

ASPB News



THE NEWSLETTER OF THE AMERICAN SOCIETY OF PLANT BIOLOGISTS

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President's Letter

How to Get Involved in ASPB

The focus of my last two letters has been on the many contributions the Society makes to plant biology and how dependent the Society is on an engaged membership. Some of you may be interested in contributing to one of the Society's many activities but don't know how to get involved. Well, let me give you some ideas.

First, in addition to the editorial boards that are appointed by the editors-in-chief, the Society has 20 committees involved with governance and awards. In total, more than 100 members of the Society serve on these essential committees that oversee the publications, meetings, awards, and public outreach of ASPB. To get involved with one of these committees (listed in the *Membership Directory* and on our web page), one simply has to let the president-elect (currently Mary Lou Guerinot, guerinot@dartmouth.edu) know early in the year of your willingness to serve. One of the crucial duties of the president-elect in the spring of every year is appointing new members to each committee of the Society. The new appointments assume their positions on October 1 of the same year. Send the president-elect an e-mail stating your interest and detailing some of the qualifications you might bring to the job. This approach is the most direct way to get on the list for consideration.

Another way to get involved is to talk with colleagues who are members of a committee that

interests you. Let them know of your desire to serve and, if appropriate, tell them about any special qualifications or experience that may be relevant. When the president-elect begins the search for new committee members, he or she usually asks for names from the chairs of each committee. Likewise, the chairs of each committee request suggestions from the committee members. This approach is much easier now because the committee members who attend the annual meeting have colored ribbons on their name tags indicating with which committee they're involved. This idea came from the Membership Committee, whose aim is to highlight the large number of Society members involved in governance, as well as to encourage members to let these committee members know your thoughts about their business. Thus, seek them out and let them know about your interest to serve.

As I noted in my last letter, a dedicated membership is the foundation of a successful professional society. Sometime during your career, get involved and help keep ASPB at the forefront of serving the community of plant biologists!

Daniel R. Bush

USDA-ARS and University of Illinois
dbush@uiuc.edu



Plant Biology 2003

Join us in Honolulu!

Honolulu, Hawaii • July 25–July 30, 2003



ASPB Officers & Staff

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Deadline for July/August 2003
ASPB News: June 5, 2003

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NOTICE: The ASPB News no longer carries job ads or meeting announcements. Job ads appear online at www.aspb.org/jobbank. The list is updated every Friday. Meeting notices can be posted at www.aspb.org/meetings.

ASPB News

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Plant Biology 2003

Honolulu, Hawaii USA

Hawaiian Myths—Beautiful, Exotic, and Affordable!

Yes, all three myths about Hawaii are true! As the Plant Biology 2003 meeting approaches and you start to make your arrangements to attend, we wanted to let you know that the Hawaii meeting could be one of the most affordable ASPB annual meetings in recent years.

Reasonable rates at convenient and great hotels start from only \$97 a night, single or double occupancy, with rates starting from \$75 a night single or double for students and postdocs. Most Honolulu hotel rooms include refrigerators, coffeemakers, in-room safes, balconies, and many other amenities to make your stay even more convenient and affordable. Our online housing form is on our web page. Space is limited, so reserve your preferred hotel and room early. Visit <http://www.aspb.org/meetings/pb-2003/>.

Also, remember that we advise you to arrive in Honolulu no later than Friday, July 25, because registration opens that afternoon and the opening reception/mixer is held that evening. The opening scientific sessions begin Saturday, July 26, at 8:00 am.

Special airfares are available from multiple airlines offering very affordable rates. Fares from the U.S. West Coast often can be found in the \$300–\$400 range, and many fares in the \$500–\$600 (or less) range have been available from U.S. East Coast cities as well. We strongly advise that you purchase your ticket NOW! Here are some tips to help you find the best airfare:

Plan early.

Consider trading in frequent flyer miles if possible.

Check with your travel professional and travel web site frequently to be alert for fare sales.



Avoid peak travel days if possible (usually Friday–Sunday).

Consider various routings or alternate cities to reduce the cost.

Think about combining flights from more than one carrier to find the best rate.

Special ASPB discounts are available on

Northwest Airlines

1-800-328-1111

WorldFile/Ticket Designator code: NMYMT

Aloha Airlines

1-800-367-5250

Fare Basis/Ticket Designator code: G/SPE/BIO

Check these and other popular travel web sites for good airfares:

- www.expedia.com
- www.orbitz.com
- www.travelocity.com

We look forward to welcoming you with the Aloha Spirit in Honolulu in July! 🌺

ASPB Members Elected AAAS Fellows

The following members of ASPB were recently awarded the distinction of American Association for the Advancement of Science Fellow, an election bestowed upon AAAS members by their peers. For 2002, 291 scientists were elected for their efforts to advance science or foster applications that are deemed scientifically or socially distinguished.

Wendy Boss, North Carolina State University

Judy Callis, University of California, Davis

Clinton Charles Spencer Chapple, Purdue University

Katrina Cornish, USDA–ARS Western Regional Research Center

Margaret E. Daub, North Carolina State University

Richard A. Dixon, Samuel Roberts Noble Foundation

David William Galbraith, University of Arizona

Charles S. Gasser, University of California, Davis

Chentao Lin, University of California, Los Angeles

Joachim Messing, Rutgers University

William L. Ogren, Hilton Head Island, South Carolina

Ralph S. Quatrano, Washington University

James N. Siedow, Duke University
Elizabeth Vierling, University of Arizona

Richard D. Vierstra, University of Wisconsin, Madison 🌺

Plant Biology 2003 Major Symposia

Saturday, July 26, 9:10–11:40 am

The Plant Cell Editors' Symposium:
“New Advances & Insights in Plant
Biology”

Organizer: Ralph Quatrano

Speakers: TBA

Sunday, July 27, 8:30–11:40 am

“Adapting to a Dynamic Environment”

Cosponsored by *Plant, Cell &
Environment*

Organizer/Presentation:

Kris Niyogi: “Acclimation to Light
and Reactive Oxygen”

Speakers & Presentations:

Kazuo Shinozaki: “Gene Networks
Involved in Abiotic Stress
Responses”

Elizabeth Vierling: “Molecular and
Genetic Analysis of Thermo-
tolerance”

Johanna Schmidt: “The Adaptive
Evolution of Photomorphogenesis
in Natural Plant Populations”

Monday, July 28, 8:30–11:40 am

“Hormone Crosstalk”

Organizer/Presentation:

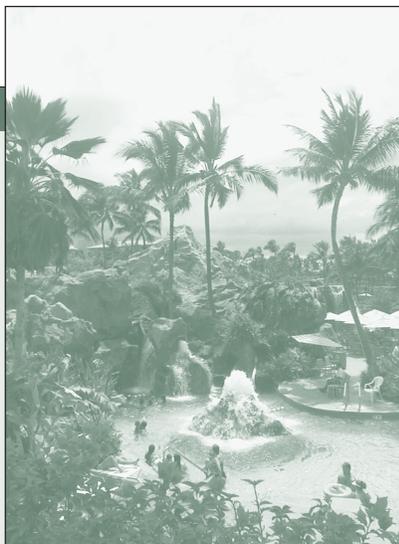
Joseph Kieber: “Cytokinin Signaling
and Its Interactions with Ethylene
and Light”

Speakers & Presentations:

Joanne Chory: “Light,
Brassinosteroids, and Arabidopsis
Development”

Peter McCourt: “Crosstalk Between
Development and Hormones:
Is It Meaningful or Just Gossip?”

Ottoline Leyser: “The Hormonal
Control of Shoot Branching in
Arabidopsis”



Tuesday, July 29, 8:30–11:40 am

“Evolution of Plant Development”

Organizer/Presentation:

Neelima Sinha: “The Role of
Indeterminacy and Ab-adaxiality in
Making Compound Leaves”

Speakers & Presentations:

Mitsuyasu Hasebe: “Evolution of
Plant Body Plan from
Physcomitrella to Arabidopsis”

John Bowman: “The Evolution of
Leaves in Vascular Plants”

Toby Kellogg: “Duplicate Genes,
Morphological Novelty, and the
Grass Inflorescence”

Wednesday, July 30, 2:00–5:00 pm

The President's Symposium:

“The Plasma Membrane: A Happening
Place!”

Organizer: Daniel Bush

Speakers & Presentations:

Michael Palmgren: “Receptor
Kinase Mediated Regulation
of Plasma Membrane
H⁺-ATPase”

Sally Assmann: “G Protein
Signaling in Plant Cells”

Bill Lucas: “Plasmodesmata:
Pathway for Intercellular
Trafficking of Macromolecules”

Richard Williamson: “Cellulose
Synthesis”

The Fulbright
Scholar Program
is offering
lecturing/research
awards in 140
countries for the
2004–2005
academic year.

Application deadlines are

May 1, 2003

for Fulbright Distinguished
Chair awards in Europe,
Canada, and Russia

August 1, 2003

for Fulbright traditional
lecturing and research
grants worldwide

Contact the Council for
International Exchange of
Scholars (CIES) at
202-686-7877;
apprequest@cies.iie.org;
www.cies.org.



Hawai'i: Learning from the Past and the People

In the January/February 2003 of the *ASPB News*, I acquainted you with the general plant science scene in Hawai'i. In this issue, I thought you might be interested to learn a bit about ancient Hawaiian land stewardship.

Those of us wedded to the modern, technology-driven culture would do well to listen to Earth's indigenous peoples, especially as regards humanity's relationship to nature. Their worldview is frequently more environmentally friendly. Ancient Hawaiians, in particular, had an almost mystical attachment to nature. They revered their islands and all the plants and animals that thrived on the land and in the streams and ocean. They saw all nature, themselves included, as inextricably linked and therefore culturally significant. Nothing was taken for granted, and it was the responsibility of every member of the community to care for nature so that nature would continue to provide food, shelter, and clothing. (Note: There were no endemic Hawaiian mammals; early Polynesian settlers brought pigs and dogs.)

Hawaiians practiced a tiered system of land management. In the top tier were the *mokupuni*, the four larger islands of Hawai'i, Maui, O'ahu, and Kaua'i. The islands were subdivided into districts called *moku*. Within the *moku*, one found the next, and in many



Jody Moore

ways the most important, tier, the *ahupua'a* (ah-who-poo-ah-ah). The name comes from an altar of stones (*ahu*) on which was placed the image of the head of a pig (*pua'a*). These altars marked the boundaries of the *ahupua'a*.

In the simplest terms, an *ahupua'a* is a land division that runs from a mountain ridge, down through a valley, and ends in the sea. If you

think of an island as a circle, an *ahupua'a* is a pie slice out of that circle. By dividing the land in this way, the Hawaiians guaranteed that those who lived in a particular *ahupua'a* would have access to all that nature could provide from every ecological niche within its confines. An *ahupua'a* contained virtually everything needed to sustain life: fresh water that was carefully managed for drinking, bathing, and irrigation; plants that provided food, clothing, household items, building materials, canoes, weapons, and numerous other products; and animals that provided food and bone, the latter for tools and ornamentation. As a rule, all the natural resources available within an entire *ahupua'a* were available for the use of all its inhabitants.

The Hawaiians had a highly structured social order and class system. To a large extent, one's role in life was determined by his or her function in the *ahupua'a*. Land use in

each *ahupua'a* was managed by a *konohiki*, or headman, who was assisted by *luna*. *Luna* were experts in different specialties (irrigation management, for example). In addition, each *ahupua'a* had a master farmer and a master fisherman. Commoners (*kanaka*) worked the land and sea under the direction of these leaders.

Hawai'i is the most geographically isolated spot on Earth. The ancient Hawaiians wisely understood that their survival demanded that they marshal their resources responsibly so as to prevent pollution and extinction of any species. They regarded Earth and its products as part of the family, and they cared for them as one would care for valued family members.

For good or ill, the *ahupua'a* system died during the 19th century as Western ideas of property and land ownership became predominant in Hawai'i.

(Typographical note: In recent years, there has been a concerted effort to spell and pronounce the Hawaiian language properly. Consequently, when you come to Hawai'i this summer for the annual meeting, you will see diacritical marks in words—such as the *okino* I have inserted into the words *ahupua'a* and Hawai'i—that are meant to force correct pronunciation. Properly typeset, the *okino* is a reverse apostrophe, and it signifies that the following vowel is to be pronounced separately [ha-wy-ee, not ha-wy].) 🌿

Jody Moore

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Education Foundation Study Launched to Chart New Course

The ASPB Education Foundation has recently launched a study to further define and prioritize its strategic goals and program plans for the future. The Foundation recently retained a national fundraising firm, CTE Associates, to conduct the study, which will also assess the capability of raising funds to help reach those goals through a major fundraising campaign. "We are confident that the study will give us the nec-

essary insight to develop a plan for initiating and funding our priority programs," said John Lisack, executive director, ASPB. The study is scheduled to be completed by early April.

Historically the Foundation has created outreach programs to increase the public's knowledge of the importance of plants and to bring more plant biology programs to our schools' curriculums. Most recently the

Foundation completed production of its documentary film *History's Harvest: Where Food Comes From* and is in the process of distributing it to K–12 schools. Curriculum materials to support the film are being developed.

The Foundation looks forward to strengthening its commitment to education and outreach. 🌿



Natasha Raikhel Accepts ASCB Career Recognition Award

Natasha Raikhel, director of the Center for Plant Cell Biology (CEPCEB) within the University of California–Riverside Genomics Institute and editor-in-chief of *Plant Physiology*, recently received the Women in Cell Biology Senior Career Recognition Award from the American Society for Cell Biology.



Natasha Raikhel

The ASPB News invited Natasha to share her acceptance speech with members of the Society.

Thank you for having honored me today in this way. I accept this award with profound gratitude for the people and the events that made it possible for my students, my colleagues, and myself to succeed in our work.

As many of you know, I originate from and grew up in the Soviet Union. I immigrated with my husband and first-born son to Athens, Georgia, in 1978 with a personal fortune of \$25 dollars. My memory is that I felt like a “blind chicken” (Russian expression) and wondered how I could and would ever make the language, scientific, and social transitions required of me. I did not realize at the time that I was lucky in many ways and that fortune had favored me.

I knew only a single American scientist when I first arrived. But I encountered many helpful people who were critical to my survival. I also entered a social context within academia that differed in several important ways from the system I had left behind. The American academic system is characterized by a greater diversity, a greater openness of thought, and a fairer atmosphere of competition that drives one to take intellectual risks and achieve more. At its best, this environment also leads to a constant renewal of possibility, a wealth of new ideas, and a rich milieu of thoughtful exchange that fosters

both collective and individual progress. In America, I found a place where prestige and intellectual and economic rewards were all reasonable potential goals. Although I did not find the streets paved with gold, I actually found the far greater treasure of opportunity.

Another social difference from which I profited is the greater freedom for self-determination as an American woman. Here in the United States, it is possible, in concert with the right partner in life, to build a domestic environment where the responsibility for hearth and home is truly shared, so that family life also can be based on equality of opportunity. I could not have become the person or the scientist I am today without the support of my husband Alex and my children.

What I achieved also was due to the chance of time. I am a product of this age of molecular biology—with its rapidly expanding knowledge bases and burgeoning information systems—that has been made possible by our technological growth. This lucky moment in history has allowed all of us here today the privilege to be pioneers of new and fascinating frontiers.

I have tried, as I built a career as an American scientist, to foster and mentor those who will carry our field into the future; to be persistent in the pursuit of worthy goals; and to change myself and the system when and where there was anachronism, inefficiency, or unfairness. The award you have given me today in a way validates my past efforts and encourages a continued career shift in this direction—a shift away from building a personal reputation toward an acceptance of the extraordinary responsibility of leadership within our field. But leadership does not occur in isolation. We all lead and follow within a group, hopefully as a team. I am continuously impressed by the breadth and depth

of scientific contributions made by so many students and postdocs with whom I have had the pleasure of working. I now work toward many objectives on behalf of a scientific community, as well as my own personal interests. As with my past work, my future work will depend upon the efforts of many, more numerous than I can list, for whom I feel much gratitude and with whom I share this moment and this award.

In his essay *Tradition and Individual Talent*, the poet T. S. Eliot says that no artist has his complete meaning alone. I would expand that thought to include today’s scientist, who also cannot have his or her complete meaning alone. I am proud today that my personal efforts in science will over time cease to be mine alone and join with a much larger stream of scientific thought that will live on beyond any of us here today. It is the American context, which at its best celebrates diversity, the acceptance of new ideas, and the ever-present possibility to start again that has allowed for my success. And so, although you have singled me out for this award, I acknowledge that it truly belongs to our time and a philosophical tradition that I will continue to work within and seek to preserve. Thank you.

Natasha Raikhel received her M.S. in biology in 1970 and her Ph.D. from the Institute of Cytology in Leningrad, USSR, in 1975. After postdoctoral studies, she continued at the institute as an assistant professor until her departure from the Soviet Union in 1979. At the University of Georgia, she worked as a postdoctoral associate investigating the cell biology of the chitin-binding lectin wheat germ agglutinin in wheat and related species. She went to the Department of Energy–Plant Research Laboratory (PRL) at Michigan State University as an assistant professor in 1986. As assistant and then associate professor at the PRL, she developed a research program to study the plant genes involved in nuclear and vacuolar

protein sorting in *Arabidopsis thaliana*. Her promotion to full professor was followed by her selection as University Distinguished Professor. She has served on numerous government and industry advisory boards and several editorial boards and was appointed editor-in-chief of *Plant Physiology* in May 2000. She moved to the University of California at Riverside (UCR) in January 2002, where she holds the Ernst and Helen Leibacher Endowed Chair in Plant Molecular, Cell Biology & Genetics, and Distinguished Professor of Plant Cell Biology. She is currently the director of the newly organized CEPCEB within the UCR Genomics Institute, led by Professor Michael Clegg. Research in her laboratory is presently focused on understanding the fundamental principles of vacuolar biogenesis and protein trafficking through the secretory system and

on elucidation of the components that mediate cell wall biosynthesis in plants. Her multidisciplinary approach uses a combination of cellular, molecular, genetic, proteomic,

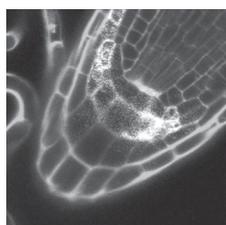
and genomic technologies. She has been working in this field for three decades and has guided many graduate and postdoctoral associates in their research. 

The WICB Career Recognition Awards

The Women in Cell Biology Committee recognizes outstanding achievements in cell biology by presenting two Career Recognition Awards at the annual meeting of the American Society for Cell Biology. The Junior Award is given to a woman in an early stage of her career (assistant professor or equivalent) who has made exceptional scientific contributions to cell biology and exhibits the potential for con-

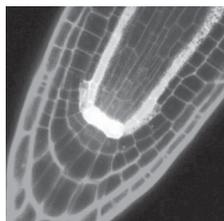
tinuing a high level of scientific endeavor while fostering the career development of young scientists. The Senior Award is given to a woman or man in a later career stage (full professor or equivalent) whose outstanding scientific achievements are coupled with a long-standing record of support for women in science and by mentorship of both men and women in scientific careers.

The Arabidopsis Book



The American Society of Plant Biologists is pleased to announce *The Arabidopsis Book (TAB)*, a dynamic, fully

electronic compilation of chapters edited by Chris Somerville and Elliot Meyerowitz and available free of charge on the Internet.



TAB offers a new model for scientific publishing. Each of the 100+ chapters planned for the book will review in detail an important aspect of the plant *Arabidopsis thaliana*, and the content will continually evolve as new information becomes available, making *TAB* the most comprehensive and current work on Arabidopsis.

ASPB is providing funds for the mounting and maintenance of *TAB* on the Internet as a public service. Please visit www.aspb.org/publications/arabidopsis for chapters currently available in PDF. Eventually all chapters and updates will be hosted in partnership with BioOne (www.bioone.org) in both HTML and PDF formats.





The ASPB Executive Committee convened at headquarters February 15, 2003, for its annual winter meeting. Standing, from left to right: John Lisack, Jr. (executive director), Eric Davies, Regina McClinton, Becky Chasan, Adrienne Clarke, Steve Rodermel, Dan Bush (president), Mark Brodl, Wendy Boss, Vicki Chandler, Mel Oliver, Jon Monroe. Sitting, from left to right: Mary Tierney, Carol Reiss, Nick Carpita, Dina Mandoli, Mary Lou Guerinot, Roger Hangarter.



Snowed in but not snowed under is Eric Davies, Education Committee chair, as he peers over a large mound of snow February 17 in Gaithersburg, Maryland, just after a major winter storm. Members of the Education Committee and Membership Committee, as well as ASPB officers, were snowbound at a Gaithersburg hotel for two to three days as airports, railways, and roads were closed by deep snow. Members quickly made contingency arrangements by way of Internet and phone for scheduled classes. Education Committee member Ken Nadler's Iron Man record of 33 years without missing a scheduled class lecture came to an end with the severe winter storm. "You can always find a way to get to class," Nadler reflected.

Women in Plant Biology Committee Announces 2003 Events

The Women in Plant Biology Committee is excited to announce *two new career workshops* for Plant Biology 2003.

Last year, the committee surveyed attendees at committee-sponsored events held during Plant Biology 2002. The results showed that one of the biggest concerns among young scientists and women in science is balancing professional and personal priorities. In response to this finding, the committee has designed a new workshop for 2003.

Career Workshop I: "Career/Family Balance" will be held Sunday evening, July 27. The workshop will address the question "How do you meet employer expectations and still lead a balanced life?" Five ASPB women who have started families at different points in their life and career path will discuss the "climate" in their profes-

sional environment at the time they began a family, time management issues, and the sacrifices they had to make. They will offer advice for those facing similar circumstances.

This workshop promises an excellent program with opportunity for small roundtable discussion with each speaker following the presentations. Don't miss it!

Career Workshop II: "Getting and Keeping a Job" will be offered concurrently with Career Workshop I on Sunday night, July 27. This program combines the best of two former workshops: "How to Get the Jobs" and "How to Keep a Job." Six speakers will present their views, experiences, and advice about preparing résumés and letters of recommendation, presentation skills, successful strategies for interviews and negotiations, surviving politics, the importance of mentoring, and coping with change. Partici-

pants will have the opportunity to ask questions and engage speakers in discussion within small groups following the presentations.

Both workshops will begin with a pizza dinner. Sign up when you register for Plant Biology 2003!

The annual *Women in Plant Biology Luncheon* will be held Monday, July 28, at noon. The speaker, Dr. Deborah Delmer, is associate director for food security at The Rockefeller Foundation. Dr. Delmer has a long and varied career path and is a past president of ASPB.

Come enjoy excellent food, network with fellow students and professionals, meet members of the Women in Plant Biology Committee, and hear from one of today's leading women in science. Add this event to your registration for Plant Biology 2003!

Publications Committee

Chair Becky Chasan and members Sally Assmann, Doug Cook, Bob Fischer (by telephone), and Rob McClung convened in Rockville on Saturday, January 11, 2003, for the winter meeting of the Publications Committee. They were joined by staff members John Lisack, Nancy Winchester, and Beth Staehle.

The committee considered the draft ethics in publishing document, the Young Scientist's Best-Paper-of-the-Year Award, and a biennial meeting of the full editorial board of *The Plant Cell*, beginning in spring 2004.

"Ethics in Publishing: ASPB Policies and Procedures" will guide editors and staff in responding to allegations of scientific misconduct related to manuscripts that have been submitted to or published in ASPB's journals. The committee made extensive changes to the latest draft; after they approve the revisions, the document will be reviewed by legal counsel and the Department of Health and Human Services Office of Research Integrity. The committee plans to present a final draft to the Executive Committee (ExComm) at its summer meeting in Honolulu.

The Best Paper Awards were originally approved by ExComm in 1999 for a three-year term, with the first awards being given at Plant Biology 2000 in San Diego. The Publications Committee was charged with

reevaluating the awards at the end of the three years to see whether they should be continued as ongoing Society awards. The committee recommended that the awards be continued and regularized by ExComm. Incoming editor-in-chief Rich Jorgensen suggested a revised mechanism for selecting the winners that would involve a regular awards committee, composed perhaps of younger scientists and representatives of the two editorial boards. Discussion ensued as to how to ensure that a large number of manuscripts would be nominated. [Ed. note: ExComm voted unanimously at its February 15 meeting to discontinue the awards.]

Jorgensen asked the committee to consider his request that the editorial board of *The Plant Cell* have a mandatory meeting of the full board once every two years. The committee endorsed Rich's request. They also supported his plan to add two to five new coeditors to the board, which is consistent with the increasing number of manuscripts submitted to the journal and the journal's expanded scope.

Staff updated the committee on *Plant Physiology* and *The Plant Cell*. Of note is the fact that both journals are enjoying large increases in the number of submissions, a trend that seems to be true for numerous other sci-

entific journals as well. Another trend facing nearly all journal publishers is the decreasing number of print subscriptions. The committee brainstormed ideas for generating revenues and cutting costs in the face of this changing market.

Staff informed the committee that the Society was discussing with PubMedCentral the digitization of very old issues of *Plant Physiology* at no cost to the Society. Other items addressed include the progress of the online-only *Arabidopsis Book*, edited by Chris Somerville and Elliot Meyerowitz; the development of *The Molecular Life of Plants*, by Buchanan, Grissem, Jones, and Vickers—the Society's first joint book project with John Wiley & Sons; the weekly loading of journal articles as soon as author proofs are corrected; and the success with Bench>Press, ASPB's online manuscript management system (which has reduced time to first decision to an average of 30–35 days). These last two items in combination have brought the time from submission to publication online to under four months for both journals.

Finally, staff and committee members reviewed the committee's intention to recommend to ExComm that the Society sponsor the AAAS mass media fellowship program, at a cost of \$8,000, to replace the in-house–managed science writing internship that was tried a few years ago. 🌱

Minority Affairs Committee

The **Minority Affairs Committee** met at ASPB headquarters December 21, 2002. Pictured left to right



are Sabeeha Merchant, Regina McClinton (chair), Robert Vellanoweth, Dan Bush (president), and Emil Orozco. Topics discussed include the ASPB Traveling Booth, the 2003 Annual Meeting Luncheon, the 2004 Annual Meeting Symposium and Luncheon, the MAC web site, and speaker visits to minority-serving institutions.



GM Crops: Understanding Public Concern

We have seen Robert B. Goldberg's ASPB-sponsored film *History's Harvest: Where Foods Come From*. By placing GM crops in their historical social and economic context, this film aims to counter public skepticism. *History's Harvest* may, however, turn out to be counterproductive. Drawing on lessons from the European controversy over GM foods, we will discuss some of these arguments. It is our hope that this commentary will help foster the development of publicly accountable use of gene technology.

According to the film's introduction, the aim is "to educate the public about the history of agriculture and where food comes from." It is clear, then, that the film involves tacit acceptance of what sociologists refer to as the "deficit model," i.e., the notion that public unwillingness to accept gene technology is the result of insufficient levels of knowledge. It has been demonstrated, however, that there is no such simple correlation between knowledge and acceptance (e.g., Midden et al., 2002) and that public skepticism therefore cannot be dispelled simply by information.

A central contention of the film is that the risks of GM crops are marginal where they exist. However, the accuracy of this contention depends on what concerns we are prepared to count as "risk." According to a common understanding, risks relate to the environment and human health. Recent research has, however, repeatedly demonstrated that public concerns also include a number of other moral concerns (e.g., Lassen et al., 2002; Wagner et al., 2001; Grove-White et al., 1997). Our point is that the film dangerously neglects widespread public concern about matters beyond health and environment. This is apparent, for example, in the ridicule of the perception that gene technology is unnatural, where the argument is that because human and bamboo genomes are practically identical, there is no such thing as unnatural gene technology. Obviously

there is a large-scale, relevant difference here: Phenotypically, a bamboo plant is nothing like a human being! Failure to acknowledge and indeed respect the fact that the controversy rests on different values that are expressed through different understandings of what concerns are relevant may lead to an aggravation of the situation rather than to a solution.

Another argument in the film is that because GM crops are subject to intense regulation, there is no reason why they should not be accepted by the public. This argument contains two problems: On the one hand, there is a mismatch between public regulation focusing on health and environment and the concerns of the public. On the other hand, it can be questioned whether regulation really addresses the health-related and environmental concerns in a way that matches the public concern. Research carried out in Denmark indicates that, while many people are confident that the public authorities are able to manage the risks here and now, people are less confident about their ability to handle long-term effects because of the scientific uncertainty.

Attempts to conceal these or other limits to scientific knowledge do not prevent controversies from arising; rather the opposite happens, because they may undermine lay trust in business and public authorities (witness the handling of the BSE controversy in the United Kingdom). In the long run a policy of openness about the different dimensions of uncertainty would be more likely to increase trust in scientific risk assessment. There is, of course, no guarantee that glasnost of this kind will lead to public acceptance of GM crops, but the lesson from Europe is that openness and dialogue are prerequisites of public acceptance.

Another argument the film presents is that there is no evidence that GM crops constitute a risk to the environment that differs from those involved in traditional agricul-

ture. The GM crops publicly discussed so far are, however, typically pesticide-resistant strains, claimed to be environmentally friendly because they will reduce pesticide use. Research indicated, however, that the public views such crops as part of an agricultural technology based on the use of pesticides—and as such are generally not wanted. Furthermore, the public has heard similar assurances several times in the second half of the 20th century: To the extent these proved incorrect, trust in the sector diminished. One-eyed claims for the safety and environmental harmlessness of gene technology are therefore likely to increase distrust in the science, industry, and indeed technology. The strategy of the GM crop sector should be to discuss potential risks openly, to abstain from research into risky applications, and to demonstrate a willingness to manage any risks that arise.

Finally, *History's Harvest* represents gene technology as a solution to some of the problems of food provision in the third world. This argument is regarded sympathetically by the majority of the public, and indeed here most people abandon the simple dichotomy between the unacceptable GM foods and the much more acceptable medical uses: GM food is here seen as a means to help people in distress. Such beneficial uses, however, are countered by the observation that, in general, GM crops are developed not to benefit people in the third world but to make money. Needless to say, according to those who point this out, making money is not in itself an acceptable objective. Hence, the fear is that the benefits will never accrue to those who are at present suffering. In this context the point is twofold.

Threatened with declining public support, it is tempting for scientists to use rhetorical strategies to communicate their excitement and the potential benefits of their work. That is, of course, fair enough, but the point we want to make here is that failure to recognize

the complex nature of public concerns may have disastrous consequences. ☘

**Jesper Lassen
Kristian Borch
Rikke Bagger Jørgensen**

Centre for Bioethics and Risk Assessment

Jesper Lassen is associate professor in sociology specializing in attitudes to biotechnology at The Royal Veterinary and Agricultural University, Denmark; Kristian Borch is senior researcher in plant biology specializing in technology foresight at Risø National Laboratory, Denmark; and Rikke Bagger Jørgensen is senior researcher in plant biology specializing in genetics at Risø National Laboratory, Denmark.

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The ASPB News welcomes member commentary. Publication is at the discretion of the editor, and articles may be edited for length. The views expressed are those of the authors and do not necessarily reflect ASPB's position. Responses are welcome; send them to the editor at nancyw@aspb.org. Because the newsletter is an ASPB member publication, at least one author must be an ASPB member for an article to be eligible for publication.

GET-A-MEMBER CAMPAIGN WINNERS

Congratulations to the winners of our award-winning Get-A-Member Campaign. Thank you to all the members who participated in this campaign. We have reached our goal of 1,500 new members. The first-place winner will receive airfare to Plant

Biology 2003 in Hawaii; second-place winners will receive a Gel Ion Pen; and third-place winners will receive a World Time Clock & Calculator. Staff would also like to thank the Membership Committee for all its hard work on this campaign!



1st Prize Winner

Patrick Morgan

2nd Prize Winners

Burkhard Becker	John Scott-Craig	Angelo Viotti
Hirota Fukushige	Rhidaya Shrestha	Hao Yu
Fawzi Razem	Johannes Stratmann	
Joaquin Royo	Loverine Taylor	

3rd Prize Winners

Roula Abdel-Massih	Julia Frugoli	Gloria Muday
Randy Allen	Erich Grotewold	Brent Nielsen
Emily Avila-Teeguarrden	Gokhan Hacisalihoglu	Robert Pirtle
Virginia Berg	Heiko Haertel	Kirk Overmyer
Eduardo Blumwald	Karl Hasenstein	David Ow
Kathleen Brown	Xiaohua He	Natasha Raikhel
Michael Campbell	Gyula Holleschak	Joaquin Royo
Roland Caubergs	Shazia Husain	Laura Saavedra
Ping Che	Pankaj Jaiswal	Thomas Sharkey
Won-Il Chung	Paula Jameson	Lawrence Smart
Daniel Cosgrove	Teh-hui Kao	Andre Steinmetz
Alejandra Covarrubias	Ju-Kon Kim	Manuel Torres
Anthea Craighead	YongSig Kim	Matsuo Uemura
Stephen Ebbs	Maja Kovae	Len Wade
Guy Farish	Laigeng Li	Andreas Weber
Emilio Fernandez	Iris Meier	Daniel Zarka
Jennifer Fletcher	Charles Moehs	

The HighWire Portal: Citation Map

Help! I only have time to scan a few articles on an unfamiliar topic; which are the best?

This article is one more in a series of pieces highlighting the features of the HighWire Library of the Sciences and Medicine Portal. In the last issue of the *ASPB News*, we described CiteTrack, the free e-mail alerting service that finds the articles you might have missed.

Perhaps you are meeting a new colleague for the first time, or perhaps you have encountered a new topic in refereeing an article or a new topic in your general reading and you want to know what is going on in this area. Or perhaps you have to give a lecture or write a review article and want help selecting a bibliography.

Previously, the available tools were a keyword search—but this might return too many articles that are distantly related to a topic—or an author search—which might return too few articles, narrowly focused on a single person's work—or a “related articles” search—which gives you related articles but no sense of how important they are in the field.

The new Citation Map tool provides a way to identify articles that are directly related by citation to a given article *and* are highly cited themselves, at the same time. It graphically displays the articles so you can see which articles cite which other articles. It sorts the related articles by frequency of citation on the topic and thus helps you prioritize your reading when you are unfamiliar with a field. It also shows you which authors and which journals appear most often. This information might, for example, lead you to evaluate other articles by a key author in the field.

You will find a hyperlink titled “Citation Map” on many items in a search result in the new portal. Click on the link to have the system compute a citation map starting from the particular article you've chosen.

Take a look at Figure 1—a Citation Map for a 1998 *Plant Physiology* article by Fleischer et al. The top of the example repeats the full citation to the article. Then a map shows the most recent articles on the left (a *Plant Physiology* article from 2001) and the oldest article on the right (*Plant Physiology*,

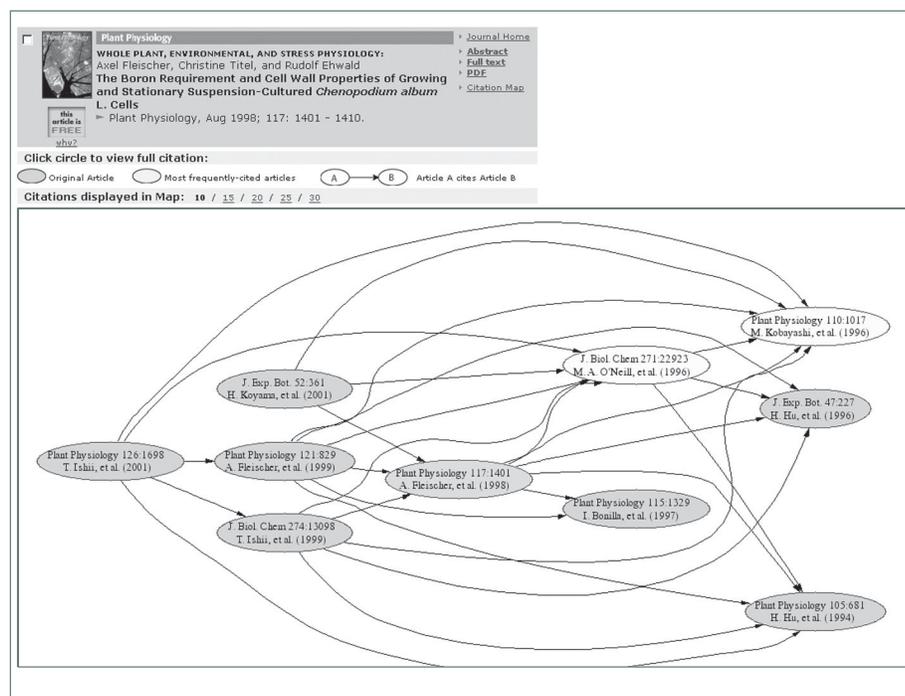
1994); Fleischer et al. is in the middle. All articles shown are well cited (Citation Map doesn't show *all* citations; that would be overwhelming); the yellow circles show articles that are the most highly cited within the group of related articles. Note that the map shows not only the articles *cited by* Fleischer but also the articles that *cite* Fleischer. So you can look forward and backward in time to see what happened with an article's work after it was published. In fact, this particular example shows *five* generations of citations! Obviously, the more recent an article, the fewer articles will have cited it; because of the technology, articles whose full-text HTML is not online won't have citations from them (and, because of the limits of online citation history, HighWire doesn't record many citations prior to 1994). But within the past five to seven years, there is a wealth of material.

By default, the map shows only the 10 most highly cited articles related to the one

you've chosen. But you can ask it to map up to 30 articles (the graphical map is hard to read above 20 articles). The list of citations is easy to read no matter how many articles you ask for.

If you find it hard to read the graphical map's citations, just click on any circle, and a pop-up window will give you the full citation for that article. In addition, the citations themselves include a Citation Map hyperlink, so you can shift the focus of your map by remapping with the “central article” at a different focus. You can mark a set of citations and download them to a citation manager. Next to the citation list (Figure 2), you also see the list of authors, and you might sometimes find it useful to explore the work of an author who is unfamiliar to you; clicking on an author's name will bring up a list of all of his or her articles in the portal, which includes a million HighWire-hosted full-text articles and about 12 million Medline abstracts.

Figure 1



You might find it interesting to run a Citation Map on your own articles!

In detail, here's how it works:

What is it?

Citation Map is a graphical representation of the articles citing or cited by your selected article. The map is based on the references found in the full-text articles of the HighWire-hosted journals. The initial number of citations viewed in the map is 10, but you can change this number if you desire.

What is it for?

Develop reading lists to get up to speed on a new topic.

Generate bulk citation lists for import into literature management programs.

Assist in refereeing or writing a review article.

What does it do?

Given a starting reference, Citation Map finds all articles related by citations either citing the article or cited by the article. The result set is expanded outward from the starting article to make a collection of all the articles related by citation to the starting article. By noting the number of times each article in the collection is cited, the related papers with the greatest impact are graphed, along with the citing/cited-by relations among the articles in the collection. This shows you the most important papers related to a starting article, as well as temporal and "line-of-cite" relationships between these articles.

Figure 2

The screenshot shows the Citation Map interface. At the top, it says "Citations (in order by the most frequently cited article)". Below this, there are options for citation format (standard / condensed) and a "For checked items:" section with buttons for "View abstracts in new window", "Download to citation manager", and "Submit".

The main content area displays a list of articles, each with a thumbnail, title, authors, and citation count. The articles are:

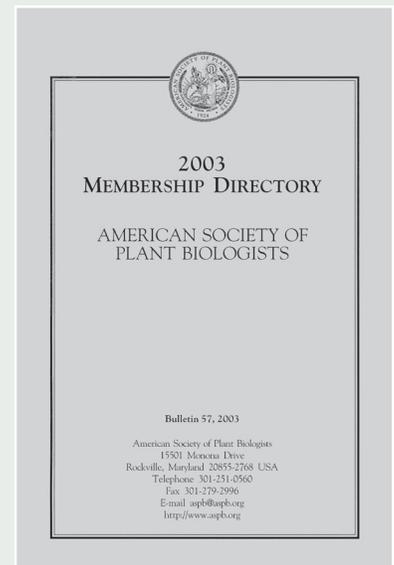
- JBC Online**: CARBOHYDRATES, LIPIDS, AND OTHER NATURAL PRODUCTS: Malcolm A. O'Neill, Dennis Warrenfeltz, Keith Kates, Patrice Pellenn, Thierry Doco, Alan G. Darvill, and Peter Albersheim. *Rhamnogalacturonan-II, a Pectic Polysaccharide in the Walls of Growing Plant Cell, Forms a Dimer That Is Covalently Cross-linked by a Borate Ester. IN VITRO CONDITIONS FOR THE FORMATION AND HYDROLYSIS OF THE DIMER*. J. Biol. Chem., Sep 1996; 271: 22923 - 22930. (3 citations)
- Plant Physiology**: CELL BIOLOGY AND SIGNAL TRANSDUCTION: M. Kobayashi, T. Matoh, and Ji. Azuma. *Two Chains of Rhamnogalacturonan II Are Cross-Linked by Borate-Diol Ester Bonds in Higher Plant Cell Walls*. Plant Physiology, Mar 1996; 110: 1017 - 1020. (2 citations)
- Plant Physiology**: GROWTH AND DEVELOPMENT: Axel Fleischer, Malcolm A. O'Neill, and Rudolf Ehwald. *The Pore Size of Non-Graminaceous Plant Cell Walls Is Rapidly Decreased by Borate Ester Cross-Linking of the Pectic Polysaccharide Rhamnogalacturonan II*. Plant Physiology, Nov 1999; 121: 829 - 838. (2 citations)
- Plant Physiology**: ENVIRONMENTAL AND STRESS PHYSIOLOGY: H. Hu and P. H. Brown. *Localization of Boron in Cell Walls of Squash and Tobacco and Its Association with Pectin (Evidence for a Structural Role of Boron in the Cell Wall)*. Plant Physiology, Jun 1994; 105: 681 - 689. (2 citations)

On the right side, there are two tables:

Frequent Author	Articles
O'Neill, M. A.	3
Albersheim, P.	2
Ehwald, R.	2
Fleischer, A.	2
Hu, H.	2
Ishii, T.	2
Matrunaga, T.	2
Pallarin, P.	2

Journal	Articles
Plant Physiology	6
J. Biol. Chem.	2
J. Exp. Bot.	2

Is your Directory listing correct?



Update your
online record
any time during
the year.

To update your online listing in the *ASPB Membership Directory*, visit www.aspb.org and log in as a member.

Please note: There is a time delay between submitting revisions and their actual appearance online.



ASPB members share a common goal of promoting the growth, development, and outreach of plant biology as a pure and applied science. This column features some of the dedicated and innovative members of ASPB who believe that membership in our Society is crucial to the future of plant biology.

If you are interested in contributing to this feature, please contact Kelley Noone, ASPB membership and marketing manager, at knoone@aspb.org.



Name:
Joyce G. Foster

Title: Research
Biochemist

**Place of work
or school:**
USDA-ARS,
Appalachian
Farming

Systems Research Center, Beaver, West
Virginia

Research area: Secondary metabolism in forage species; regulation of forage metabolite composition by environmental factors and agronomic practices; and implications of polyphenol, lipid, and antioxidant composition of forages for pasture-raised ruminant livestock.

Member since: 1975

1. Has being a member of ASPB helped you in your career? If so, how?

Yes. ASPB membership has resulted in contacts with plant scientists who have become valuable mentors. Discussion initiated at annual meetings has led to new research endeavors and fruitful collaborations.

2. Why has being a member of ASPB been important?

ASPB provides a networking mechanism that has facilitated access to experts as my research directions changed. It has also given me a means to contribute to the profession beyond conducting investigations and reporting results.

3. Was anyone instrumental in getting you to join ASPB?

Yes. My introduction to ASPB was made by my adviser, Dr. John Hess, during my first year of graduate study at Virginia

Tech. I was truly committed to ASPB after serving on the local arrangements committee and helping Alice Kessler, a member of the headquarters staff, with meeting registration when the annual meeting was held in Blacksburg in 1978.

4. What would you tell nonmembers to encourage them to join?

ASPB is the leading professional organization of plant biologists. The Society and its annual meeting attract distinguished plant biologists from the United States and abroad and many talented students and postdocs. ASPB is recognized for the quality of its two journals, *Plant Physiology* and *The Plant Cell*. Through its book publishing partnership with John Wiley and Sons, ASPB can expand publication opportunities for members and provide members with more extensive distribution of their work. Public education activities conducted by the Society enhance the exposure of plant biologists and their research and have influenced members of Congress to support increased funding for plant biology research. And now, ASPB is initiating an autumn focus meeting in addition to the summer annual meeting.

5. Have you gotten a job using ASPB job postings or through networking at the annual meeting?

I used the placement service when investigating postdoctoral opportunities. Long-term professional relationships that developed from interactions at national and sectional meetings continue to have significant, positive impact on my research. My research assignment with ARS has changed several times, and that has made me appreciate the value of networking at the annual meeting.

6. Do you still read print journals? Where do you usually read them: work, home, library, in the car?

I prefer to read print journals because of their portability, and my personal subscriptions are predominantly print versions. I preview contents on electronic versions. Free online access to journals has been helpful because I am located at a remote facility with few library resources onsite. Although I am able to get reprints easily, not being able to page through journals to which I don't subscribe limits my exposure to areas outside my specific research endeavors. I do a lot of my reading at the office because I am constantly developing and applying analytical methods. I also read scientific articles at home in the evenings.

7. What do you think is the next "big thing" in plant biology?

I think the area of secondary metabolism will resurface as a big thing, benefiting from the advances in functional genomics. Human nutrition and health issues will play an increasingly prominent role in guiding plant biology investigations.

8. What person, living or dead, do you most admire?

Gerry Edwards is one of the people I especially admire. He is constantly forging new territory; he has earned international respect and recognition for his accomplishments, and despite his great success, he remains a wonderfully approachable personality.

9. What are you reading these days?

Much of my professional reading concerns interactions between plants and animals. Topics of particular interest are the effects of plant metabolites on nutri-



The Bioethics Imperative X

Continued from The Bioethics Imperative IX

ent use efficiency and parasite control in small ruminants, especially meat goats, and the flavor and shelf-life of meat derived from pasture-raised animals. For pleasure I often choose books related to my career. I have just finished *Eighty Acres: Elegy for a Family Farm*, by Ronald Jager, which vividly and effectively captured my own experiences on the family farm. I recently read *Seeds of Change: Five Plants That Transformed Mankind*, by Henry Hobhouse, and this book is one I recommend to everyone having an interest in plants. Among my favorite books are the Mitford stories by Jan Karon. These I read purely for entertainment.

10. What are your hobbies?

Much of my free time is spent with my husband and other members of the American Chestnut Cooperators' Foundation, trying to develop blight-resistant, all-American chestnut trees and restoring these trees to Appalachian forests.

11. What is your most treasured possession?

My most treasured possessions are my family and my memories of our times together.

12. What do you have left to learn?

I am constantly frustrated by how little I do know. I am lucky that my career affords opportunities to explore so many diverse topics in relative depth, but each new fact points to many more that need to be assimilated. 🌿

“Mokita”: The truth we all know and agree not to talk about. *Papua New Guinea*.

Ideally, you have now established a good working relationship with potential referees by the way that you approached them. Get a firm “yes” one to two weeks in advance from those who will write on your behalf. That means you must assemble your materials before then. “Failure to plan on your part does not constitute an emergency on my part!” is a message that many professors would like to post! Provide clear deadlines, especially if you are asking for multiple letters at once.

If your mentors say “yes,” *ask each one* how they would like to proceed. Do they want

- a stamped, addressed envelope for each letter
- your proposal in draft or only in final form
- a transcript and other supporting material such as your personal statement
- a reminder about their deadline
- their preference about waiving your rights to see the letter
- all the information about the fellowship, meeting, etc., that you are applying for so that they can write something relevant?

A useful reference tells me how the letter writer knows the candidate and for how long, the candidate’s strengths and weaknesses, their work habits and work ethic, their level and source of motivation, their professional interests, and finally a bit about what they are like as a person. Useless letters are incomplete, or from folks who either do not know you or do not know what you are applying for or are internally contradictory (the writer

checks the 25th percentile on the form and sings your praises in prose). These latter letters are to me not ethical!

Cultural and personal style and the experience of the reviewer can play big roles in the tone of the letter but should not impact the strength of the letter. For example, I find that letters from Europeans are colder and less effusive than ones from Americans, and I expect a different level of critique and experience from someone who is early in their career than from someone who is more seasoned.

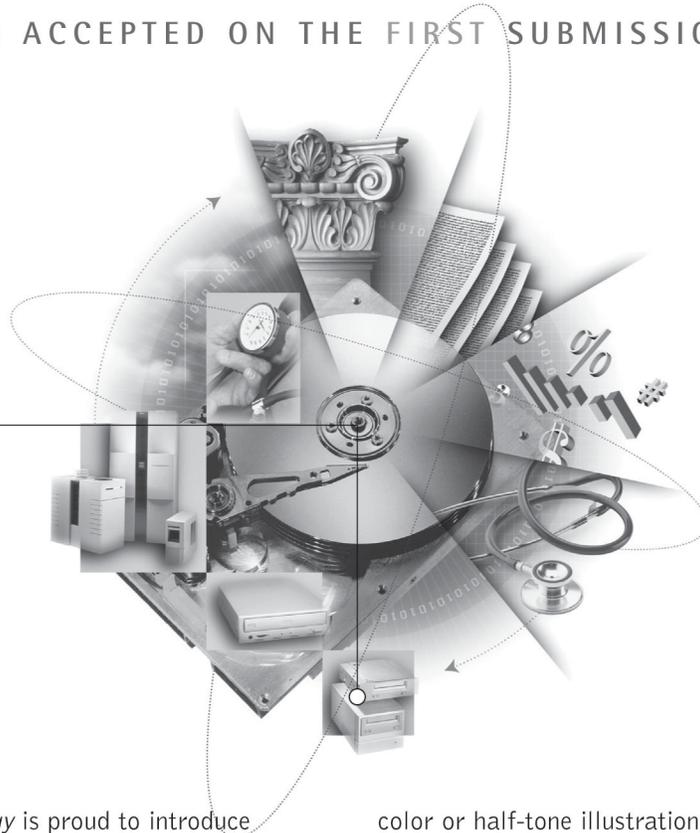
To indicate the degree to which they can recommend you, reviewers will check a percentile ranking and use various adjectives. For example, a weak recommendation will “damn with feint praise” or use no or weak adjectives, whereas a strong letter will use clear language with laudatory adjectives. Try asking your mentor what they think is a good letter of reference—you may open a great discussion about adjectives!

Finally, be proactive in learning which references to use again. You can retain your rights to see the letters, but many referees do not like that. However, a colleague or mentor who has access to your letters may be able to give you some casual feedback without giving names. You will usually hear which letters were strong, so remember those! In general, choose people who know you best. A letter from a teaching assistant does not carry the weight of a letter from your research adviser; status does matter. That said, a letter from someone who knows you well will do more for you than a “big-wig” adviser who barely knows your name!

Next: The Ethics of the Letter Writer 🌿

Dina Mandoli
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IS ACCEPTED ON THE FIRST SUBMISSION?



Plant Physiology is proud to introduce the use of Rapid Inspector™ from Cadmus KnowledgeWorks. This easy-to-use preflighting tool is tailored specifically to *Plant Physiology* graphic specifications, and assures authors of usable, printable graphics on the first submission.

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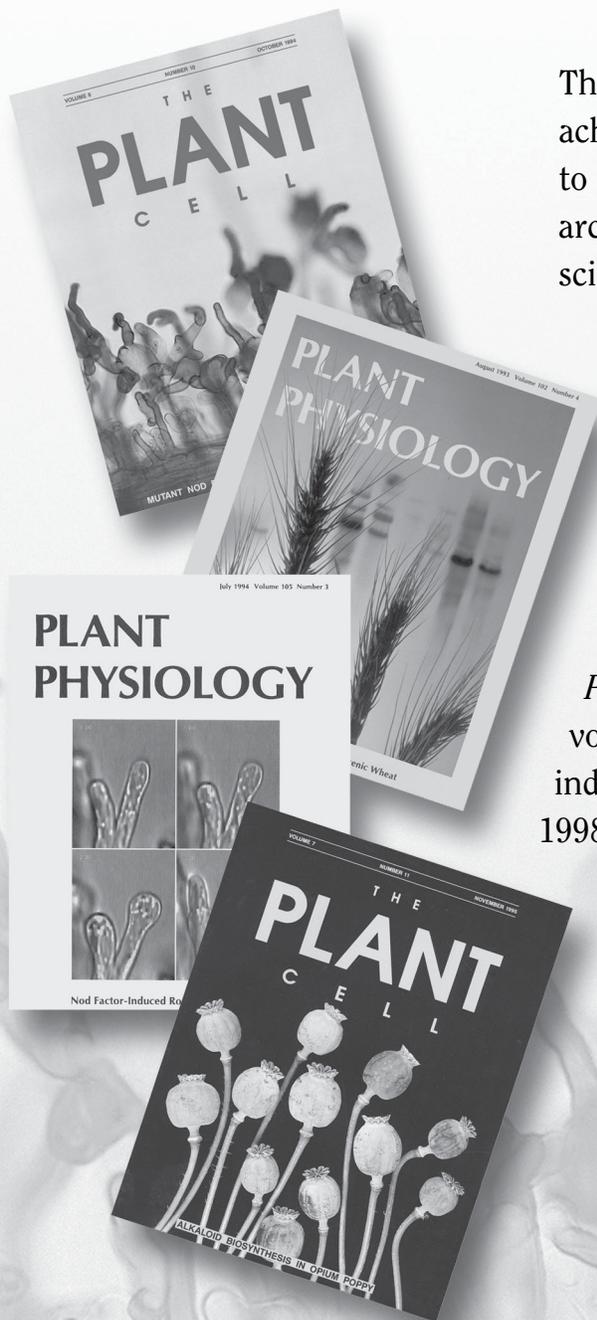
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From the minds of few, to the lives of millions

The Plant Cell & Plant Physiology Archives Now Online!

The American Society of Plant Biologists has achieved another milestone in its commitment to provide online access to the Society's journal archives free of charge to the worldwide scientific community.

All articles published in *The Plant Cell*, beginning with volume 1, January 1989, are now available online at www.plantcell.org. The *Plant Physiology* archive now dates to January 1993 at www.plantphysiol.org. Watch for announcements about expansion of the *Plant Physiology* archive back to the journal's early volumes! All electronic articles have been indexed in PubMed. Articles published prior to 1998 are in searchable PDF format.





USDA Seeks \$200 Million for NRI, \$987 Million for ARS

The president's fiscal year 2004 budget request for the U.S. Department of Agriculture seeks \$200 million for the National Research Initiative Competitive Grants Program (NRI). The FY2002 appropriation for the NRI was \$120 million.

The president sought \$240 million for the NRI in FY2003. The FY2003 appropriations bill that determines actual funding for agricultural research was still pending in Congress when the president made his FY2004 budget request on schedule February 3.

The president's budget documents note that "the proposed appropriation of \$200 million [for the NRI] will represent a substantial increase above recent annual appropriations. For the most part, the 2004 budget extends proposals made for 2003, including proposals to discontinue congressional earmarks."

The budget document adds, "The NRI, along with funding in the ARS budget, is a major source of USDA support for multi-agency collaborative efforts in the field of

genomics. There are opportunities to leverage investments with investments from the National Institutes of Health, the Department of Energy, and the National Science Foundation in projects to map and sequence the genomes of agriculturally important species of plants, animals, and microbes."

"USDA plays an important role in coordinating and participating in interagency workgroups on domestic animal, microbial, and plant genomics. NIH solicits proposals from USDA and USDA cooperators for projects to be carried out at the major genome sequencing centers. The NRI will also support investments in functional genomics and data bases. Access to genomic information and the new tools to exploit it has implications for virtually all aspects of agriculture. Funding at the levels proposed for the NRI is important to take full advantage of the opportunities to collaborate with many other partners. Animal genomics is slated for a \$10 million increase in the NRI, and there is a corresponding increase in the ARS budget of \$4 million."

The president is seeking a FY2004 budget of \$1.019 billion for the Cooperative State Research, Education and Extension Service, a net decrease of \$13 million from the 2003 budget.

The president's 2004 budget for the ARS recommends \$987 million for ARS Research and Information, an increase of \$29 million above the 2003 budget.

The 2004 budget requests \$355 million for plant research, which is an increase of \$9 million. There are increases of \$14 million for pay costs and \$16 million for selected, high-priority programs. Highlights of the proposal for the main program area of plant science include ongoing ARS research to address a wide range of crop production issues, including pest and disease management through use of biologically based technologies, plant genome mapping, and the maintenance and improvement of plant germplasm. The 2004 budget includes a proposed \$3.5 million increase for plant/crop genomics. 

NSF Seeks 9 Percent Budget Hike

The National Science Foundation (NSF) fiscal year 2004 budget calls for \$5.48 billion, which is \$453 million, or 9 percent, more than the FY2003 request of \$5.03 billion. NSF noted that these investments will sustain and build U.S. global leadership in science, engineering, and technology and assist the United States in addressing priorities of immediate national importance.

For the NSF Directorate for Biological Sciences, \$562.22 million is requested for FY2004, which is an increase of \$36.6 million, or 7 percent, over the FY2003 request. The request for the plant genome research program is \$75 million, which is the same as the FY2003 request.

The president's request for NSF Education and Human Resources is up \$30 million, or 3.3 percent, to \$938 million. The FY2004 budget request of the president was released February 3 in advance of the enactment of the FY2003 appropriations bill then pending in Congress.

NSF Director Rita Colwell gave a briefing on the FY2004 budget request February 3 that was attended by ASPB public affairs staff. She said the increase sought by President Bush for NSF leaves no doubt that the president recognizes the value of NSF and embraces NSF's vision. 



NSF Director Rita Colwell

Senator Bond Keynote Speaker Dedicating Crop Genomics Labs

Senator Christopher (Kit) Bond (R-MO) was the keynote speaker during the special celebration dedicating the opening of three crop genomics laboratories at the University of Missouri–Columbia on September 7, 2002. Senator Bond has an outstanding record of championing support for plant research, including plant genome research, in Congress. He is a leading advocate in Congress for the use of modern plant research to address pressing needs in the areas of food security, human health, and the environment. He led successful efforts in gaining an additional \$10 million above the budget request for plant genome research for fiscal year 2003 and has championed support for plant genome research each year since FY1998. In the photo from left: Senator Bond and ASPB members



Henry Nguyen and Gary Stacey. Drs. Nguyen and Stacey recently joined the University of Missouri as Missouri Soybean Merchandising Council–endowed chair professors of genomics and biotechnology. 🌿

DOE Seeks Level Funding in Chemical, Geo, and Biosciences

The Department of Energy (DOE) budget request for fiscal year 2004 seeks \$220.9 million for the combined program of Chemical Sciences, Geosciences, and Energy Biosciences. This amount represents an increase of \$899,000, or 0.4 percent, over FY2004.

Energy Biosciences offers competitive grants to support research on plants and microbes. Energy Biosciences research is administered by Greg Dilworth and his staff, James Tavares and Sharlene Weatherwax. The Chemical Sciences, Geosciences, and Energy Biosciences program is part of the Office of Basic Energy Sciences (BES).

The other merged research program in BES is Materials Sciences and Engineering. Total research funding requested for BES for FY2004 is \$788.6 million. There is also a construction line budget request of nearly \$220 million for BES. The construction budget is down more than 12 percent with the FY2004 request. The combined BES request for research and construction is nearly \$1.01 billion, which is 1 percent below the FY2003 request.

BES is part of the DOE Office of Science. The FY2004 budget request for the Office of Science is \$3.3 billion, which is an increase of \$55 million. 🌿

Important Dates in 2003

April 4–5

Education Foundation Meeting

April 17

Mid-Atlantic Section/ASPB Meeting, National Arboretum, Washington, DC

May 15

Plant Biology 2003—
Early bird registration cutoff

June 6–7

Northeastern Section/ASPB Meeting, Bucknell University, Lewisburg, PA

June 10

Notification of Elected/Award recipients

June 20

Plant Biology 2003—
Housing registration cutoff

July 25 and 29

Executive Committee Meetings/
Hawaii

July 25–30

Plant Biology 2003—
Honolulu, Hawaii

October 22–26

Plant Genetics 2003—
Snowbird, Utah

NIH Responds to Dan Bush's Letter on Importance of Rapid Release of Genomic Sequence Data

ASPB President Dan Bush sent a letter to National Institutes of Health Director Elias Zerhouni December 19, 2002, to point out the importance of rapid release of genomic sequence data to the scientific community and the public. Some genome sequencing centers have requested that their data not be released immediately.

Francis Collins, director of the NIH National Human

Genome Research Institute (NHGRI), sent Bush a letter in response on January 8, 2003. In his letter, Collins said, "We are completely convinced of the merits of providing the scientific community with as much genomic DNA sequence data as possible, in a way that maximizes the scientific usefulness of the data."

Collins added, "As far as I know, there have been no instances in which NHGRI-funded sequencing projects have not released their data immediately. NHGRI is, however, aware of a number of instances in which genome sequencing projects that are not funded by the institute and to which, therefore, the rapid release policy does not pertain, have not released, or have threatened not to release, their data until publication, or have only made the data available on a local web site with a more restrictive set of conditions. The NHGRI does not believe that such behavior is in the best interests of science. But without general acceptance in the scientific community that the laboratories that have worked so hard to generate such large amounts of valuable data should have some ability to be rec-



NHGRI Director Francis Collins

ognized for that work through an initial publication, we are concerned that the incentive for such laboratories to continue sequencing and releasing data will be reduced."

"At the same time, the NHGRI and the Wellcome Trust realize that such a nuanced compromise cannot be effectively introduced and maintained without the full support and cooperation of

the entire biological and biomedical research communities. To that end, the Wellcome Trust has organized an international meeting to discuss this issue, raise awareness about the problem, and stimulate debate and discussion in the community, in hopes of developing a consensus that will meet the needs of both the producers and users of genomic sequence data. This meeting will take place in Fort Lauderdale, Florida, from January 13–15, 2003. I invite you to participate in the discussion that is sure to follow on the meeting."

The issue of timely release of genomic sequence data was presented to the Committee on Public Affairs by committee member Daphne Preuss. Preuss, committee chair Tom Sharkey, and committee members worked with Bush in developing the letter. Following is the body of Bush's letter sent to NIH:

"The American Society of Plant Biologists (ASPB), representing more than 6,000 plant biologists, commends you and your staff on the continuing success of genome research programs sponsored by the National Institutes of Health (NIH).

A key element of the success of the genome research programs has been the rapid release of genome sequence data, without restrictions of any kind, to both the scientific community and to the public. ASPB endorses the long-standing policies established by the Bermuda Agreement and practiced by GenBank and the International DNA databases regarding the immediate release of genome sequence data without restrictions. ASPB believes that the current policy of immediate unrestricted release offers maximum benefits to the science community and the public.

As you know, some genome sequencing centers have requested that their data not be released immediately, or be released with restrictions, in order to provide a preferred right to publish. ASPB feels that this type of restriction is not in the best interest of long-term scientific progress, and that those centers already have ample opportunity to publish their work in a timely manner.

ASPB encourages continued adherence by program officers and grant administrators to the long-standing NIH policies established by the Bermuda Agreement and GenBank—specifically, that data produced by large-scale sequencing efforts should be released immediately and without restrictions. Release requirements should be made clear at the time of the award, and grant administrators should confirm that those requirements have been met.

Thank you for this opportunity to provide our views on the need for continued adherence to sound and widely accepted policies providing the science community with immediate release of large-scale genome data. Please let me know if we can provide any additional information." 

Tom Sharkey Participates in Columbus Science Center Forum on Genetically Modified Foods

Committee on Public Affairs Chair Tom Sharkey participated in a forum on genetically modified foods sponsored by the COSI Science Center in Columbus, Ohio, December 4. The center presented the forum as part of its “Controversies in Science” series.

About 80 people attended the event, including around a dozen high school students in a special enrichment program. Those in attendance included other interested members of the public. Tom was joined by two other speakers, including Joe Kovach, an entomologist at Ohio State University, Wooster, who explained what genetic engineering means and how it is applied to crops, and Martha Herbert, a pedi-

atric neurologist and researcher from Massachusetts General Hospital/Harvard University and member of the Council for Responsible Genetics. She discussed reasons why people are wary of the new technology, including a wish for more respect and thoughtfulness for food. She also repeated the claim that genetic engineering is imprecise.

Tom made the point that genetic engineering is in fact much more precise than current methods for modifying crops. He presented data on reduced pesticide usage, reduced levels of toxins in the food supply, and increased profits for farmers. The audience appeared very supportive of genetic modifications of

crops and happy to have experts to talk to about concerns that have been raised in the news, Tom reported.

The ASPB Public Affairs office received COSI’s request for a speaker just a few days before the forum. Tom adjusted his schedule to fly to Columbus on short notice for the program. His participation in the forum is one of a number of public outreach efforts conducted by ASPB members concerning genetic modification of plants. Partial funding for COSI and Ohio State University for the Controversies in Science Issues Forum was provided by the Battelle Endowment for Technology and Human Affairs. 

Containment Is Key to Pharmaceutical Crops

Committee on Public Affairs Chair Tom Sharkey offered views of some ASPB member scientists concerning a draft guidance for industry on pharmaceutical crops in a letter sent February 6, 2003, to the Food and Drug Administration and U.S. Department of Agriculture. Sharkey noted that effective containment of pharmaceutical crops is essential to protect crops grown for food. Following is the body of Sharkey’s letter:

“The American Society of Plant Biologists (ASPB) Committee on Public Affairs appreciates this opportunity to comment on the draft guidance for industry on drugs, biologics, and medical devices derived from bioengineered plants for use in humans and animals. ASPB is a non-profit society of 6,000 plant scientists founded in 1924 under its former name, the American Society of Plant Physiologists.

The draft guidance released by the Food and Drug Administration and Department of Agriculture seeks to facilitate development of

pharmaceutical crops while maintaining safeguards against cross-pollination of pharmaceutical crops with food crops.

The value to society offered by future pharmaceutical crops is substantial. Promising research on plants engineered to produce compounds for pharmaceutical products could lead to more effective and cost-effective therapies for people throughout the world. Millions of people with disabling and life-threatening illnesses could benefit from new, plant-based pharmaceutical therapies. Millions more people could be immunized against deadly diseases with future plant-based vaccines.

At the same time, insufficient safeguards against cross-pollination of pharmaceutical crops with food crops could pose safety hazards for the food supply, consumers, food producers, and food distributors. The tremendous benefits offered by pharmaceutical crops combined with the potential hazard of

cross-pollination with food crops underlie a need for stringent regulatory guidance.

Following are some of the possible approaches that have been presented by scientists in our membership that would contribute to containment of pharmaceutical crops:

Some in the plant science community have discussed the possibility of limiting development of pharmaceutical crops to non-food crops to prevent the possibility of cross-pollination with food crops. Some other plant scientists have noted, however, that much of the knowledge and infrastructure in the plant science community is based on food crops.

We received further input with regard to specific proteins or gene products. Some plant scientists recommended that the specific protein or gene product engineered into a plant must be considered when

continued on page 22

continued from page 21

deciding whether it should be allowed in food crops. Some proteins may pose sufficient risk that they should never be allowed into food crops. Each proposed modification should be evaluated for benefits and risks and whether the use of food crop species is necessary.

We also received recommendations that genetic containment approaches should be considered for pharmaceutical crops. Use of male sterile plants for pharmaceutical crop production would contribute to containment strategies.

ASPB did not receive a consensus among recommendations from members contacted and does not have enough information at this time to formally endorse one of the above recommendations over another. These recommendations are also not submitted to replace approaches suggested in the draft guidance. These comments are submitted simply to provide insights of plant scientists we have contacted in our membership for the agencies' further consideration and study.

The long-term prospects for the development of pharmaceutical crops depend upon effective containment at all times. An errant mistake by one developer of pharmaceutical plants could result in serious problems for the rest of the industry. Such a mistake could also cause severe financial losses for farmers of food crops and other interests throughout the food distribution chain.

Economic considerations notwithstanding, the overriding factor in containment questions is that the most effective approaches be put in place to protect human health and safety. We commend you in developing and seeking public comment on this important issue. Please let me know if we can provide any additional information." 

Thomas Sharkey

Professor, Department of Botany
University of Wisconsin
Chair, ASPB Committee on Public Affairs

The following article by Nobel Peace Prize laureate and father of the Green Revolution, Norman E. Borlaug, appeared in the January 22, 2003, edition of the Wall Street Journal. It is reprinted here with permission from the author.

Science vs. Hysteria

Mexico City—In 2000, I served on a joint U.S.–European Union Biotechnology Consultative Forum—appointed by President Clinton and Romano Prodi, president of the European Commission—to look at the full range of issues that have polarized thinking about biotechnology, especially in food and agriculture, on both sides of the Atlantic.

While significant differences of opinion existed—mainly related to the regulatory structure on certifying agri-biotech products—most of the 20 U.S. and European experts on the panel agreed that agricultural biotechnology holds great promise to make dramatic and useful advances during the 21st century. The most prestigious national academies of science in North America and Europe (including the Vatican) also have come out in support of genetic engineering to improve the quantity, quality, and availability of food supplies.

Unfortunately, the debate about the safety and utility of genetically modified (GM) crops continues to grow, and now looks to be heating up further. The U.S. is considering filing a challenge at the World Trade Organization to break the European Union's four-year moratorium on importing GM crops. Although the European Commission agrees that the ban needs to be lifted, various member states refuse to do so until more stringent GM labeling regulations are put in place.

The U.S. is contemplating a WTO suit because European resistance to GM foods is increasingly influencing the trade policies of other nations, to the point where some African governments recently have turned down American GM grain intended for starving people. U.S. Trade Representative Robert Zoellick says he has information that several European countries are threatening to make economic aid to developing countries contingent on whether they prohibit biotech crops. If this is true, it would be tragic and grossly irresponsible.

Although there have always been those in society who resist change, the intensity of the attacks against GM crops from some quarters is unprecedented and, in certain cases, even surprising, given the potential environmental benefits that such technology can bring by reducing the use of pesticides. Genetic engineering of crops—plant breeding at the molecular level—is not some kind of witchcraft, but rather the progressive harnessing of the forces of nature to the benefit of feeding the human race. The idea that a new technology should be barred until proven conclusively that it can do no harm is unrealistic and unwise. Scientific advance always involves some risk of unintended outcomes. Indeed, “zero biological risk” is not even attainable.

Zambian President Levy Mwanawasa



Norman E. Borlaug

says he's been told by anti-biotechnology groups that donated American corn is "poison" because it contains genetically modified kernels. Based on such misinformation, he is willing to risk thousands of additional starvation deaths rather than distribute the same corn Americans have been eating for years with no ill effects.

Some other African leaders whose people also are facing hunger and starvation say they're afraid to accept genetically modified corn because its pollen will "contaminate" local corn varieties with dire environmental consequences. Also, they say that they hope to export corn to Europe in the future and fear that their products would be rejected if genetically modified foods were allowed to enter their countries.

These concerns are unfounded. Temperate-zone corn (either GM or normal) will not grow well in tropical African ecologies and, moreover, it has yellow grain while Africans prefer white grain. Thus, even if a curious farmer were to plant some GM grain received as food aid, its continued presence in the field is unlikely. Certainly in the case of Zambia, a land-locked country with poor transportation and low agricultural productivity, the prospects for exporting corn to Europe in the foreseeable future are almost zero.

If low-income, food-deficit nations—which desperately need access to the benefits of science and technology—are being advised by governments and pressure groups in privileged nations to reject biotechnology, based on ideologically inspired pseudo-science, there is reason for serious concern. Of course, proper safeguards need to be put in place in Africa and elsewhere to regulate biotechnology research and the release of GM products. But to attempt to deny such benefits would be unconscionable.

Current GM crop varieties that help to control insects and weeds are lowering production costs and increasing harvests—a great potential benefit to all Third World farmers. Future GM products are likely to

carry traits that will improve nutrition and health. All of these technologies have more benefits to offer poor farmers and consumers than rich ones.

For example, Kenya is ready to field-test virus-resistant sweet potatoes that should yield 30% to 50% more of this important food staple. Virus-resistant bananas and potatoes have already been bred, but are being barred in African countries where people urgently need their higher yields. Indian researchers are developing a vaccine against the epidemic livestock disease, rinderpest, which can be genetically engineered into peanut plants. African farmers would be able to protect their draft animals simply by feeding them the peanut plants—again if biotech is allowed.

The needless confrontation of consumers against the use of transgenic crop technology in Europe and elsewhere might have been avoided had more people received a better education in biological science. This educational gap—which has resulted in a growing and worrisome ignorance about the challenges and complexities of agricultural and food systems—needs to be addressed without delay.

Privileged societies have the luxury of adopting a very low-risk position on the GM crops issue, even if this action later turns out to be unnecessary. But the vast majority of humankind does not have such a luxury, and certainly not the hungry victims of wars, natural disasters, and economic crises.

Without adequate food supplies at affordable prices, we cannot expect world health, prosperity, and peace.

Responsible biotechnology is not the enemy; starvation is. 

Dr. Borlaug, the 1970 Nobel Peace laureate, is a professor of international agriculture at Texas A&M University.

Arntzen "Planting Hope" with "Cool Inventions," *Forbes*, *Time* Report

The November 18, 2002, issue of *Time* and the January 20, 2003, issue of *Forbes* both feature articles on research conducted by ASPB member Charles Arntzen. Arntzen is conducting research to engineer plants to produce pharmaceutical compounds for use as vaccines against dreaded human maladies.

Time selected Arntzen's research on plant-derived vaccines for recognition as one of the "coolest inventions" in its November 18 edition. The two-page *Forbes* article on "Planting Hope" reported that Arntzen has spent \$5 million on research already and needs \$20 million to get through late-stage trials. Federal support for Arntzen's research in various areas over a number of years contributed to his base of knowledge that led to his current plant-based vaccine research.

For a story on the draft guidance to industry on pharmaceutical crops, please see page 21 in this issue of the *ASPB News*. 



Charles Arntzen



Compiled and edited by Sheila Blackman, Grand Valley State University, Biology, 1 Campus Drive, Allendale, MI 49401, e-mail blackmas@gvsu.edu

Regional Math/Science Centers Can Mediate Transfer of Primary Research to Broader Community

The new format for National Science Foundation grant proposals requires that proposals show how the results will be disseminated so as to have a broad impact on society. One way to achieve broader societal impacts of scientific research is to use the results to benefit science education, not only in the undergraduate college classroom but also in the K-12 classroom. However, there are considerable challenges in adapting research findings for use by the K-12 community, whether the goal is to enhance teacher confidence in the subject matter (workshops, etc.) or to develop teaching exercises for youngsters. Connecting individually with in-service teachers is not an easy option for most research scientists, and developing outreach via this route sometimes can involve a long and painful trial-and-error period. Teachers are generally strapped for time and wary of genuine but inept attempts by well-meaning scientists to present material in their classrooms. They are usually not going to take it upon themselves to pilot untried activities in their classrooms or to allow scientists to come in and do the same. Developing the expertise and relationships with teachers requires a commitment of time and energy from both parties. This represents a considerable diversion from research activities for scientists.

One solution is for science departments or divisions to establish units or ties with units whose main role is to liaise with the K-12

community. Examples of these units are the regional or local math and science centers that serve local geographic areas. Sometimes these centers have strong institutional ties to colleges (often regional colleges), and sometimes they may be affiliated and spearheaded by museums, zoos, nature centers, or school districts. They are staffed by professionals who understand the needs of the K-12 community and who also can work with professionals in higher education.

The State of Michigan established a Mathematics and Science Centers Program in 1988-1989 to provide competitive grants to establish regional Mathematics and Science Centers in cooperation with local schools, institutions of higher education, local business and industry, and community organizations. The mandate of these centers is to serve their local counties, and they are often more likely to be actively allied with regional colleges, where aspiring teachers constitute a larger proportion of the undergraduate enrollment than with large, national-caliber research universities.

There are now 33 such centers across the state. They provide support to districts as they identify ways to enhance and improve their existing science and mathematics curriculum; unique programs for students in grades K-12, including summer camp experiences, workshops, field studies, field trips, etc.; professional development for teachers; a resource clearinghouse of equipment, classroom activi-

ties, literature, and information; and leadership on key issues related to science and mathematics education. Nearly every center obtains external funding in addition to that provided through the state. Some centers have formed excellent partnerships with local businesses and industries, whereas others have tapped community groups or foundations. The result has been an impressive and collaborative effort by the schools, centers, and communities to improve the quality of mathematics and science education in Michigan.

The centers are usually staffed with professionals who not only understand the needs of the K-12 community and interact extensively with it, but who also can work with research scientists. In the case of the Regional Math and Science Center at Grand Valley State University (GVSU), the staff recognize that there are considerable challenges involved in adapting findings of research scientists for use by the K-12 community. When I asked Mary Ann Sheline, director of the GVSU Regional Math and Science Center, whether she would be receptive to working with science professionals from anywhere in our state to realize their outreach ideas, she enthusiastically replied in the affirmative, with the proviso that they be willing to work within the region serviced by the GVSU center and that they bring funds necessary for mounting the proposed activity.

Although Michigan is somewhat unique in possessing such a comprehensive and coordinated network of Mathematics and Science Centers, a quick search on the web shows that they also exist in some form in other states. In some cases, they are large, statewide entities with federal monies. However, smaller centers often exist in museums, zoos, nature centers, and regional colleges. Thus, local math/science could offer the link necessary to establish successful outreach activities for many research scientists.

Deadlines for ASPB News

We invite you to submit articles and letters to the ASPB News. Deadlines for submission of copy follow:

Issue	Deadline
May/June 2003	April 5, 2003
July/August 2003	June 5, 2003
September/October 2003	August 5, 2003
November/December 2003	October 5, 2003
January/February 2004	December 5, 2003
March/April 2004	February 5, 2004

Principles of Plant Biology Bookmarks—NOW AVAILABLE

New, full-color bookmarks, each depicting a different principle of plant biology, are now available in limited quantities at no cost to ASPB members. The bookmarks are designed by Carol Reiss of Brown University, past chair and current adjunct member of the Education Committee.

NEW BOOKMARKS

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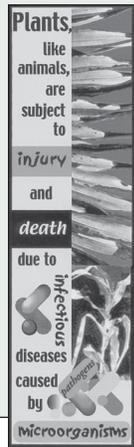
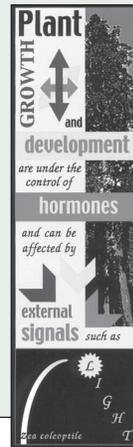
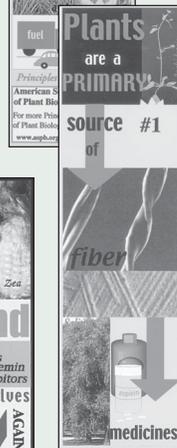
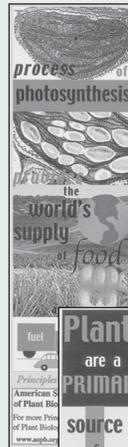
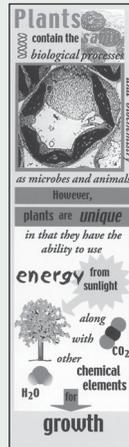
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Richard Harry Hageman

Richard “Dick” Harry Hageman, professor emeritus, was born April 14, 1917, in Powell, Wyoming, a son of Frank and Creda Wright Hageman. He died December 4, 2002, in Mt. Pleasant, Michigan. He married Margaret Elizabeth Catlett on August 14, 1941, in Waleetka, Oklahoma. He graduated from Kansas State University in 1938 with a B.S. in chemistry and received his M.S. in chemistry from Oklahoma A&M College in 1940. After working for two years as an assistant chemist at the Kentucky Agricultural Experiment Station, he served in the Army Chemical Corps from 1942 to 1946, training troops in protective tactics against chemical warfare agents. He continued to serve in the Army Reserve until 1968, when he retired with the rank of colonel. Following his active-duty military service, he resumed physiological research in the chemistry section of USDA in Mayaguez, Puerto Rico. He returned to graduate studies in 1950 with Professor Daniel Arnon and received his Ph.D. in plant physiology at the University of California at Berkeley in 1953. Dr. Hageman then joined the Department of Agronomy at the University of Illinois in 1954 as an assistant professor of plant physiology, advancing to associate professor in 1957 and to professor in 1961.

He avidly pursued a research/teaching career at the University of Illinois and broadened his horizons with sabbatical leaves to the Long Ashton Research Station, Bristol, England (1960–1961), as a Rockefeller fellow; to the Department of Biochemistry, Michigan State University (1967–1968) as a visiting professor; and to the University of Melbourne, Melbourne, Australia (1975–1976), on a senior research scholar award from the Australian–American Educational Foundation. He retired from the University of Illinois in 1984 after an illustrious 30-year research/teaching career.

Professor Hageman’s distinguished career at the University of Illinois involved pioneering research on the application of plant biochemical and physiological techniques to

improve crop productivity. He was the first to isolate and characterize leaf nitrite reductase from plants. This research, together with his work on determining the intracellular localization of nitrate and nitrite reductase and on the identification of the primary source of reductant for nitrate reductase, played a major role in establishing the metabolic pathway and limitations of nitrate assimilation in leaves. He enthusiastically pursued the concept that rate-limiting enzymes—exemplified by his research on nitrate reductase—served as physiological control points limiting crop productivity.

This fertile research area was the subject of many of the graduate and postdoctoral students who studied under Dr. Hageman. He was one of only six plant scientists (among 1,000 scientists in all disciplines) whose publications were cited most frequently by their peers during the period of 1965–1978. Indeed, he published extensively, with more than 25 book chapters and 140 technical papers detailing his research.

In addition to his research, Professor Hageman exerted a major influence on the direction of plant physiology as a science through his guidance of students, associates, and junior faculty. The upper-level graduate course, *Enzymes and Metabolic Pathways of Plants*, which he taught for many years, attracted students from various disciplines. Because of the rigor, it was widely appreciated by students who were seeking information on how specific biochemical processes were integrated in whole plant function. Many of the more than 50 students and postdocs who undertook research projects in his laboratory are today widely known for their work and in many cases carry on the Hageman tradition of approaching plant productivity through the identification and characterization of rate-limiting enzymes.

Professor Hageman served in many capacities in professional societies, including membership in several and service on the executive committees of ASPB and the Crop

Science Society of America; as vice president and president of the Midwest Section of ASPB; on the editorial boards of *Plant Physiology*, *Plant Biochemical Journal*, *Crop Science*, and *Agronomy Journal*; and on numerous grant panels and award committees.

He received several prestigious awards, including the Crop Science Achievement Award, Agronomic Research Award, Fellow of the Crop Science Society, Fellow of the American Society of Agronomy, Duggar Award, Funk Award for Research, Spencer Award for Outstanding Achievement in Agricultural Chemistry, Hoagland Award, and the Alumni Fellow Award from Kansas State University. The breadth of his awards attests to his broad array of scientific endeavors to improve crop productivity for betterment of agriculture and mankind.

In addition to a sterling research/teaching career at the University of Illinois, Dr. Hageman was an inspiring mentor for many students, a strong family person, and a close friend to many of us. He enjoyed woodworking and was an avid gardener who did not spare the nitrogen and had a running battle with squirrels in the fruit trees. He is survived by his wife Elizabeth (Liz) of 61 years; one son, James, of Mount Pleasant; two daughters, Peggy Burke, of Mount Pleasant, and Janet Chrispeels of Santa Barbara; 12 grandchildren; and six great-grandchildren. 🌿

Memorials may be made to the KSU Foundation to support the Hageman Lecture Fund. Mail to KSU Foundation, 2323 Anderson, Suite 500, Manhattan, KS 66502.

**Jim Harper
Fred Below
Marlowe Thorne
John Hanson**
University of Illinois

A N N O U N C E M E N T

Letters to the Editor

LET US HEAR FROM YOU!

The *ASPB News* welcomes comments on topics covered in the newsletter and on other points of interest to the profession. Letters are published as space permits and may be edited for clarity and length. Submissions may not necessarily be published; receipt is not acknowledged. Mail letters to Editor, *ASPB News*, 15501 Monona Drive, Rockville, MD 20855-2768 USA; e-mail nancyw@aspb.org.

Journal of Food, Agriculture, and Environment (JFAE)

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Publisher: WFL (Helsinki, Finland)

Research on Food and Agriculture is progressively moving toward an interdisciplinary study of sustainable food production to meet the demand of growing human populations. However, as more countries industrialize, there is an increase in air and water pollution and soil contamination as well as elevated levels of global warming and depletion of the ozone layer. This complex scenario challenges researchers to develop and test more appropriate technologies for sustainable agriculture. Research, for example, is being carried out to overcome problems of environmental stress; minimize the use of pesticides; slow post-harvest storage losses; and explore nutrition, animal science, and human health, by using conventional and new technologies such as biotechnology, mutation-assisted breeding, and molecular biology.

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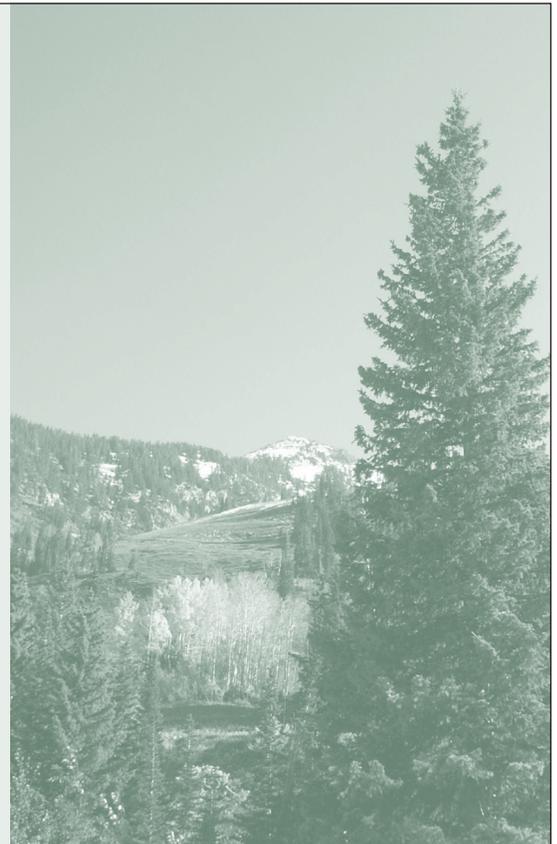
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ASPB Plant Genetics 2003: Mechanisms of Genetic Variation

Online registration is now open for the first event in ASPB's new annual specialty conference series: Plant Genetics 2003. The conference is scheduled for October 22–26 at the Snowbird Resort & Conference Center in Snowbird, Utah.

Seven scientific symposia will address the nature and mechanisms of genetic variation and their effects on evolution of plant form and function, as well as on plant speciation and crop domestication. The conference's secluded location and schedule are designed to facilitate ongoing discussion and interaction between presenters and attendees. All speakers will be on hand throughout the conference.

Conference details and online registration can be found at <http://www.aspb.org/meetings/pg-2003>. To receive information by fax or mail, contact Susan Rosenberry at chambers@aspb.org or 301-251-0650, extension 111.



ASPB Headquarters

Telephone Extensions and E-Mail Directory

For your convenience, keep this listing of extension numbers and e-mail addresses handy when you contact ASPB headquarters so that you can reach the person best able to assist you.

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