NATIONAL AGRICULTURAL BIOTECHNOLOGY COUNCIL REPORT
NABC REPORT 10

Agricultural Biotechnology and Environmental Quality: Gene Escape and Pest Resistance

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NATIONAL AGRICULTURAL BIOTECHNOLOGY COUNCIL

Providing an open forum for exploring issues in agricultural biotechnology

The NABC, established in 1988, is a consortium of not-for-profit agricultural research, extension and educational institutions.

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NABC Report 6, Agricultural Biotechnology & The Public Good (1994)


On behalf of the National Agricultural Biotechnology Council, we express our appreciation to the many people who successfully planned and hosted the 10th annual meeting. Their thoughtful programming and careful attention to detail afforded more than 100 attendees the opportunity to listen in plenary sessions to some of the most knowledgeable experts on gene escape and pest resistance, and to dialogue with others in workshop discussions.

First and foremost, we gratefully acknowledge James R. Fischer and Joe Dickerson at Clemson University for their tireless efforts to ensure the success of this meeting from concept to completion. We would also like to recognize the valuable guidance by the Clemson University planning committee, including John W. Kelly, Gary McMahan, Susan Barefoot, David Howle, William Marcotte, Dalphene Jameson, and Debbie Dalhouse.

Second, our sincere thanks go to the speakers whose professional expertise provided for lively exchange, the moderators who helped keep the discussions focused, and the workshop co-chairs without whom the topical deliberations and conclusions would not have occurred.

Special thanks go to Barbara Kneen Avery, NABC Associate Coordinator, for her technical assistance and her production efforts on the NABC Vision Statement, and to Eugene Sander, 1997-98 NABC Chair, for his leadership.

To the many others who worked on the meeting and this Report whom we have not mentioned by name, please accept our sincere thanks.

Ralph W.F. Hardy
NABC President

Jane Baker Segelken
NABC Executive Coordinator

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The National Agricultural Biotechnology Council (NABC) was established in 1988 with funding from the Joyce Foundation to promote dialogue on the emerging issues of agricultural biotechnology. The Boyce Thompson Institute, Cornell University, Iowa State University, and the University of California were the initial members. Today, the NABC has grown to include 26 of the leading not-for-profit research and educational institutions in North America. Representatives to the Council include senior management of these institutions.

The goal of the NABC was, and still is, the early identification of agricultural biotechnology issues and their discussion in an open forum; the safe, efficacious and equitable development of the products and processes of agricultural biotechnology; and the development of public policy recommendations.

The NABC has a record of early identification and broad consideration of the major issues, and provides all stakeholders — including representatives from academe, government, industry, public interest, farming, and others — the opportunity to speak, to listen, and to learn about the key issues. Through its meetings, the NABC has addressed many major issues: sustainable agriculture in 1989; food safety and nutritional quality in 1990; social issues in 1991; animal biotechnology in 1992; risk in 1993; public good in 1994; discovery, access, and ownership of genes in 1995; novel products and new partnerships in 1996; and challenged environments in 1997. More than 50,000 NABC reports of its annual conferences have been freely distributed worldwide.

Environmental quality was the focus of NABC 10. “Agricultural Biotechnology and Environmental Quality: Gene Escape and Pest Resistance” was hosted May 31 - June 2, 1998 by NABC member institution Clemson University and was held in Greenville, SC. The two key environmental issues for transgenic plants — gene escape to wild and weedy relatives and the development of pest resistance to pesticidal transgenes — were considered. The expanding experience base — about 70 million acres of transgenic crops were grown in 1998 — has not yet revealed problems in either of these risk areas but they will probably occur in time (e.g., pests have developed resistance to most pesticides). Can management systems like those being implemented by
governmental agencies, seed companies, and growers effectively minimize the extent and delay the appearance of these problems? The encouraging factor is that discussion of these concerns, such as occurred at NABC 10, is coinciding with transgene seed use and the development of science-based management techniques.

However, there are still individuals, especially outside the United States, who express strong opposition or concerns to anything that is transgenic. The major issues in the US for transgenic crops appears to be moving from environmental risks to the risks from the consolidation of the input and end-user industries of crop production (e.g., how consolidation affects food security and sustainability). Within the last year, a few US chemical companies have spent more than $10 billion in consolidation and vertical integration. The consolidation into the end-user area is less developed than the input side, but considering the value on the end-user side investments could be substantially greater. The 1999 NABC annual meeting — “World Food Security and Sustainability: The Impacts of Biotechnology and Industrial Consolidation” — will be held June 6-8, 1999 at the University of Nebraska-Lincoln.

Candid forums such as NABC10 help to promote better understanding of the many diverse viewpoints, and provide an opportunity for addressing concerns about agricultural biotechnology. We believe that the NABC has helped contribute to the informed and relatively favorable environment for transgenics in the US in contrast to the disarray regarding transgenics in Europe where there appears to have been no equivalent organization to NABC.

In 1998, the NABC took a leadership role in generating a concise, comprehensive, and compelling vision statement on agricultural research and development for the 21st century. This statement, supported by the member institutions, projects that not only improved feed, food, and fiber from the agricultural research of the 21st century, but agriculture’s key role in securing our future through the biobased production of energy, chemicals, and materials. The statement is included as an appendix of this NABC Report.

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