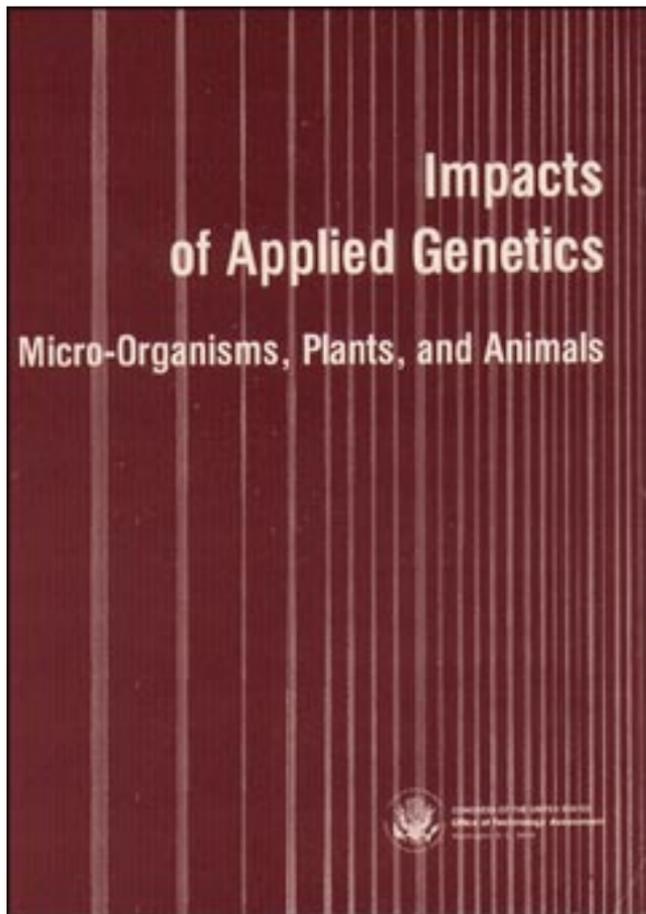


*Impacts of Applied Genetics:
Micro-Organisms, Plants, and Animals*

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Foreword

This report examines the application of classical and molecular genetic technologies to micro-organisms, plants, and animals. Congressional support for an assessment in the field of genetics dates back to 1976 when 30 Representatives requested a study of recombinant DNA technology. Letters of support for this broader study came from the then Senate Committee on Human Resources and the House Committee on Interstate and Foreign Commerce, Subcommittee on Health and the Environment.

Current developments are especially rapid in the application of genetic technologies to micro-organisms; these were studied in three industries: pharmaceutical, chemical, and food. Classical genetics continue to play the major role in plant and animal breeding but new genetic techniques are of ever-increasing importance.

This report identifies and discusses a number of issues and options for the Congress, such as:

- Federal Government support of R&D,
- methods of improving the germplasm of farm animal species,
- risks of genetic engineering,
- patenting living organisms, and
- public involvement in decisionmaking.

The Office of Technology Assessment was assisted by an advisory panel of scientists, industrialists, labor representatives, and scholars in the fields of law, economics, and those concerned with the relationships between science and society. Others contributed in two workshops held during the course of the assessment. The first was to investigate public perception of the issues in genetics; the second examined genetic applications to animals. Sixty reviewers drawn from universities, Government, industry, and the law provided helpful comments on draft reports. The Office expresses sincere appreciation to all those individuals.

An abbreviated copy of the summary of this report (ch. 1) is available free of charge from the Office of Technology Assessment, U.S. Congress, Washington, D. C., 20510. In addition, the working papers on the use of genetic technology in human and in veterinary medicine are available as a separate volume from the National Technical Information Service.



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