

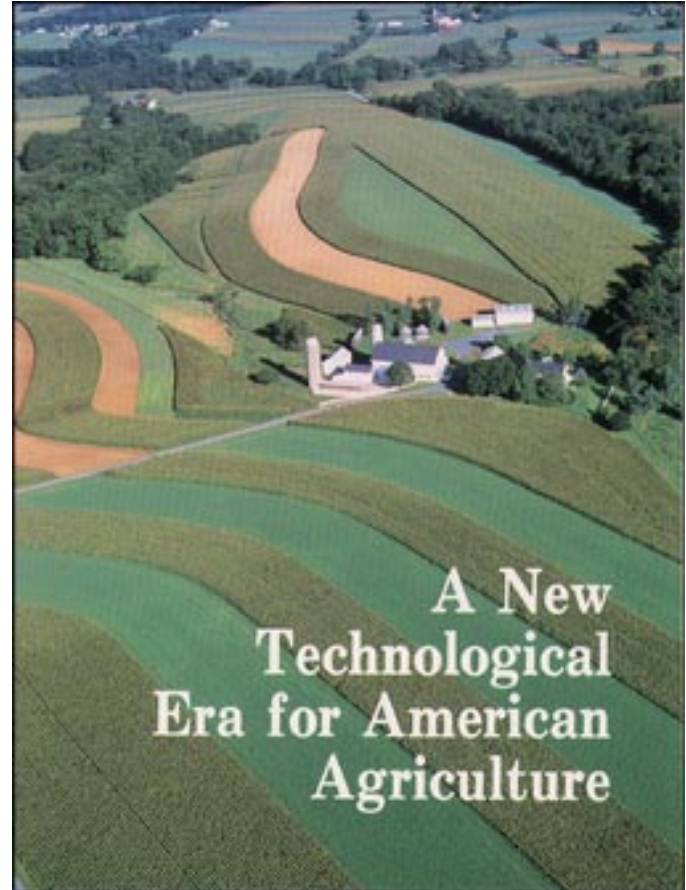
*A New Technological Era for American
Agriculture*

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Foreword

American agriculture is entering a new technological era that holds great promise. Biotechnology and advanced computer systems have the potential to increase productivity, enhance the environment, improve food safety and quality, and bolster U.S. agricultural competitiveness.

Many of these new technologies will be available in the 1990s. But their introduction will be under circumstances unlike any met by past technologies. Uncertainties over these new technologies raise questions of potential impacts on food safety and the environment, and possible economic and social costs. Nevertheless, there will be a push for some of these technologies—biotechnology in particular—to be used commercially, adopted by industry, and accepted by the public.

Congress requested the Office of Technology Assessment to examine emerging technologies that may be available to American agriculture in the 1990s, their potential for industry, and consequent policy issues. This report analyzes the technologies and related policy issues Congress may need to resolve. The analysis includes an assessment of adjustments industry must make to capitalize on the new technologies, the scientific and institutional issues relevant to food safety and environmental risk and benefit, and the implications for intellectual property rights and science policy.

The report concludes that these technologies have the potential to provide new solutions to many agricultural problems. The challenge, however, will be whether government, industry, and the public can strike the proper balance of direction, oversight, and use to allow these technologies to flourish. Congress will be faced with many issues and choices as American agriculture moves into this new era.

This OTA report for Congress is the fourth and final report in a series begun in 1990. The study was requested by the Senate Committee on Agriculture, Nutrition, and Forestry; the House Committee on Government Operations; and the House Committee on Agriculture. The first report issued was *Agricultural Research and Technology Transfer Policies for the 1990s*, the second report was *U.S. Dairy Industry at a Crossroad: Biotechnology and Policy Choices*, and the third report was *Agricultural Commodities as Industrial Raw Materials*. Findings from these reports were relevant to the issues debated for the 1990 Farm Bill.

OTA greatly appreciates contributions of the advisory groups, authors of background papers, reviewers, and other contributors to this study who were instrumental in defining key issues and a range of perspectives on them. Their participation does not necessarily represent endorsement of this report, for which OTA bears sole responsibility.



JOHN H. GIBBONS
Director

A New Technological Era for American Agriculture

OTA Project Staff

Roger C. Herdman, *Assistant Director, OTA
Health and Life Sciences Division*

Walter E. Parham, *Program Manager
Food and Renewable Resources Program*

Michael J. Phillips, *Project Director*

Marie Walsh, *Senior Analyst*

Laura R. Meagher, *Senior Analyst*

Kevin W. O'Connor, *Senior Analyst*

Lawrence R. Jones, *Analyst*

Laura Dye, *Research Assistant*

Susan Wunder, *Editor*

Administrative Staff

N. Ellis Lewis, Office *Administrator*

Nellie Hammond, *Administrative Secretary*

Carolyn M. Swarm, *P.C. Specialist*

Assessment Advisory Groups

Advisory Group on Animal Technology and Related Issues

Dale Bauman Professor Department of Animal Science Cornell University	Walter Hobgood Director of Animal Nutrition and Health Monsanto Co.	Rodney Preston Professor Department of Animal Science Texas Tech University
David Berkowitz Director Technology Transfer and Coordination Staff Food Safety Inspection Service U.S. Department of Agriculture	Maynard Hogberg Head Department of Animal Science Michigan State University	Vernon Pursel Research Leader Agricultural Research Service U.S. Department of Agriculture
Roger Blobaum Director of Americans for Safe Food Center for Science in the Public Interest	Gerald Isaacs Chairman Department of Agricultural Engineering University of Florida	Allan Rahn Professor Department of Animal Science Michigan State University
Thomas T. Chen Associate Director Center of Marine Biotechnology University of Maryland	Daniel D. Jones Deputy Director Office of Agricultural Biotechnology U.S. Department of Agriculture	Caird Rexroad Research Leader Agricultural Research Service U.S. Department of Agriculture
Gary Cromwell Professor Department of Animal Science University of Kentucky	James Kleibenstein Professor Department of Economics Iowa State University	Tim Rose Fanner Lyons, KS
Stanley Curtis Professor Department of Animal Science University of Illinois	John Kopchick Professor Edison Animal Biotechnology Center Ohio University	Andrew Rowan Assistant Dean School of Veterinary Medicine Tufts University
Dennis Dykstra Vice-President of Quality Assurance Jack Frost Golden Plump Poultry	Edward Korwek Partner Hogan and Hartson	Colin Scanes Professor and Chairman Department of Animal Science Cook College, Rutgers University
Terry Etherton Professor Department of Dairy and Animal Science Pennsylvania State University	Darold McCalla President Granada Biosciences, Inc.	Thomas Sporleder Professor Department of Agricultural Economics and Rural Sociology Ohio State University
Don Gill Regents Professor and Extension Animal Nutritionist Oklahoma State University	Tom McGuckin Associate Professor Department of Economics New Mexico State University	Charles Strong Extension Biotechnology Coordinator University of Georgia
William Hansel Distinguished Professor Department of Veterinary Science Louisiana State University	Dave Meisinger Product Manager for New Products Pitman-Moore, Inc.	Michael Tomaszewski Professor/Extension Dairy Specialist Department of Animal Science Texas A&M University
Michael Hansen Research Associate consumer Policy Institute Consumers Union	Jan E. Novakofski Associate Professor Department of Animal Science University of Illinois	Edward Veenhuizen Manager of Animal Science Projects Lilly Research Laboratories Eli Lilly and Co.
Norman Harvey Farmer Florence, VT	B.I. Osburn Associate Dean for Research School of Veterinary Medicine University of California	
Burke Healey southern Cross Ranch Davis, OK	Dennis Powers Director Hopkins Marine Station Stanford University	

Advisory Group on Plant Technology and Related Issues

Michael Adang Associate Professor Department of Entomology University of Georgia	Dale Hicks Professor Department of Agronomy and Plant Genetics University of Minnesota	Michael W. Parka chairman Food Research Institute University of Wisconsin
Garren O. Benson Professor Department of Agronomy Iowa State University	Carol Hoffman Research Scientist Institute of Ecology University of Georgia	Philip Regal Professor Department of Ecology and Behavioral Biology University of Minnesota
Norman Brown President FBS Systems Inc.	Donald Holt Director Agricultural Experiment Station University of Illinois	Jane Rissler Director of Biotechnology National Wildlife Federation
J.A. Browning Professor Department of Plant Pathology Texas A&M University	Marjorie Hoy Professor Department of Entomology University of California	Douglas Schmale Farmer Lodgepole, NE
John Burke Research Leader Agricultural Research Service U.S. Department of Agriculture	Jeffrey Ihnen Attorney-at-Law Venable, Baetjer, Howard, and Civiletti	Allan Schmid Professor Department of Agricultural Economics Michigan State University
Raghavan Charudattan Professor Department of Plant Pathology University of Florida	George Kennedy Professor Department of Entomology North Carolina State University	Ronald Smith Extension Specialist Auburn University
Sharon K. Clark President Minnesota Corn Growers Assoc.	John C. Kirschman President FSC Associates	Steve Sonka Professor Department of Agricultural Economics University of Illinois
Ken Cook Vice-President for Policy Center for Resource Economics	Ganesh Kishore Research Manager Monsanto Co.	Kent K. Stewart Professor Department of Biochemistry and Nutrition Virginia Polytechnic Institute and State University
James Davis Vice-President of Development and General Counsel Crop Genetics International	Jerry R. Lambert Professor Department of Agricultural Engineering Extension Service/USDA Clemson University	Nicholas D. Stone Associate Professor Department of Entomology Virginia Polytechnic Institute and State University
Willard Downs Professor Oklahoma State University	Sue Loesch-Fries Assistant Professor Department of Plant Pathology Purdue University	Christen Upper Professor/Research Chemist Agricultural Research Service U.S. Department of Agriculture Department of Plant Pathology University of Wisconsin
Lynn Forster Professor Department of Agricultural Economics and Rural Sociology Ohio State University	Gaines E. Miles Professor Department of Agricultural Engineering Purdue University	Ann Vidaver Professor Department of Plant Pathology University of Nebraska
Nicholas Frey Product Development Manager Specialty Plant Products Division Pioneer Hi-Bred International	Kevin Miller Farmer Teutopolis, IL	William Wilson Professor Department of Agricultural Economics North Dakota State University
James Fuxa Professor Department of Entomology Louisiana State University	Kent Mix Rancher Larnesa, TX	Paul Zomer Director of Bioherbicide Research Mycogen Corp.
Robert Hall Associate Professor Department of Plant Science South Dakota State University	Ian Munro Director Canadian Centre for Toxicology	
Chuck Hassebrook Director Center for Rural Affairs		

Advisory Group on Agricultural Research and Related Issues

Norman Berg (retired)
Formerly with Soil Conservation Service
U.S. Department of Agriculture

Donald Bills
Deputy Area Director for Product Quality
and Development Institute
Agricultural Research Service
U.S. Department of Agriculture

Patrick Borich
Director
Cooperative Extension Service
University of Minnesota

Lucas Calpouzos
Professor
School of Agriculture
California State University

Mary Carter
Associate Administrator
Agricultural Research Service
U.S. Department of Agriculture

Neville Clark
Former Director
Texas Agricultural Experiment Station
Texas A&M University

Arnold Denton
Senior Vice-President
Campbell soup co.

Chester T. Dickerson
Director of Agricultural Affairs
Monsanto Co.

Catherine Donnelly
Associate Director
Agriculture Experiment Station
University of Vermont

Jeanne Edwards
Past Member
National Agricultural Research and
Extension Users Advisory Board

W.P. Flatt
Dean
College of Agriculture
University of Georgia

Ray Frisbe
IPM Coordinator
Department of Entomology
Texas A&M University

Paul Genho
National Cattlemen's Association
Deseret Ranches of Florida

Robert Heil
Director
Agricultural Experiment Station
Colorado State University

Jim Hildreth (retired)
Formerly with Farm Foundation

Vemer Hurt
Director
Agricultural and Forestry Experiment
Station
Mississippi State University

Terry Kinney (retired)
Formerly with Agricultural Research
Service
U.S. Department of Agriculture

Ronald Knutson
Professor
Department of Agricultural Economics
Agricultural and Food Policy Center
Texas A&M University

William Marshall
President
Microbial Genetics Division
Pioneer Hi-Bred International, Inc.

Roger Mitchell
Director
Agricultural Experiment Station
University of Missouri

Lucinda Noble
Director
Cooperative Extension
Cornell University

Susan Offutt
Executive Director
Board on Agriculture
National Research Council

Dave Phillips
President
National Association of County Agents

Jack Pincus
Director of Marketing
Michigan Biotechnology Institute

Dan Ragsdale
Former Research Director
National Corn Growers Association

Roy Rauschkolb
Resident Director
Maricopa Agricultural Center
University of Arizona

Alden Reine
Dean
Cooperative Agricultural Research Center
Prairie View A&M University

Grace Ellen Rice
Legislative Director
American Farm Bureau Federation

Bob Robinson
Director of Agricultural and Trade
Analysis Division
Economic Research Service
U.S. Department of Agriculture

Jerome Seibert
Economist
Department of Agricultural Economics
University of California

Keith Smith
Director of Research
American Soybean Association

William Tallent
Assistant Administrator
Agricultural Research Service
U.S. Department of Agriculture

Jim Tavares
Associate Executive Director
Board on Agriculture
National Research Council

Luther Tweeten
Anderson Chair for Agricultural Trade
Department of Agricultural Economics and
Rural Sociology
Ohio State University

Walter Walla
Director
Extension Service
University of Kentucky

Tim Wallace
Extension Economist
Department of Agricultural Economic-s
University of California

Mike Wehler
Vice President
National Pork Producers Council

John Woeste
Director
Cooperative Extension Service
University of Florida

Fred Woods
Agricultural Programs
Extension Service
U.S. Department of Agriculture

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