Book Review

FAO 2004. The State of Food and Agriculture 2003-04. Agricultural Biotechnology – Meeting the Needs of the Poor? FAO Agriculture Series No. 35. Rome, 309 pp. ISSN 0081-4539, ISBN 92-105079-1.

This book is of great interest to scientists, economists, politicians, and to common citizens in many countries as it addresses the question "Can agricultural biotechnology meet the needs of hungry persons in poor world regions?". As it is pointed out in the "Preface" by Mr. Jaques Diouf, FAO Director General, agriculture continues to face serious challenges, including feeding an additional two billion people by the year 2030. In order to achieve this goal, it is absolutely necessary, to use in agricultural and food production the modern biotechnology tools and special approaches, which are presented in this book.

Part I. "Agricultural biotechnology: meeting the needs of the poor?" (p. 1–39) contains three sections and nine chapters.

Section A. "Framing the Debate" has three chapters: 1. "Can biotechnology meet the needs of the poor" (p. 3–7), 2. "What is agricultural biotechnology? (p. 8–24), and 3. "From the Green Revolution to the Gene Revolution" (p. 25–39). In verbal manner – as well as in tables and figures – this section provides a very comprehensive review of scientific and economic aspects of biotechnology development.

Section B. "The evidence so far" has three chapters: 4. "Economic impacts of transgenic crops"(p. 41–57), 5. "Health and environmental impacts of transgenic crops" (p. 58–76), 6. "Public attitude to agricultural biotechnology" (p. 77–87) that provide detailed data on (a) adoption of transgenic crops in different countries, and (b) public attitude to agricultural biotechnology including also in Poland.

Section C. "Making biotechnology work for the poor" has three sections: 7. "Research and research policy for the poor" (p. 87–98), 8. "Capacity building for biotechnology in food and agriculture" (p. 99–103), 9. "Conclusions: meeting the needs of the poor" (p. 104–106) that provide several information on conflicts between the needs of farmers in poor countries and the expectations of private companies active in agricultural biotechnology.

Part II. "World and regional review: facts and figures" (p. 107–146) in descriptive, tabulated and graphic form provides information on: food supply demands per capita in various world regions, commodity price trends, global agricultural exports, external assistance to agriculture per agricultural worker, forest and wood products.

Part III. "Statistical annex" (p. 147–198) in a descriptive way and in eight tables provide information on the following subjects: 1. Countries and territories used for statistical purposes; 2. Food security and nutrition; 3. Agricultural production and productivity; 4. Population and labor force indicators; 5. Land-use indicators; 6. Trade indicators; 7. Economic indicators; 8. Total factor productivity.

Part "References" (p. 199–204) lists 125 titles of books, reviews and research papers concerning the subject.

Plant protection aspects are broadly treated throughout the book and concern insect resistance, plant virus resistance and herbicide tolerance. Global area of transgenic crops in the world in 2003 by crops, countries and traits is provided.

Data referring to China are of special interest as they indicate that adoption of transgenic cotton with genes of *Bacillus thuringiensis* allowed to reduce the use of chemical pesticides by an average of 43.8 kg/ha compared with conventional cotton varieties. As a result of adoption of Bt cotton, pesticide use in China was reduced by an estimated 78000 tones in 2001.

Environmental concerns regarding genetically modified organisms and an ecologist's view on gene flow from transgenic crops into other plants have been discussed.

I recommend this book to plant protection specialists and agronomists as it rationally presents the benefits of the actual and future use of transgenic crops in agriculture and economy of many countries.

Jerzy J. Lipa
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