

# SCIENCE

Published by the American Association for the Advancement of Science (AAAS), *Science* serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or conflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all articles published in *Science*—including editorials, news and comment, and book reviews—are signed and reflect the individual views of the authors and not official points of view adopted by the AAAS or the institutions with which the authors are affiliated.

The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objectives are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, to advance education in science, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.

## Membership/Circulation

**Director:** Michael Spinella  
**Deputy Director:** Marlene Zendell  
**Member Services:** Rebecca Dickerson, *Manager*; Mary Curry, *Supervisor*; Pat Butler, Helen Williams, Laurie Baker, *Representatives*  
**Marketing:** Dee Valencia, *Manager*; Jane Pennington, *Europe Manager*; Hilary Baar, *Associate*; Angela Mumeka, *Coordinator*  
**Business and Finance:** Jacquelyn Roberts, *Manager*; Robert Smariga, *Assistant Manager*  
**Administrative Assistant:** Nina Araujo de Kobes  
**Science Member Services**  
Marion, Ohio: 800-347-6969;  
Washington, DC: 202-326-6417  
**Other AAAS Programs:** 202-326-6400

## Advertising and Finance

**Associate Publisher:** Beth Rosner  
**Advertising Sales Manager:** Susan A. Meredith  
**Recruitment Advertising Manager:** Janis Crowley  
**Advertising Business Manager:** Deborah Rivera-Wienhold  
**Finance:** Randy Yi, *Senior Analyst*; Shawn Williams, *Analyst*  
**Marketing:** John Meyers, *Manager*; Allison Pritchard, *Associate*  
**Traffic Manager:** Tina Turano  
**Recruitment:** Terri Seiter, *Assistant Manager*; Dan Moran, *Traffic Manager*; Debbie Cummings, Celeste Wakefield, Angela Wheeler, *Sales*  
**Reprints Manager:** Corrine Harris  
**Permissions Manager:** Arlene Ennis  
**Sales Associate:** Carol Maddox

**PRODUCT ADVERTISING SALES: East Coast/E.**  
**Canada:** Richard Teeling, 201-904-9774, FAX 201-904-9701 • **Southeast:** Mark Anderson, 305-856-8567, FAX 305-856-1056 • **Midwest:** Elizabeth Mosko, 312-665-1150, FAX 312-665-2129 • **West Coast/W.** **Canada:** Neil Boylan, 415-673-9265, FAX 415-673-9267 • **UK, Scandinavia, France, Italy, Belgium, Netherlands:** Andrew Davies, (44) 457-838-519, FAX (44) 457-838-898 • **Germany/Switzerland/Austria:** Tracey Peers, (44) 270-760-108, FAX (44) 270-759-597 • **Japan:** Mashy Yoshikawa, (3) 3235-5961, FAX (3) 3235-5852  
**RECRUITMENT ADVERTISING SALES: US:** 202-326-6555, FAX 202-682-0816 • **Europe:** AnneMarie Vis, (44) 0223-302067, FAX (44) 0223-302068 • **Australia/New Zealand:** Keith Sandell, (61) 02-922-2977, FAX (61) 02-922-1100  
Send materials to *Science* Advertising, 1333 H Street, NW, Washington, DC 20005.

**Information for Contributors** appears on pages 37–39 of the 7 January 1994 issue. Editorial correspondence, including requests for permission to reprint and reprint orders, should be sent to 1333 H Street, NW, Washington, DC 20005.

**Internet addresses:** science\_editors@aaas.org (for general editorial queries); science\_letters@aaas.org (for letters to the editor); science\_reviews@aaas.org (for returning manuscript reviews)

# LETTERS

## Agricultural Research at Berkeley

Marcia Barinaga's News & Comment article of 11 March, "A bold new program at Berkeley runs Into trouble" (p. 1367), raises appropriate questions about the future directions of research at both the University of California and the nation's agricultural experiment stations. Unfortunately, her treatment of the issue is strongly biased.

By parading a series of "red herrings" concerning my proposal to realign the California Agricultural Experiment Station, Barinaga diverts attention from the issue at hand—debilitating reductions in state budget support and disproportionately large losses of faculty and staff in agricultural production departments on the campuses at Berkeley, Davis, and Riverside during the past 4 years.

Since 1990–1991, state support for the systemwide experiment station has been reduced by \$15 million—about 16%—as a result of California's fiscal crisis. Three early retirement incentive programs implemented to accommodate these budget cuts have contributed heavily to a total loss of 74 full-time researchers—about 11%—in the experiment station. An additional round of retirements will occur in the forthcoming academic year. Nearly 30% of the systemwide losses in experiment station faculty to date have taken place in two departments—entomology and plant pathology; nearly 45% of the retirements projected for 1994–1995 at the Berkeley branch of the experiment station are expected to occur in the same two departments. At Davis, substantial losses also have been incurred in departments such as agronomy and range science, animal and avian science, vegetable crops, and pomology, with more to come in 1994–1995. These losses jeopardize the capacity of the experiment station to maintain excellence in its mission-oriented, agriculturally focused research programs. My proposal addresses the issue by consolidating agriculturally focused research on two campuses—Davis and Riverside—allowing Berkeley to focus its remaining resources on fields in which it has a comparative advantage, such as natural resources.

The dispute arises from the desire of the Berkeley campus to retain agriculturally focused resources formerly deployed in departments such as entomology and plant pathology and, in effect, redirect their use to self-proclaimed "bold new programs" involving ecology and environmental sciences. Under circumstances of less severe

budget restrictions, such redirection of agricultural experiment station funds might be justified if a significant relationship to agriculture could be demonstrated. However, that is not the reality of today.

The experiment station budget has been substantially downsized with little prospect for recovery. We can no longer afford three departments of entomology and plant pathology and three programs in soil science. Nor can we responsibly concur in redirection of agriculturally focused resources at Berkeley when such research programs are in jeopardy in the systemwide experiment station as a whole. Experiment station resources are not fungible for use in support of university research in general or in the abstract, but are for specific, legislatively mandated, mission-oriented research purposes related to agriculture. Underlying the struggle at Berkeley is the desire of some faculty and administrators to redirect experiment station resources to self-defined disciplinary research that has no demonstrable relevance to agriculture.

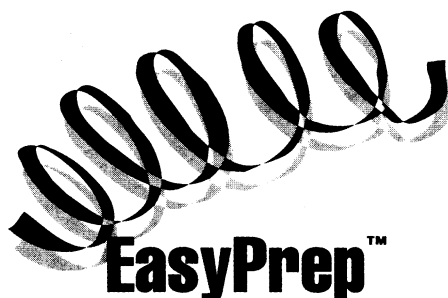
Finally, I must object to Barinaga's use of pejorative quotations and innuendo. A representative sample of viewpoints beyond the Berkeley campus would have resulted in a more objective characterization of the issues.

**Kenneth R. Farrell**  
Vice-President—Agriculture  
and Natural Resources,  
Office of the President,  
University of California,  
Oakland, CA 94612–3560, USA

Barinaga's article presents a limited view of the realignment of Agricultural Experiment Station (AES) resources in the University of California as proposed by Vice President Kenneth Farrell. The viewpoint expressed is one that is held by some faculty who seem interested in "circling the wagons" to protect resources at all costs, independent of programmatic needs.

The reality is that the University of California and the AES have experienced unprecedented budgetary cuts in the past 4 years. This budgetary climate has required that we rethink business as usual.

Vice President Farrell has proposed that the Division of Agricultural and Natural Resources (DANR) must consolidate and reduce program duplication. This movement will require a realignment of AES resources. Each of the three campuses must scrutinize its relationship to the total mission of DANR in the context of its academ-



## The better way to prepare nucleic acids

- No extraction
- No centrifugation
- Fast, simple and standardized methods
- High yields of very pure nucleic acids
- Plasmid, M13, PCR<sup>1</sup> and Oligo Prep Kits available now. More are on the way!

### Quick and simple patented method<sup>2</sup>

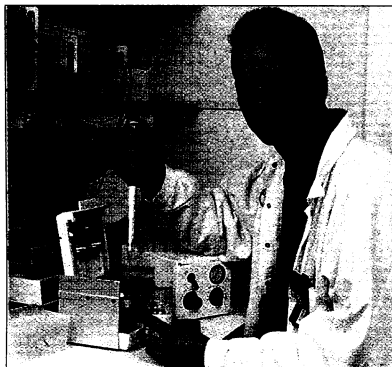
Air from the EasyPrep pump pushes ready made solutions through filters and column wells held in sample plates in the process box. By simply exchanging plates and varying time and pressure, you can complete up to 24 preparations in as little as 30 minutes.

### High yields and purity

Yields are high. The Plasmid Prep Kit typically recovers 15-20 µg double-stranded DNA per 1 ml sample of overnight culture.

Furthermore, products purified with EasyPrep are free from contaminants and are pure enough to use directly in automated sequencing.

*EasyPrep - another major advance  
in nucleic acid preparation.*



Call your local Sales Office for more details  
of EasyPrep and EasyPrep Kits.



1. The PCR process is covered by U.S. patents 4,683,195 and 4,683,202 owned by Hoffmann-La Roche Inc. Use of the process may require a license.  
2. U.S. patent 5,273,718. European patent applied for.

ic planning and priorities. These resources should not be treated as an entitlement. There needs to be more discussion regarding the challenges we face in evaluating this proposal; some of the basic issues about how this systemwide program must change to meet these challenges. None of the three campuses involved can assume that past history will dictate the use of these resources. In reality we must be prepared to develop new directions to meet the challenges within the university and to continue to meet our mission-oriented responsibilities in agricultural and environmental sciences for the state of California.

**Barbara O. Schneeman**  
Dean, College of Agriculture and  
Environmental Sciences,  
University of California,  
Davis, CA 95616-8571, USA

I, and other colleagues, were disappointed by the one-sided article about the reorganization of the College of Natural Resources (CNR) at the University of California (UC), Berkeley. Vice President for Agriculture and Natural Resources Kenneth Farrell heads the three Agricultural Experiment Stations (AES) divisions in the UC system, but the funds are controlled by the UC Office of the President. The CNR appointments (full-time employees) vary, but are roughly 75% for AES research and 25% for instruction. Unfortunately, some UC Berkeley administrators and AES faculty appear to have forgotten this ratio and to have helped erode the AES research mission.

The article implies that dissenters were tools of agribusiness and that Farrell was opposed to the new ecosystems-environmental thrust, but it is safer to say that he was ignored by UC Berkeley, which is seeking to appropriate resources he controls for legally mandated AES responsibilities and to reallocate them for the development of biotechnology at Berkeley. Although biotechnology has made tremendous scientific breakthroughs and changes are needed in the AES, ravaging CNR for the "promise" of patent revenues will have important future costs. I can only hope that this new direction does not make the university a tool of the biotechnology industry and that the resolutions of important environmental issues are not subverted for the sake of biotech profits.

Last, the method of reorganization was anathema to Berkeley traditions of faculty self-governance; all authority has been centralizing in the CNR dean's office, and a top-down administration has been imposed.

**Andrew Paul Gutierrez**  
Department of Environmental Science,  
Policy and Management,  
University of California,  
Berkeley, CA 94720, USA

I would like to comment on Barinaga's article "A bold new program at Berkeley runs into trouble." I am confident that an accurate analysis of the budgets of most land-grant universities would show that a substantial amount of funding has been refocused into high-profile-high-tech programs and away from traditional production-related agricultural research. However, this redistribution of funds has, in general, remained cloaked in the mantle of traditional agriculture (for example, filling a plant breeding position with a basic plant molecular biologist who works with *Arabidopsis*), so that the fiefdoms of the U.S. Department of Agriculture (USDA) and experiment station administrators are not disrupted. It appears that the Berkeley faculty are being punished for their direct frontal assault on the policy prerogatives of the old boy network that still controls the distribution of most USDA research funds.

**Alan H. Goldstein**  
California State University,  
Los Angeles, CA 90032, USA

*Response:* Farrell's characterization of my article is far from the mark. Since he doesn't say what he thinks my "bias" is, I can't respond specifically, but in fact my article was not written out of any preconception about the situation at Berkeley. On the contrary, it was based on more than two dozen interviews—not only with Berkeley faculty, as Farrell seems to imply—but with faculty and administrators at UC Davis and other top land-grant colleges around the country, with members of an outside committee that reviewed Berkeley's program, and with the director of the Board on Agriculture at the National Research Council in Washington, D.C. The views of that large sample are accurately and fairly represented in the story. Indeed, one piece of evidence that my article was not biased is the fact that the point of view Farrell expresses in his letter was represented, both in his words and in those of a Berkeley professor, in the article.—**Marcia Barinaga**

## Blood Type and the Risk of Gastric Disease

In their 17 December report (p. 1892), T. Borén *et al.* (1) present compelling evidence that *Helicobacter pylori* did not bind to the Lewis<sup>b</sup> (Le<sup>b</sup>) blood group antigen in the presence of blood group A determinant, which suggests that individuals with blood type O may have increased *H. pylori* receptors, making them more susceptible to