

Commissioned Papers

The discussions, findings, and options presented in this report are in a large part based on 35 technical papers commissioned by OTA for this assessment. These papers were reviewed and critiqued by the study's advisory panel and numerous outside reviewers. The papers will be available in late fall of 1982 through the National Technical Information Service. (Requests for papers from the National Technical Information Service should be directed to NTIS, U.S. Department of Commerce, Springfield, VA 22151.) The papers included are:

1. How Agricultural Technologies Affect Productivity of Croplands and Rangelands by Affecting Microbial Activity in Soil
—Martin Alexander: Department of Agronomy, Cornell University
2. Impacts of Technologies on Range Productivity in the Mountain, Intermountain and Pacific Northwest States
—Thadis W. Box: College of Natural Resources, Utah State University
3. Livestock Grazing on the Forested Lands of the Eastern United States
—Evert K. Byington: Winrock International Livestock Research and Training Center
4. Problems of Cost-Sharing Programs for Long-Term Conservation: The Example of the Agricultural Conservation Program
—Kenneth A. Cook: Agricultural Policy Consultant
5. Influences of Commodity Programs on Long-Term Land Productivity (Conservation)
—Kenneth A. Cook: Agricultural Policy Consultant
6. Impacts of Rangeland Technologies and of Grazing on Productivity of Riparian Environments in United States Rangelands
—Oliver B. Cope: Rangeland Consultant, Golden, Colo.
7. Data Base Assessment of Effects of Agricultural Technology on Soil Macro-Fauna and the Resultant Faunal Impact on Crop and Range Productivity
—Daniel L. Dindal: SUNY College of Environmental Science and Forestry
8. Impacts of Technologies on Productivity and Quality of Southwestern Rangelands
—Don D. Dwyer: Range Science Department, Utah State University
9. Technology Issues in Developing Sustained Agricultural Productivity of Alaskan Virgin Lands
—Alan C. Epps: University of Alaska
10. Impact of Communications Technology on Productivity of Land
—James F. Evans: Office of Agricultural Communications, University of Illinois
11. Land-Use Planning Technologies Applied to Croplands and Rangelands
—Janet Franklin, Alan H. Strahler, and Curtin E. Woodcock: Geography Remote Sensing Unit, University of California
12. Sustained Land Productivity: Equity Consequences of Technological Alternatives
—Charles C. Geisler, J. Tadlock Cowan, and Michael R. Hattery: Department of Rural Sociology, and Harvey M. Jacobs: Department of City and Regional Planning, Cornell University.
13. Multiple Cropping Systems: A Basis for Developing An Alternative Agriculture
—Stephen R. Gliessman: College of Environmental Studies, University of California
14. Description and Evaluation of Pesticidal Effects on the Productivity of the Croplands and Rangelands of the United States
—J. M. Harkin, G. V. Simsiman, and G. Chesters: Water Resources Center, University of Wisconsin
15. New Roots for American Agriculture
—Wes Jackson and Marty Bender: The Land Institute, Salina, Kans.
16. An Overview of Major Legal and Policy Issues Related to the Impact of Technology on the Productivity of the Land
—Barbara J. Lausche: Natural Resources Lawyer
17. Relationships Between Land Tenure and Soil Conservation
—Linda K. Lee: Department of Agricultural Economics, Oklahoma State University
18. Database on Ground Water Quality and Availability: Effects on Productivity of U.S. Croplands and Rangelands

- Jay H. Lehr: National Water Well Association, Worthington, Ohio
- 19. Impacts of Technologies on Productivity and Quality of Rangelands in the Great Plains Region
 - James K. Lewis and David M. Engle: Department of Animal Science, South Dakota State University
- 20. The Impacts of Grazing and Rangeland Management Technology Upon Wildlife
 - Carroll D. Littlefield, Wildlife Consultant; Denzel Ferguson: Malheur Field Station, Princeton, Oreg.; and Karl E. Holte: Biology Department, Idaho State University
- 21. A Review of Current Water Erosion Control Technologies, Including Potential Changes To Enhance Their Effectiveness
 - Leonard R. Massie: Department of Agricultural Engineering, University of Wisconsin
- 22. Technology Issues in Developing Sustained Agricultural Productivity on Virgin and Abandoned Lands in the United States
 - Cyrus M. McKell: Plant Resources Institute, Salt Lake City, Utah
- 23. The Effects of Long-Term Fertilizer Use on Soil Productivity
 - David B. Mengel: Department of Agronomy, Purdue University
- 24. The Data Base for Assessment of the Impacts of Technologies on Productivity of Rangeland Resources
 - John W. Menke: Department of Agronomy and Range Science, University of California; and C. Wayne Cook: Department of Range Science, Colorado State University
- 25. Impacts of Technology on Cropland and Rangeland Productivity: Managerial Capacity of Farmers
 - Peter J. Nowak: College of Agriculture, Iowa State University
- 26. Data Availability for the Assessment of Technologies and Public Policies Relating to Agricultural Productivity
 - Anthony C. Picardi: Charles River Associates, Inc., Boston, Mass.
- 27. The Adoption and Diffusion of Technological Innovations in U.S. Agriculture
 - Everett M. Rogers: Institute for Communication Research, Stanford University
- 28. Credit and Credit Institutions as Factors Affecting the Long-Term Productivity of U.S. Rangelands and Croplands
 - Brian H. Schmiesing: Department of Business and Agribusiness Management, Southwest State University
- 29. Emerging Innovative Technologies for Rangeland
 - Charles J. Scifres: Department of Range Science, Texas A&M University
- 30. Effect of Erosion and Other Physical Processes on Productivity of U.S. Croplands and Rangelands
 - W. D. Shrader: Professor Emeritus, Iowa State University
- 31. Changes in the Capacity of Croplands and Rangelands to Sustain productivity of Environmental Services
 - Robert L. Todd: Department of Agronomy and Institute of Ecology, [University of Georgia
- 32. Groundwater and Agricultural Productivity: The Information and Database
 - Kenneth E. Vanlier: Hydrogeologist, Reston, Va.
- 33. Productivity of Soil as Related to Chemical Changes
 - L. F. Welch: Department of Agronomy, University of Illinois
- 34. Wind Erosion and Control Technology
 - N. P. Woodruff: Facilities Planning Office, Kansas State University
- 35. California Annual Grasslands
 - James A. Young and Raymond A. Evans: USDA/SEA-AR