Potential Environmental Impacts of Bioenergy Crop Production

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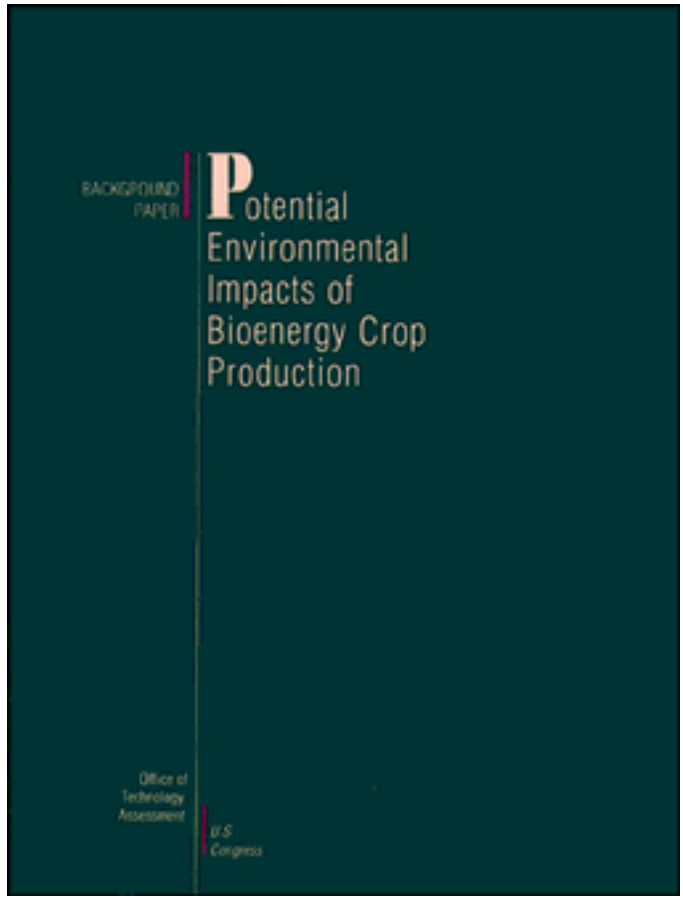

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Foreword

Bioenergy crops are receiving increasing attention as a potentially low cost and large scale renewable source of energy. This report reviews how such crops could potentially affect soil quality and soil erosion, water quality, air quality, habitat for a variety of species, and the global environment. From this analysis, it examines how research and development agendas for energy crops might be expanded to better understand these impacts and to reduce potential negative environmental impacts and enhance the positive.

The report also briefly reviews other impacts of bioenergy crops, including the potential relationship between energy crops, Federal agricultural supports, rural income, and national dependence on imported fuels. In the wake of the devastating Midwest floods, energy crops might be considered as a more robust crop for flood prone areas. Although energy crops have long-term potential, much research and development remains to be done in order to understand the full range of their environmental impacts, positive and negative, and an extensive political dialogue is needed to determine how best to balance the numerous competing economic/environmental, rural/urban, regional and other interests potentially affected.

This study is the first product of a larger assessment of renewable energy technology requested by the House Committee on Science, Space, and Technology and by the House Committee on Energy and Commerce. The full assessment, to be published in 1994, will address environmental issues more broadly as well as provide detailed analyses of: renewable energy resources; the cost and performance of renewable energy technologies; commercialization issues; and policy options.

OTA appreciates the invaluable advice and assistance of the many people who contributed to this project, including the advisory panel, participants in the workshop, reviewers, and contractors. OTA, however, bears the sole responsibility for the contents of this report.

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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this background paper. OTA assumes full responsibility for the background paper and the accuracy of its contents.

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