THE FIRST WORD

CRITICAL MORASS

So much for strategic alliances. Yes, folks, we've got trouble, right here in biotechnology. That's trouble with a T, which rhymes with C, a C that stands for COCOM.

COCOM is a joint coordinating committee of the U.S. Departments of Commerce, State, and Defense. COCOM sees to it that U.S. manufacturers don't ship militarily critical technology abroad: klystron tubes to Libyan nuclear-weapons programs or high-precision robotic milling machines to makers of Soviet submarine propellers, that sort of thing. COCOM's recommendations become part of the Department of Commerce's Commodity Control List, maintained by the Bureau of Export Administration.

Last February 28, "upon the recommendation of the Secretary of State with the concurrence of the Secretary of Commerce," the Bureau of Export Administration published its new rules for export controls—under the Orwellian title, "Removal of Unilateral National Security Controls: Additional Controls on Chemicals and Biological Agents and Precursors." Almost nobody noticed.

"With the exception of genetically engineered or manipulated agents," the new rules list two densely printed pages of wild-type viruses, viroids, bacteria, protozoa, and fungi that Americans may send abroad without special permission. That off-hand, apparently thoughtless exception sent all recombinants off to regulatory hell in the same bureaucratic hand-basket as helium-3 (used in nuclear munitions manufacture) and scuba gear intended for Iran.

So here are some of the things it is now illegal for American researchers and manufacturers to share with their colleagues and partners abroad: cosmids for sequencing, phage vectors, insulin-producing *Escherichia coli*, recombinantly attenuated viral vaccines, high-amylase brewer's yeast, or the super-producing *Cephalosporium acremonium* described in this issue's lead research paper. The list goes on and on. (The one bright note: Hybridomas do not appear to be covered.)

So broad, in fact, is the wording, says Alan Goldhammer of the Industrial Biotechnology Association (IBA, Washington, DC), that the rule's "genetically engineered or manipulated" could be construed to mean "anything that you've done more than fish the organism out of the soil and plate it out on a Petri dish."

According to Robert Stevenson—director of the American Type Culture Collection, chairman of the Commerce Department's Biotechnology Technical Advisory Committee (BTAC), and much aggrieved at the current turn of events—the new rules were thrown together in a desperate hurry when the Commerce Department realized that its regulatory authority was about to lapse because of a sunset clause in its original empowering legislation.

The BTAC has been trying for four years to get Commerce to amend its biological control list "in a statesmanlike manner," Stevenson says. This new list is, we sense, not what Stevenson had in mind.

Stevenson was scheduled to meet with representatives of Commerce and DoD on April 21*. With luck, reason will triumph, and the incident will become just a footnote in U.S. trade relations, testimony to the dangers of policy-making in panic. IBA has sent the Bureau of Export Administration a measured and very moderate response, suggesting tighter definition and proposing classes of exportable recombinant organisms based on National Institutes of Health guidelines.

The rule must change. U.S. biotechnology cannot continue to develop—commercially and scientifically—with this sort of categorical ban on international collaboration. It would reduce sophisticated, highly developed programs to trading cultures stuck to the backs of postage stamps.

They can't possibly be that bone-headed. Can they?

—Douglas McCormick

EDITOR

Douglas K. McCormick

RESEARCH EDITOR

Harvey Bialy

MANAGING EDITOR

Jennifer Van Brunt

SENIOR EDITOR

Mark Ratner

ASSOCIATE EDITOR

Pamela Knight

CONTRIBUTING EDITORS

Jeffrey Fox

Bernard Dixon

PRODUCTION EDITOR

Christin R. Ciresi

EDITORIAL ASSISTANT

Elizabeth Harris

ART DIRECTOR

Dennis Ahlgrim

ASSISTANT ART DIRECTOR

Diana Zelvin

ASSISTANT PRODUCTION MANAGER

Patricia Huber

PUBLISHER

Gary M. Rekstad

ADVERTISING SALES MANAGER

George F. Cominsky

EUROPEAN ADVERTISING MANAGER

Hilary Turnbull

CIRCULATION DIRECTOR

James Skowrenski

FULFILLMENT MANAGER

Bruce Shriver, Jr.

EDITORIAL CORRESPONDENCE:

BIO/TECHNOLOGY, 65 Bleeker St., New York, NY 10012. Telephone: (212) 477-9600. Telex: 668497UW.
BIO/TECHNOLOGY, 4 Little Essex Street, London WC2R 3LF. Telephone: (01) 836 6633. Telex: 262024.

SCIENTIFIC ADVISORY BOARD

George Poste, Chairman

Smith Kline & French

Ken-ichi Arai

DNAX Research Institute

Teruhiko Beppu

University of Tokyo

Ronald E. Cape

Cetus Corporation

Jean-Pierre Changeux

Institut Pasteur

Mary-Dell Chilton

CIBA-Geigy

Nam-Hai Chua

Rockefeller University

Rita R. Colwell

University of Maryland, CARB

Carlo Croce

Fels Institute, Temple University

Arnold Demain

Massachusetts Institute of Technology

J. Lawrence Fox

Abbott Laboratories

David Goeddel

Genentech

Leroy Hood

California Institute of Technology

Morio Ikehara

Protein Engineering Research Institute

Ernest Jaworski

Monsanto Company

Irving Johnson

Eli Lilly Research Laboratories

David Mount

University of Arizona

Victor Nussenzeig

New York University Medical Center

Carl-Gustaf Rosen

Abitec AB

Yukio Sugino

Takeda Chemicals

Marc Van Montagu

Plant Genetic Systems

Lemuel B. Wingard

University of Pittsburgh

Wataru Yamaya

Mitsubishi Chemical

*Results of that meeting were not available at press time.