

Response

Lovins questions the conclusion that current regulatory mechanisms are sufficient to oversee foods developed through genetic modification. The fact is that the FDA has absolute legal right over the foods developed by any process. New varieties produced by means of biotechnology must be shown to possess chemical equivalence with the parent materials; such proof is provided by the company making application. After review (generally requiring 12 to 18 months), the FDA rules to accept or reject; it also holds the right to remove any food product at a later date. The EPA evaluates the environmental safety of any new pesticidal product (such as the *Bt* protein), and sets daily allowances of residues of the protein and/or its derivatives in the food or in the environment. The USDA determines whether the new variety does or does not have impacts on the ecology of the environment in which it is planted and, accordingly, determines acceptability. These processes together can require up to 6 years to gain approval of a new variety developed by genetic transformation. Such requirements are not required of varieties produced by chemical or radiation mutagenesis, or by other techniques used in plant breeding.

Lovins and board members of the Council for Responsible Genetics question the independence of the Donald Danforth Plant Science Center. Legal documents that establish the Center are open to the public and confirm the independence from Monsanto Company and other companies. I would not have accepted the position as president and director of the center under other conditions. Like the authors of the letters, I, too, believe in full disclosure. I am currently a member of the Science Advisory Board of Akkadox, in San Diego, a newly established corporation, and Advisor for Biotechnology for the Rohm and Haas Corporation, in Philadelphia. I have not received support for sponsored research from the Monsanto Company since 1991 and have served only as an ad hoc consultant. I have served as an ad hoc consultant and advisor for a variety of other biotechnology companies since 1982.

I respect the right of others to disagree and expect all reputable scientists to present accurate information and honest conclusions. Regardless of the differences of opinions expressed in these letters, I believe that all can agree that the more scientists learn about plants, both within or outside of agriculture, the greater the likelihood that we will develop sustain-

able methods to meet the challenges of a growing population.

Roger N. Beachy

Donald Danforth Plant Science Center, St. Louis, MO 63105, USA

Common Courtesy

My colleagues should know that some private postdoctoral fellowship agencies now send critiques of applications to applicants. Persons who write letters of reference for applicants are not notified in advance that these letters may be quoted explicitly in the critiques. It is not difficult to match explicit quotations with specific individuals who have been asked to write letters of reference. Such a practice on behalf of the agencies destroys confidentiality and, at the very least, if it is not illegal, it lacks common courtesy.

Sidney Altman

Department of Molecular, Cellular and Developmental Biology, Yale University, New Haven, CT 06520-8103, USA

Credit Due

In the News of the Week article "Keeping bone marrow grafts in check" by Michael Hagmann (16 July, p. 310), which accompanied the report by W. D. Shlomchik *et al.* in the same issue (p. 412), the first au-



NATIONAL ACADEMY OF SCIENCES COLLOQUIUM

VIRULENCE AND DEFENSE IN HOST-PATHOGEN INTERACTIONS

COMMON FEATURES BETWEEN PLANTS AND ANIMALS

DECEMBER 9-11, 1999

The Arnold and Mabel Beckman Center, Irvine, California

Organized by Noel T. Keen, R. James Cook, Brian J. Staskawicz, John J. Mekalanos and Fredrick M. Ausubel

Virulence Mechanisms in Pathogens

Jorge Galan, Yale Univ. School of Medicine, *Modulation of the host-cell actin cytoskeleton by the Salmonella type III secretion system*

Frances Jurnak, UC Irvine, *Structure and function of pectic enzymes---virulence factors of plant pathogens*

Dan Portnoy, UC Berkeley, *Pathogenicity and immunogenicity of Listeria monocytogenes*

Alan Collmer, Cornell University, *Type III mediated translocation of plant effectors by Pseudomonas syringae*

Guy Cornelis, Catholic University, Brussels, Belgium. *Type III secretion and translocation of Yersinia Yops*

Ulla Bonas, Univ. of Halle, Germany, *Type III secretion and targeting of bacterial proteins from plant and animal pathogens by Xanthomonas campestris pv. Vesicatoria*

Jeff Miller, UCLA, *Signal transduction during the Bordetella infectious cycle*

Lory Rahme, Harvard University, *Multihost pathogenesis systems---Pseudomonas aeruginosa-Coenorhabditis elegans interactive genetics*

Peter Greenberg, Univ. of Iowa, *Communication systems and group behavior in Pseudomonas aeruginosa*

William Goldman, Washington Univ., St. Louis, *Fungal-host interactions as exemplified by Histoplasma capsulatum*

Brett Finlay, Univ. of British Columbia, *Enteropathogenic E. coli*

David Relman, Stanford Univ., *Global host gene expression responses during infection*

Active Defense Mechanisms in Hosts

Kathryn Anderson, Sloan Kettering Inst., *Drosophila Toll receptor pathways*

Jonathan Jones, John Innes Inst., England, *Role of toll-like proteins in disease resistance of plants*

Charles Janeway, Howard Hughes Medical Inst., Yale Univ., *Mammalian Toll-like receptor pathways*

Gourisankar Ghosh, UC San Diego, *The NF- κ B pathway in Vertebrates*

Jeff Dangl, Univ. North Carolina, *Perception of pathogen signals by plants*

Gerry Pier, Harvard University, *Innate defense mechanisms on mucosal surfaces*

Matthew Mulvey, Washington Univ. School of Medicine, St. Louis, *Innate Host defenses against uropathogenic E. coli*

Greg Martin, Boyce Thompson Inst., Cornell Univ., *Pathogen recognition and signal transduction mediated by the product of the Pto disease resistance gene*

Carl Nathan, Weill Medical College, Cornell Univ., New York City, *Reactive oxygen and nitrogen species in animal defense: mechanisms of microbial resistance*

Dan Klessig, Rutgers University, *NO and salicylic acid signaling in plant defense*

Robert Hancock, University of British Columbia, *Antimicrobial peptides in animal defense*

Bud Ryan, Washington State Univ., *Defense signaling and response pathways in plants against pests*

Keynote address, David Baltimore, president, California Institute of Technology, *Isn't Microbiology out-dated?*

Space for this meeting is limited, so please register early

For additional information: Email: epatte@nas.edu Web: www.nas.edu/nas/colloquia

SCIENCE'S COMPASS

thor of the report, Warren Shlomchik, is not mentioned. He was primarily responsible for the ideas and execution of the experiments. We, the senior authors of the report, would like to set the record straight and give credit where credit is due.

Stephen G. Emerson

Department of Medicine, Hematology and Oncology, and Department of Pediatrics, University of Pennsylvania School of Medicine, Philadelphia, PA 19104, USA. E-mail: emersons@mail.med.upenn.edu

Mark J. Shlomchik

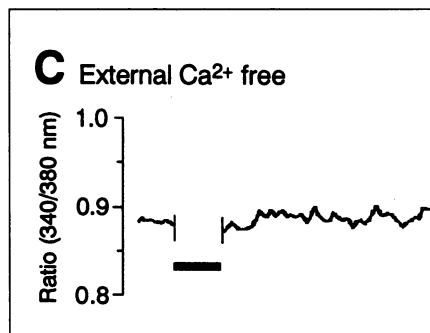
Department of Laboratory Medicine, and Department of Immunology, Yale University School of Medicine, New Haven, CT 06510, USA. E-mail: mark.shlomchik@yale.edu

CORRECTIONS AND CLARIFICATIONS

In the Table of Contents for the issue of 13 August (p. 976), the legend for the photo illustrating page 1033 should have read, "Eukaryote origins put back a billion [not a 'million'] years."

The Viewpoint "A realizable renewable energy future" by John A. Turner (Energy, 30 July, p. 687) contained an error on page 689. The end of reference 14 should have read, "(available at www.eren.doe.gov/hydrogen/pdfs/25315o.pdf)."

Figure 4C (p. 885) in the report "Molecular identification of a eukaryotic, stretch-activated nonselective cation channel" by M. Kanzaki *et al.* (6 Aug., p. 882) was incorrect. The correct figure appears below.



In the Report "Estimation of particulate organic carbon in the ocean from satellite remote sensing" by D. Stramski *et al.* (9 July, p. 239), the caption for figure 1 on page 240 was incorrect. The second sentence should have read, "The fitted equation (solid line) for the APFZ is $POC = 17069.0(\pm 1.3) \cdot [b_{bp}(510)]^{0.859(\pm 0.046)}$ ($r^2 = 0.918$, $n = 33$), while the corresponding equation (dashed line) for the Ross Sea is $POC =$

$$476935.8(\pm 1.5) \cdot [b_{bp}(510)]^{1.277(\pm 0.061)} \quad (r^2 = 0.953, n = 24)."$$

The e-mail address of Robert M. Hamilton, the second author of the editorial in the issue of 18 June (*Science's Compass*, p. 1927), was incorrect. It should have been "bhamilton@nas.edu."

Two of the labels for figure 1A (under "Aware") in the Report "Interactions of prefrontal cortex in relation to awareness in sensory learning" by A. R. McIntosh *et al.* (28 May, p. 1531) were incorrect. They should have read, "Tone+/Target" instead of "Target+/Target" and "Tone-/Target" instead of "Target-/Target."

In the Report "Evolution of a protein fold in vitro" by M. H. J. Cordes *et al.* (9 Apr., p. 325), the protein data base GenBank accession number for the mutant protein was not given. It has now been assigned as 1QTG.

Table 2 of the Review "Genome sequence of the nematode *C. elegans*: A platform for investigating biology" by The *C. elegans* Sequencing Consortium (11 Dec. 1998, p. 2012) contained an error. The number of protein genes on the right arm of chromosome V should have been 1782, not 1018, as published.

Make the most of our
**Customer
Service Staff**

■ **Subscribe**

■ **Renew**

■ **Change
your address**

■ **Claim missing
back issues**

■ **Order
additional
copies**

Telephone

Europe:

+44 (0) 1223 326500

USA:

+1 202 326 6417

Fax

Europe:

+44 (0) 1223 326501

USA:

+1 202 842 1065

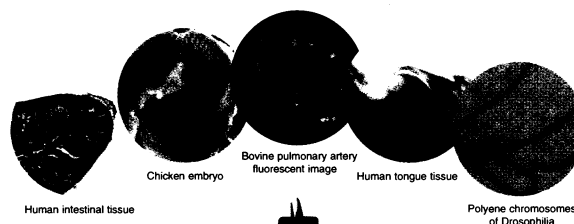
Email

membership@aaas.org

We are here to help you

Science

LOOK AT THESE IMAGES.



Now, Look PRICE: \$1195.*

**THE 1-MILLION-PIXEL
DIGITAL CAMERA SYSTEM**
No matter what your photomicroscopy application, you cannot get better image quality at a lower price than with a Pixera digital camera system. In fact, to match Pixera's million-pixel resolution, you would have to spend at least 5 times as much. And Pixera gives you everything you need including a full suite of application software so you can visualize, create and communicate.

**NOW—THE PERFECT TOOL
FOR TELEMEDICINE.**
You can capture two- or three-dimensional still or moving images directly to your PC, Mac, or laptop and then manipulate, organize, archive, and communicate those images via video conferencing or e-mail. A new PCI card makes the system unbelievably easy to install and to use. For more information, visit our web site at www.pixera.com or call toll-free 1-888-4 PIXERA.

pixera

*US list price

All images were captured at 1280 x 1024 pixels with a Pixera Professional Digital Camera mounted on a microscope with a standard C-mount adapter.
140 Knowles Drive, Los Gatos, CA 95030 www.pixera.com ©1998 Pixera Corporation.

Circle No. 15 on Readers' Service Card