive-by tour of the port of Portland and concluded with a tour of Columbia Grain International.

Weeden receives Award

At the North American Pulse Improvement Association meeting in Sacramento, Norm Weeden was presented the Outstanding Service Award..."In recognition of an outstanding contribution to pulse crop improvement." This group meets biennially and usually picks one individual to receive the award each meeting. If you are not familiar with the term, a 'pulse' is a large-seeded legume such as pea, lentil, bean, chickpea, and lupine seed being consumed as food by humans and other animals). Dr. Weeden received the award primarily for his work in peas, although he has done research on all the other pulses mentioned above, as well as a few

others. Usually the award is given to retired individuals or those near retirement, but Dr. Weeden said he is not planning on retiring anytime soon.

Update on Search for Vice-Mathre Position

Last week, we had Dr. Greg Douhan (University of California, Davis) and Dr. Steve Brooks (USDA/ARS at Kansas State University) interview for the position of Assistant Professor of Plant Pathology. Our final candidate, Alan Dyer (USDA at Fargo N.D.) will be here November 18 and 19.

Hogg has Paper Accepted



On October 28, Andy Hogg had a paper entitled, "Wheat puroindolines interact to form friabilin and control grain hardness" accepted by the journal Theoretical Applied Genetics. The authors are

A.C. Hogg, T. Sripo, B. Beecher, J.M. Martin and M.J. Giroux. Congratulations Andy!

Grants

Luther Talbert, "Haplotype Polymorphism in Wheat & their diploid ancestors," University of California, Davis

New Employees

Matt Moffet -- Norm Weeden -- 233 ABS



I graduated May, 2002, with a B.S. in Plant Biotechnology from MSU-Bozeman and have since been working for Dr. Norm Weeden in the Legume Genetics Lab. I have enjoyed the research and have been rehired to

continue on as Dr. Weeden's Research Assistant.

During the research in the past year, I have become acquainted with the temperate legumes specifically *Pisum* (pea), and have been concentrating on the consensus linkage map for *Pisum*. We are also working on other legumes, like *Lens* (lentil) and hope to one day

complete a consensus map for legumes. The mapping of different populations requires a lot of PCR, but I also spend time doing other experiments, or I'm in the greenhouse, or maybe just completing the basic lab courses. I also spend a lot of time scanning through nucleotide sequences to develop universal primers; not to mention trying to keep up with all the new exciting advancements and technologies in molecular biology. Whatever I'm doing, I enjoy the diversity of research here at MSU with its own unique academic environment and I hope to be a future asset to the PSPP department.

Some of my own personal interests and hobbies include hiking/backpacking, fishing, and hunting which usually ends up like hiking/backpacking just in snow; but I love the outdoors and I will always be happy to just be out there taking it all in.

New Graduate Students



Jeffrey Cameron – Sharrock Lab – 331 ABS

Hello, My name is Jeff Cameron. I am originally from Madison, WI, but I have lived in Illinois, Boston, Zurich Switzerland and Minneapolis. I completed my B.S. in plant science at MSU and I am now

working towards my masters in plant science in Dr. Sharrock's lab. I am working on a new mutant of Arabidopsis that has an altered inflorescence structure. For fun I like to flyfish, watercolor and juggle.

Bob's Byte

Using a special syntax is a way to tell Google that you want to restrict your searches to certain elements or characteristics of Web pages. Google has a fairly complete list of its syntax elements at www.google.com/help/operators.html. Here are some advanced operators that can help narrow down your search results.



Intitle: at the beginning of a query word or phrase ("intitle:"Three Blind Mice") restricts your search results to just the titles of Web pages.

Intext: does the opposite of intitle:, searching only the body text, ignoring titles, links, and so forth. Intext: is

perfect when what you're searching for might commonly appear in URLs. If you're looking for the term HTML, for example, and you don't want to get results such as www.mysite.com/index.html, you can enter `intext:html`.

Link: lets you see which pages are linking to your Web page or to another page you're interested in. For example, try typing in `link:http://www.pcmag.com`. Try using `site:` (which restricts results to top-level domains) with `intitle:` to find certain types of pages. For example, get scholarly pages about Mark Twain by searching for `intitle:"Mark Twain"site:edu`. Experiment with mixing various elements; you'll develop several strategies for finding the stuff you want more effectively. The `site:` command is very helpful as an alternative to the mediocre search engines built into many sites.

Google has a number of services that can help you accomplish tasks you may never have thought to use Google for. For example, the new calculator feature (www.google.com/help/features.html#calculator) lets you do both math and a variety of conversions from the search box.

Let Google help you figure out whether you've got the right spelling—and the right word—for your search. Enter a misspelled word or phrase into the query box (try "thre blund mise") and Google may suggest a proper spelling. This doesn't always succeed; it works best when the word you're searching for can be found in a dictionary. Once you search for a properly spelled word, look at the results page, which repeats your query. (If you're searching for "three blind mice," underneath the search window will appear a statement such as "Searched the web for "three blind mice.") You'll discover that you can click on each word in your search phrase and get a definition from a dictionary.

Suppose you want to contact someone and don't have his phone number handy. Google can help you with that, too. Just enter a name, city, and state. (The city is optional, but you must enter a state.) If a phone number matches the listing, you'll see it at the top of the search results along with a map link to the address. If you'd rather restrict your results, use `rphonebook:` for residential listings or `bphonebook:` for business listings. If you'd rather use a search form for business phone listings, try Yellow Search (www.buzztoolbox.com/google/yellowsearch.shtml).

Fertilizing trees – when and how much?

by Bob Gough

Those tree limbs outside your window are pretty much dormant now. They cannot be stimulated to



grow no matter what you do to them. That's Nature's way of protecting them from winter damage. But their roots will continue to grow so long as the the soil temperature remains a few degrees above freezing. Now is a great time to fertilize them for better growth next year--if they need fertilizing at all.

Trees rely on nutrients stored from the previous fall to push out most of their early growth. If your trees were healthy last season, it's probably best to leave them alone. But if they didn't grow well or produce sufficient fruit, they may need more fertilizer. So long as the soil is not frozen, you can apply fertilizer right now for next year. But how much should you apply? Thoughts vary, but a rule of thumb that works for me is to apply 1 pound of a 10% nitrogen fertilizer for every inch of trunk diameter measured 4 feet off the ground. For example, say the trunk of your green ash measures 18 inches in circumference at that height. Divide 18 by 3 to get a rough idea of the diameter. In this case, your tree is about 6 inches in diameter, so apply 6 pounds of a fertilizer containing 10% nitrogen. If your fertilizer bag contains a blend with 20% nitrogen, then apply only 3 pounds.

Spread the fertilizer in a broad band beneath the dripline of the tree and water it in well. Take care not to fertilize your trees, especially those like apple and mountain ash that are susceptible to fire blight.

Recipe of the Month

Apple Cranberry Crisp

1 ½ cups quick cooking oats

½ cup brown sugar

1/3 cup flour

1/3 cup butter, melted

1 T water

1 16 oz can whole berry
cranberry sauce

2 T. cornstarch

5 Granny Smith apples, peeled
and thinly sliced



In a medium bowl, mix together the oats, brown sugar, flour, and cinnamon. Stir in the melted shortening and water to form a crumbly mixture.

In a large saucepan, mix together the cranberry sauce and cornstarch. Bring to a boil, and then remove from heat. Stir in the apples. Spread into an 8x8 inch glass baking dish. Crumble the oat mixture over the apples.

Bake in the preheated oven for 30 to 35 minutes, or until the apples are tender.