



CIMMYT™

**WORLD WHEAT
OVERVIEW AND OUTLOOK**

2000-2001

**Developing No-Till
Packages for Small-Scale
Farmers**



Javier Ekboir, Editor





2000-2001
WORLD WHEAT OVERVIEW AND OUTLOOK

Developing No-Till Packages for Small-Scale Farmers

Javier Ekboir, Editor

CIMMYT® (www.cimmyt.org) is an internationally funded, nonprofit, scientific research and training organization. Headquartered in Mexico, CIMMYT works with agricultural research institutions worldwide to improve the productivity, profitability, and sustainability of maize and wheat systems for poor farmers in developing countries. It is one of 16 food and environmental organizations known as the Future Harvest Centers. Located around the world, the Future Harvest Centers conduct research in partnership with farmers, scientists, and policymakers to help alleviate poverty and increase food security while protecting natural resources. The centers are supported by the Consultative Group on International Agricultural Research (CGIAR) (www.cgiar.org), whose members include nearly 60 countries, private foundations, and regional and international organizations. Financial support for CIMMYT's research agenda also comes from many other sources, including foundations, development banks, and public and private agencies.

FUTURE HARVEST™ Future Harvest® builds awareness and support for food and environmental research for a world with less poverty, a healthier human family, well-nourished children, and a better environment. It supports research, promotes partnerships, and sponsors projects that bring the results of research to rural communities, farmers, and families in Africa, Asia, and Latin America (www.futureharvest.org).

© International Maize and Wheat Improvement Center (CIMMYT) 2002. All rights reserved. The opinions expressed in this publication are the sole responsibility of the authors. The designations employed in the presentation of materials in this publication do not imply the expression of any opinion whatsoever on the part of CIMMYT or its contributory organizations concerning the legal status of any country, territory, city, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. CIMMYT encourages fair use of this material. Proper citation is requested.

Correct citation: Ekboir, J. (ed.) 2002. *CIMMYT 2000-2001 World Wheat Overview and Outlook: Developing No-Till Packages for Small-Scale Farmers*. Mexico, DF: CIMMYT.

Abstract: Part 1 of this report (which is a continuation of CIMMYT's *World Wheat Facts and Trends* series under a new name) explores issues related to the development and adoption of no-till technology, especially in small-scale agriculture. It describes no-till's special features, the innovation systems through which the technology evolves, a new framework for the socioeconomic study of the development and adoption of no-till, and the methodological difficulties involved in measuring no-till's benefits and adoption. This information provides the context for a series of six case studies of no-till experiences among small-scale farmers in Latin America, Africa, and Asia (and largely in wheat cropping systems). Part 1 concludes by discussing key factors conditioning the effectiveness of no-till programs for small-scale farmers, including the implications for national and international agricultural research. Part 2 documents that wheat yield potential has grown more rapidly in marginal compared to favorable environments in recent years, explores the reasons for this growth, and discusses the implications for future wheat breeding research for marginal areas. Part 3 tracks current and future trends in the global wheat market, with special attention to policy in the United States, European Union, and China. Part 4 provides statistics on wheat production, consumption, yields, and other variables.

ISSN: 1665-1871

AGROVOC descriptors: Wheat; Food production; Production factors; Economic development; Small farms; Tillage; Environmental factors; Statistical analysis; Research projects; Research institutions; Developing countries

Additional Keywords: CIMMYT

AGRIS Category Codes: E14 Development Economics and Policies
E16 Production Economics

Dewey decimal classification: 338.16

Printed in Mexico.

Acknowledgments

Part 1 of this report is the product of considerable collaboration between staff of CIMMYT's Economics Program and researchers in its Natural Resources and Wheat Programs. The editor is particularly grateful to Peter Hobbs, Pat Wall, Raj Gupta, and Kenneth Sayre for providing valuable information on no-till. Peter Hobbs and Patrick Wall also reviewed drafts of Part 1.

Part 1 clearly benefited from the contributions of researchers and other sources outside of CIMMYT. The editor wishes especially to acknowledge the assistance and information offered by Hafiz Mujeeb-ur-Rahman, P.K. Singh, Mushtaq Gill, Rolf Derpsch, Jim Findlay, and Chris Dowswell.

Many people also contributed to the statistical information presented in Part 4. The editor thanks several CIMMYT staff for their assistance in data collection and analysis, including Hans Joachim Braun, Hugo De Groote, Carlos De León, Man Mohan Kohli, Patrick Wall, and He Zhonghu. A great deal of additional information came from researchers and institutions around the world, whose assistance is appreciated: Bassam Al-Zain, Ali Aydin, J.M. Balagué, Ahmet Bayanar, Bedada Girma, M.R. Bhatta, Valdir Bisotto, Gaetano Boggini, Klaus Brunckherst, Ivo Marcos Carraro, Michel Chapon, J. Gonzalo Díaz De León T., José Dilmer Moreno M., Hassan Ekiz, Dario Fossati, Fabio Fusari, D. Gogas, Omar Hakouz, Mohammed Hassena, Ephrame K. Havazvidi, Institut Technique des Grandes Cultures, J.H. Jager, L. Jestin, Tapio Juuti, M.G. Kinyua, Christof I. Kling, Benvindo M. Macas, José Marinetto Quiles, J.A. Martín-Sánchez, Tarúsio Minetto, Mohamed Salih Mohamed, Mary V. Mukwavi, G.S. Nanda, Hasan Ozcan, Ivan Panayotov, R. De Pauw, S.V.R.K. Prabhakar, Ignacio Ramírez A., Ramiro Ramirez Plazas, Oriana Porfiri, Miguel Rivadeneira, José Ruedell, Oscar I. Silvero Sanz, Ajmer Singh, Roque G.A. Tomasini, Reinhard von Broock, Zhao Xianlin, Kenan Yalvac, Yang Yanhua, and Mohammed Yunus.

The editor also thanks Janin Trinidad for providing clerical and logistical support, Satwant Kaur for editing the report, and Eliot Sanchez Pineda and Miguel Mellado for designing and producing it.