NATIONAL AGRICULTURAL BIOTECHNOLOGY COUNCIL REPORT
NABC REPORT 9

Resource Management in Challenged Environments

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Resource Management in Challenged Environments

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Photos on the cover are courtesy of the University of Saskatchewan.

Photo Caption: Examples of challenged environments on crop plants, including drought and weeds. Transgenic crops are now being used as a strategy for weed control but not yet for drought.
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)
ACKNOWLEDGMENTS

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Ralph W.F. Hardy                        Jane Baker Segelken
NABC President                        NABC Executive Coordinator
The NABC Report 9 — Resource Management in Challenged Environments — comes from the NABC annual meeting, hosted June 1-3, 1997 by NABC member institution University of Saskatchewan — the first NABC meeting in Canada.

Major financial and people investments in all aspects of agricultural biotechnology by the public sector and industry in Saskatoon are providing the basis for Canada to be a major participant in agricultural biotechnology. The industrial and public sector concentration in agricultural biotechnology is probably greater than in any other community in North America.

Agricultural biotechnology gained momentum in 1997. One-third of farmers in the United States and a smaller fraction in Canada have used agricultural biotechnology inputs with maybe 30 million acres of transgenic crops grown in 1997. Agricultural input industries — agrochemical companies — are investing more than five billion dollars to consolidate seed and other inputs for crop production, and also to integrate vertically into the food, feed and biobased industrial products business. The food products from transgenic organisms probably have now been eaten by almost every person in the United States — cheese, milk, and food products of canola, corn, and soybeans. The farmer and consumer use in Canada is smaller to date than in the United States because of Canada's slower governmental approval rate.

NABC 9 focused on the use of the new agricultural biotechnology products and processes in geographically and environmentally challenged environments. All agriculture, especially crop agriculture, is environmentally challenged. There are the somewhat predictable never-ending challenges of pest insects, diseases, and weeds. The transgenic crops being grown provide new approaches to weeds, diseases, and some pest insects. The more unpredictable challenges of weather — temperature and rainfall — have not yet been minimized with agricultural biotechnology.

More than 100 participants gathered for three information-packed meeting days in Saskatoon, Saskatchewan, Canada. There they shared their views on how to best use the new agricultural biotechnology products to meet the needs of producers and consumers. One of today's most critical challenges is the need to feed an increasing world population. Recent advances in agricultural biotechnology have led to the development and commercialization of many products that promise to sustain and/or increase food production.
This report summarizes the presentations and the workshop dialog at that meeting. While many of the examples discussed were the most developed of the agricultural biotechnology products now entering the marketplace (herbicide tolerance and insect resistance), there is early stage research on drought tolerance, salt tolerance, and aluminum tolerance. Products and processes designed to address the unique needs of challenged environments represent a tremendous opportunity for agriculture, and discussion and identification of emerging issues were initiated in the open forum with broad representation.

The annual meeting is the major NABC activity. The NABC member institutions propose meeting topics to the NABC Council which then selects the subject and provides guidance to assure that speakers and workshop cochairs represent the total dimension of viewpoints. Host institutions make special efforts to have broad representation at the meeting, including academia, government, industry, public interest, farming, and others. There is not only an opportunity but an expectation that each attendee will speak, listen, and learn through participation at plenary sessions, dialogue in the workshops, and attendance at the workshop summary presentations.

The workshop reports are the most important part of an NABC meeting, and are placed at the beginning of the Report, followed by the presentations by plenary and other speakers. Each year, 7,000 NABC Reports are printed and distributed worldwide to leaders in industry, government, academe, public interest groups, the media, and other interested individuals.

Although some still believe that human safety and environmental risk are continuing issues in agricultural biotechnology, others see equitableness, including access, as a major emerging concern. The NABC is the only established open forum to help promote understanding of the many diverse viewpoints, and provide an opportunity for addressing concerns about agricultural biotechnology.

The unique NABC continues to be a vibrant force on the agricultural biotechnology playing field, offering people with diverse views the chance to speak, to listen, and to learn.

Ralph W.F. Hardy  
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