

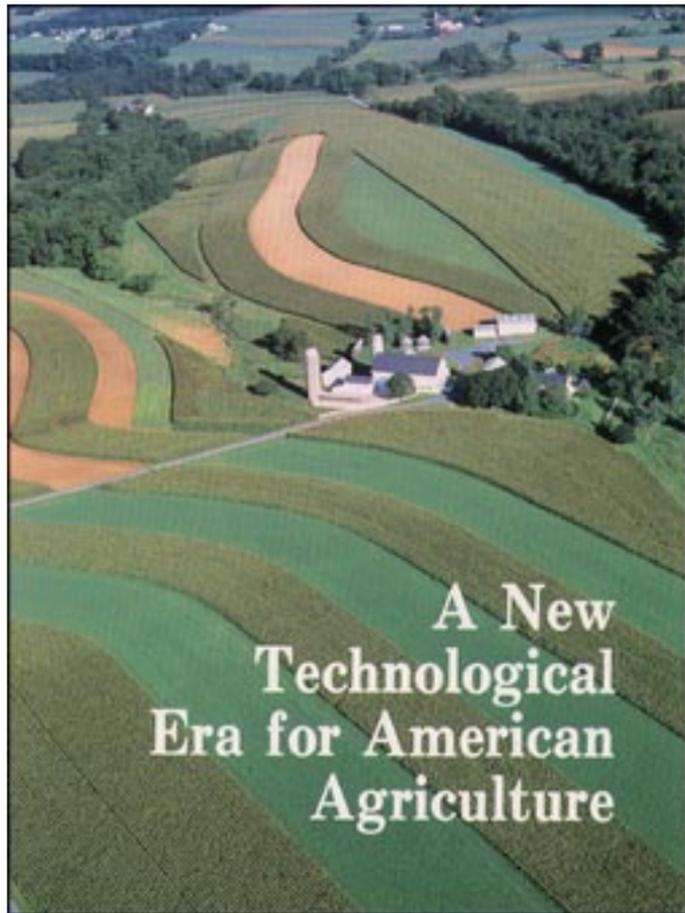
*A New Technological Era for American
Agriculture*

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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.


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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critique by the advisory group members. The groups do not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.