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- **Special chapters of**
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References

- AEBC (Agriculture and Environment Biotechnology Commission).** 2002. *Animals and biotechnology: a report by the AEBC*. London, Department of Trade and Industry.
- Alston, J.M., Norton, G.W. & Pardey, P.G.** 1995. *Science under scarcity: principles and practice for agricultural research evaluation and priority setting*. Ithaca, NY, USA, Cornell University Press.
- Alston, J.M., Marra, M.C., Pardey, P.G. & Wyatt, T.J.** 2000. Research returns redux: a meta-analysis of the returns to agricultural R&D. *Aust. J. Agr. Resour. Econ.*, 44(2): 185–215.
- Bennett, R., Morse, S. & Ismael, Y.** 2003. *The benefits of Bt cotton to small-scale producers in developing countries: the case of South Africa*. Paper presented at the 7th ICABR International Conference on Public Goods and Public Policy for Agricultural Biotechnology, Ravello, Italy, 29 June to 3 July 2003 (available at <http://www.economia.uniroma2.it/conferenze/icabr2003/papers/papers.htm>; accessed March 2004).
- Byerlee, D. & Fischer, K.** 2002. Accessing modern science: policy and institutional options for agricultural biotechnology in developing countries. *World Dev.*, 30(6): 931–948.
- Byerlee, D. & Hesse de Polanco, E.** 1986. Farmers' stepwise adoption of technological packages: evidence from the Mexican Altiplano. *Am. J. Agr. Econ.*, 68(3): 519–527.
- Byerlee, D. & Moya, P.** 1993. *Impacts of international wheat breeding research in the developing world, 1966–1990*. Mexico City, International Maize and Wheat Improvement Center.
- Byerlee, D. & Traxler, G.** 2002. The role of technology spillovers and economies of size in the efficient design of agricultural research systems. In J.M. Alston, P.G. Pardey & M.J. Taylor, eds. *Agricultural science policy: changing global agendas*. Baltimore, USA, Johns Hopkins University Press.
- Cabanilla, L.S., Abdoulaye & T. Sanders, J.H.** 2003. *Economic cost of non-adoption of Bt cotton in West Africa: with special reference to Mali*. Paper presented at the 7th ICABR International Conference on Public Goods and Public Policy for Agricultural Biotechnology, Ravello, Italy, 29 June to 3 July 2003 (available at <http://www.economia.uniroma2.it/conferenze/icabr2003/papers/papers.htm>; accessed March 2004).
- Cardellino, R., Hoffmann, I. & Tempelman, K.A.** 2003. *First report on the state of the world's animal genetic resources: views on biotechnologies as expressed in country reports*. Paper presented at the International Symposium on Applications of Gene-based Technologies for Improving Animal Production and Health in Developing Countries, 6–10 October 2003, Vienna. Organized by FAO and IAEA.
- Carpenter, J.E. & Gianessi, L.P.** 2001. *Agricultural biotechnology: updated benefits estimates*. Washington, DC, National Center for Food and Agricultural Policy.
- Chambers, P. & Heritage, J.** 2004. Transgenic crops and antibiotic marker genes. *AGRIPPA* (FAO peer-reviewed electronic journal), forthcoming (available at <http://www.fao.org/agrippa>).
- Charles, A.** 2003. Creation of GM potato to fight hunger sets India's scientists against green groups. *The Independent*, 3 January.
- CIAT (International Center For Tropical Agriculture) & IFPRI (International Food Policy Research Institute).** 2002. *Biofortified crops for improved human nutrition. A Challenge Program Proposal* (available at <http://www.cgiar.org/pdf/biofortification.pdf>; accessed March 2004).
- Coghlan, A.** 2003. Genetically modified "protato" to feed India's poor. *New Scientist*, 2 January.
- Conner, A.J., Glare, T.R. & Nap, J.-P.** 2003. The release of genetically modified crops into the environment: Part II. Overview of ecological risk assessment. *Plant J.*, 33: 19–46.
- Conway, G.** 2000. *Crop biotechnology: benefits, risks and ownership*. Speech by President of the Rockefeller Foundation delivered at the OECD Edinburgh Conference on the Scientific and Health Aspects of Genetically Modified Foods (available under news archive at <http://www.rockfound.org>; accessed March 2004).
- Corneille, S., Lutz, K., Svab, Z. & Maliga, P.** 2001. Efficient elimination of selectable marker genes from the plastid genome by the CRE-lox site-specific recombination system. *Plant J.*, 27: 171–178.
- DANIDA (Danish International Development Agency).** 2002. *Assessment of potentials and constraints for development and use of plant*

- biotechnology in relation to plant breeding and crop production in developing countries.* DANIDA Working Paper 104. DAN.4-52-5.b. Copenhagen, Ministry of Foreign Affairs.
- David, C. & Otsuka, K., eds.** 1994. *Modern rice technology and income distribution in Asia.* Boulder, CO, USA, Lynne Rienner Publishers.
- De Vetten, N., Wolters, A.M., Raemakers, K., Van Der Meer, I., Ter Stege, R., Heeres, E., Heeres, P. & Visser, R.** 2003. A transformation method for obtaining marker-free plants of a cross-pollinating and vegetatively propagated crop. *Nat. Biotechnol.*, 21(4): 439–442.
- Delgado, L.C., Hopkins, J. & Kelly, V.A.** 1998. *Agricultural growth linkages in sub-Saharan Africa.* IFPRI Research Report No. 107. Washington, DC, International Food Policy Research Institute.
- Dreher, K., Morris, M., Khairallah, M., Ribaut, J.M., Pandey, S. & Srinivasan, G.** 2000. *Is marker-assisted selection cost-effective compared to conventional plant breeding methods? The case of quality protein maize.* Paper presented at the 4th ICABR Conference on Economics of Agricultural Biotechnology, Ravello, Italy, 24–28 August 2000.
- Duffy, M.** 2001. *Who benefits from biotechnology?* Paper presented at the American Seed Trade Association meeting, Chicago, IL, USA, 5–7 December (available at <http://www.leopold.iastate.edu/pubinfo/papersspeeches/biotech.html>; accessed March 2004).
- Einsiedel, E.F.** 1998. The market for credible information in biotechnology. *Biotechnology and the Consumer.* In B.M. Knoppers & A.M. Mathios, eds. *Biotechnology and the consumer: a research project sponsored by the Office of Consumer Affairs of Industry Canada*, pp. 47–85. Dordrecht, Netherlands, Kluwer Academic Publishers.
- Environics International.** 2000. *International Environmental Monitor 2000.* Toronto, Canada.
- Environics International.** 2001. *Food Issues Monitor 2001.* Toronto, Canada.
- Evenson, R.E. & Gollin, D.** 2003. Assessing the impact of the green revolution: 1960–2000. *Science*, 300: 758–762.
- Falck-Zepeda, J.B., Traxler, G. & Nelson, R.G.** 1999. *Rent creation and distribution from the first three years of planting Bt cotton.* ISAAA Briefs No. 14. Ithaca, USA, International Service for the Acquisition of Agri-biotech Applications.
- Falck-Zepeda, J.B., Traxler, G. & Nelson, R.G.** 2000a. Surplus distribution from the introduction of a biotechnology innovation. *Am. J. Agr. Econ.*, 82(2): 360–369.
- Falck-Zepeda, J.B., Traxler, G. & Nelson, R.G.** 2000b. Rent creation and distribution from biotechnology innovations: the case of Bt cotton and herbicide-tolerant soybeans in 1997. *Agribusiness*, 16(1): 1–23.
- Fan, S., Hazell, P. & Thorat, S.** 1998. *Government spending, growth, and poverty: an analysis of interlinkages in rural India.* EPTD Discussion Paper No. 33. Washington, DC, International Food Policy Research Institute.
- FAO.** 2000a. *The State of Food Insecurity in the World 2000.* Rome.
- FAO.** 2000b. *FAO statement on biotechnology* (available at <http://www.fao.org/biotech/state.asp>; accessed March 2004).
- FAO.** 2001a. *Glossary of biotechnology for food and agriculture: a revised and augmented edition of the glossary of biotechnology and genetic engineering.* Rome, FAO Research and Technology Paper 9 (also available at http://www.fao.org/biotech/index_glossary.asp?lang=en; accessed March 2004).
- FAO.** 2001b. *Pest risk analysis for quarantine pests.* ISPM Pub. No. 11. Rome.
- FAO.** 2002a. *Crop biotechnology: a working paper for administrators and policy makers in sub-Saharan Africa*, by L. Kitch, M. Koch & I. Sithole Niang. Harare.
- FAO.** 2002b. *Report of the Fourth Interim Commission on Phytosanitary Measures.* 11–15 March 2002, Rome (available at http://www.ippc.int/IPP/En/icpm_docs.jsp; accessed March 2004).
- FAO.** 2003. *FAOSTAT (FAO statistical databases)* (available at <http://apps.fao.org/default.htm>; accessed March 2004).
- FAO/WHO.** 2000. *Safety aspects of genetically modified foods of plant origin.* Report of a Joint FAO/WHO Expert Consultation on Foods Derived from Biotechnology, Geneva, Switzerland. 29 May–2 June 2000 (available at <ftp://ftp.fao.org/es/esn/food/gmreport.pdf>; accessed March 2004).
- FAO/WHO.** 2001. Codex general standard for the labelling of prepackaged foods. Codex Stan. 1-1985 (Rev. 1-1991). In *Codex Alimentarius. Food labelling. Complete texts.* Revised 2001. Rome.
- FAO/WHO.** 2003a. *Principles for the risk analysis of foods derived from modern biotechnology.* Rome (available at ftp://ftp.fao.org/es/esn/food/princ_gmfoods_en.pdf; accessed March 2004).
- FAO/WHO.** 2003b. *Guideline for the conduct of food safety assessment of foods derived from*

- recombinant-DNA plants*. Rome (available at ftp://ftp.fao.org/es/esn/food/guide_plants_en.pdf; accessed March 2004).
- FAO/WHO**. 2003c. *Guideline for the conduct of food safety assessment of foods produced using recombinant-DNA microorganisms*. Rome (available at ftp://ftp.fao.org/es/esn/food/guide_mos_en.pdf; accessed March 2004).
- FAO/WHO**. 2003d. *Codex Alimentarius Commission. Report of the Twenty-Sixth Session, 30 June–7 July 2003, Rome* (available at ftp://ftp.fao.org/codex/alnorm03/al03_41e.pdf; accessed March 2004).
- FAO/WHO**. 2003e. *Report of the Thirtieth Session of the Codex Committee on Food Labelling, 6–10 May 2002, Halifax, Canada* (available at ftp://ftp.fao.org/codex/alnorm03/Al03_22e.pdf; accessed March 2004).
- Fernandez-Cornejo, J. & McBride, W.D.** 2000. *Genetically engineered crops for pest management in US agriculture: farm level effects*. Agricultural Economic Report No. 786. Washington, DC, Economic Research Service, United States Department of Agriculture.
- Five Year Freeze**. 2002. *Feeding or fooling the world? Can GM really feed the world?* (available at http://www.fiveyearfreeze.org/Feed_Fool_World.pdf; accessed March 2004).
- Frewer, L.J. & Shepherd, R.S.** 1994. Attributing information to different sources: effects on the perceived qualities of information, on the perceived relevance of information, and on attitude formation. *Public Underst. Sci.*, 3: 385–401.
- General Accounting Office**. 2000. *Information on prices of genetically modified seeds in the United States and Argentina*. Washington, DC, United States General Accounting Office.
- Gianessi, L.P., Silvers, C.S., Sankula, S. & Carpenter, J.E.** 2002. *Plant biotechnology: current and potential impact for improving pest management in US agriculture: an analysis of 40 case studies*. Washington, DC, National Center for Food and Agricultural Policy.
- Gisselquist, D., Nash, J. & Pray, C.E.** 2002. Deregulating technology transfer in agriculture: impact on technical change, productivity, and incomes. *World Bank Research Observer*, 17: 237–265.
- GM Science Review Panel**. 2003. *GM Science Review: First report – an open review of the science relevant to GM crops and food based on the interests and concerns of the public*. London, Department of Trade and Industry (also available at <http://www.gmsciencedebate.org.uk/report/default.htm>; accessed March 2004).
- Golan, E., Kuchler, F. & Mitchell, L.** 2000. *Economics of food labelling*. Washington, DC, United States Department of Agriculture.
- Graff, G. & Zilberman, D.** 2001. An intellectual property clearinghouse for agricultural biotechnology. *Nature Biotechnology*, 19: 1179–1181.
- Graham, R.D., Welch, R.M. & Bouis, H.E.** 2001. Addressing micronutrient malnutrition through enhancing the nutritional quality of staple foods: principles, perspectives and knowledge gaps. *Advances in Agronomy*, 70: 77–142.
- Hayami, Y., Kikuchi, M., Moya, P.F., Bambo, L.M. & Marciano, E.B.** 1978. *Anatomy of a peasant economy: a rice village in the Philippines*. Los Baños, International Rice Research Institute.
- Hayami, Y. & Ruttan, V.W.** 1985. *Agricultural development: an international perspective*, 2nd edn. Baltimore, USA, Johns Hopkins University Press.
- Hazell, P. & Haggblade, S.** 1993. Farm–nonfarm growth linkages and the welfare of the poor. In M. Lipton & J. van de Gaag, eds. *Including the poor*. Washington, DC, World Bank.
- Herd, R.W.** 1987. A retrospective view of technological and other changes in Philippine rice farming, 1965–1982. *Econ. Dev. Cult. Change*, 35(2): 329–349.
- Hoban, T.** 2004. *Public attitudes towards agricultural biotechnology*. ESA Working Paper, forthcoming. Rome, FAO.
- ICSU (International Council for Science)**. 2003. *New genetics, food and agriculture: scientific discoveries – societal dilemmas*. Paris (also available at <http://www.icsu.org>).
- James, C.** 1999. *Global review of commercialized transgenic crops: 1999*. ISAAA Briefs No. 12: Preview. Ithaca, NY, USA, International Service for the Acquisition of Agri-biotech Applications.
- James, C.** 2002a. *Preview: global status of commercialized transgenic crops: 2002*. ISAAA Briefs No. 27. Ithaca, NY, USA, International Service for the Acquisition of Agri-biotech Applications.
- James, C.** 2002b. *Global review of commercialized transgenic crops: 2001 (Feature: Bt cotton)*. ISAAA Briefs No. 26. Ithaca NY, USA, International Service for the Acquisition of Agri-biotech Applications.
- James, C.** 2003. *Preview: Global status of commercialized transgenic crops: 2003*. ISAAA Briefs No. 30. Ithaca, NY, USA, International Service for the Acquisition of Agri-biotech Applications (also available at <http://www.icsu.org>).

- //www.isaaa.org/kc/CBTNews/press_release/briefs30/es_b30.pdf; accessed March 2004)
- Kirsten, J. & Gouse, M.** 2003. The impact of agricultural biotechnology in South Africa. In N. Kalaitzandonakes, ed. *The economic and environmental impacts of agbiotech: a global perspective*. New York, USA, Kluwer-Plenum Academic Publishers.
- Knoppers, B.M. & Mathios, A.M., eds.** 1998. *Biotechnology and the consumer: a research project sponsored by the Office of Consumer Affairs of Industry Canada*. Dordrecht, Netherlands, Kluwer Academic Publishers.
- Lantican, M. & Pingali, P.L.** 2003. Growth in wheat yield potential in marginal environments. In *Proceedings of the Warren E. Kronstad Memorial Symposium*, 1–17 March 2001. Mexico City, International Maize and Wheat Improvement Center.
- Lipton, M.** 2001. Reviving global poverty reduction: what role for genetically modified plants? *J. Int. Devel.*, 13: 823–846.
- Losey, J.E., Rayor, L.S. & Carter, M.E.** 1999. Transgenic pollen harms monarch larvae. *Nature*, 399(6733): 214.
- MacKenzie, D. & McLean, M.** 2002. Who's afraid of GM feeds? *Feed Mix* 10(3): 16–19 (also available at <http://www.agbios.com/docroot/articles/02-232-001.pdf>; accessed March 2004).
- Malmquist, S.** 1953. Index numbers and indifference surfaces. *Trabajos de Estadística*, 4: 209–242.
- Maredia, M.K., Byerlee, D. & Eicher, C.K.** 2004. *The efficiency of global wheat research investments: implications for research evaluation, research managers and donors*. Staff Paper No. 94–17. Department of Agricultural Economics, Michigan State University, USA.
- Morris, M.** 1998. *Maize seed industries in developing countries*. Boulder, CO, USA, Lynne Rienner Publishers.
- Moschini, G., Lapan, H. & Sobolevsky, A.** 2000. Roundup Ready® Soybeans and welfare effects in the soybean complex. *Agribusiness*, 16: 33–35.
- Naik, G.** 2001. *An analysis of socio-economic impact of Bt technology on Indian cotton farmers*. Ahmedabad, India, Centre for Management in Agriculture, Indian Institute of Management.
- Naylor, R., Nelson, R., Falcon, W., Goodman, R., Jahn, M., Kalazich, J., Sengooba, T. & Tefera, H.** 2002. *Integrating new genetic technologies into the improvement of orphan crops in least developed countries*. Presented at the 6th ICABR International Conference on Agricultural Biotechnologies: New Avenues for Production, Consumption and Technology Transfer, Ravello, Italy, 11–14 July 2002 (available at <http://www.economia.uniroma2.it/conferenze/icabr/download/papers2002download.htm>; accessed March 2004).
- NRC (National Research Council).** 2002. *Animal biotechnology. Science based concerns*. Washington, DC, The National Academies Press.
- Nuffield Council on Bioethics.** 1999. *Genetically modified crops: the ethical and social issues*. London.
- Nuffield Council on Bioethics.** 2003. *The use of genetically modified crops in developing countries*. Draft for comment, June 2003. London.
- Pemsl, D.E., Waibel, H. & Gutierrez, A.P.** 2003. *Productivity analysis of Bt cotton: a modelling approach based on a case study in Shandong Province, China*. Paper presented at the 7th ICABR International Conference on Public Goods and Public Policy for Agricultural Biotechnology, Ravello, Italy, 29 June to 3 July 2003 (available at <http://www.economia.uniroma2.it/conferenze/icabr2003/papers/papers.htm>; accessed March 2004).
- Pew Initiative on Food and Biotechnology.** 2002a. *Three years later: genetically engineered corn and the monarch butterfly controversy*. Issue Brief (available at <http://pewagbiotech.org/resources/issuebriefs/monarch.pdf>).
- Pew Initiative on Food and Biotechnology.** 2002b. *How consumers process information at heart of debate over labeling of genetically modified foods*. News release (available at <http://pewagbiotech.org/newsroom/releases/062702.php3>; accessed March 2004).
- Pew Initiative on Food and Biotechnology.** 2003. *Future fish: issues in science and regulation of transgenic fish*. Washington, DC (also available at <http://pewagbiotech.org/research/fish>; accessed March 2004).
- Pingali, P.L. & Heisey, P.W.** 2001. Cereal-crop productivity in developing countries: past trends and future prospects. In J.M. Alston, P.G. Pardey & M. Taylor, eds. *Agricultural science policy*. Washington, DC, International Food Policy Research Institute and Johns Hopkins University Press.
- Pingali, P.L. & Rajaram, S.R.** 1999. *World wheat facts and trends, 1998/99*. Mexico City, International Maize and Wheat Improvement Center.
- Pingali, P. & Raney, T.** 2003. *Globalization and agricultural biotechnology: impacts and*

- implications for developing countries. ESA Working Paper. Rome, FAO.
- Pingali, P. & Traxler, G.** 2002. Changing locus of agricultural research: will the poor benefit from biotechnology and privatization trends? *Food Policy*, 27: 223–238.
- Pingali, P., Rozelle, S. & Gerpacio, R.V.** 2001. The farmer's voice in priority setting: a cross-country experiment in eliciting technological preferences. *Econ. Dev. Cult. Change*, 49(3): 591–609.
- Potrykus, I.** 2003. From "golden" to "nutritionally optimized" rice – and from a scientific concept to the farmer. Presentation delivered at the conference "In the Wake of the Double Helix: from the Green Revolution to the Gene Revolution", Bologna, Italy, 27–31 May.
- Pray, C.E.** 2001. Public/private sector linkages in research and development: biotechnology and the seed industry in Brazil, China and India. *Am. J. Agr. Econ.*, 83(3): 742–747.
- Pray, C.E. & Fuglie, K.O.** 2000. *Policies for private agricultural research in Asian LDCs*. Paper presented at the XXIV International Conference of Agricultural Economists, Berlin, Germany.
- Pray, C.E. & Huang, J.** 2003. The impact of Bt cotton in China. In N. Kalaitzandonakes, ed. *The economic and environmental impacts of agbiotech: a global perspective*. New York, USA, Kluwer-Plenum Academic Publishers.
- Pray, C.E. & Naseem, A.** 2003a. *The economics of agricultural biotechnology research*. ESA Working Paper 03-07. Rome, FAO.
- Pray, C.E. & Naseem, A.** 2003b. *Biotechnology R&D: policy options to ensure access and benefits for the poor*. ESA Working Paper 03-08. Rome, FAO.
- Pray, C.E. & Ramaswami, B.** 2001. Technology, IPRs, and reform options: a case study of the seed industry with implications for other input industries. *The International Food and Agricultural Marketing Review, Special Issue*, 2.
- Pray, C.E., Courtmanche, A. & Govindasamy, R.** 2002. *The importance of intellectual property rights in the international spread of private sector agricultural biotechnology*. Paper presented at the 6th ICABR International Conference on Agricultural Biotechnologies: New Avenues for Production, Consumption and Technology Transfer, Ravello, Italy, 11–14 July 2002 (available at <http://www.economia.uniroma2.it/conferenze/icabr/download/papers/2002download.htm>; accessed March 2004).
- Pray, C.E., Huang, J., Hu, R. & Rozelle, S.** 2002. Five years of Bt cotton in China – the benefits continue. *The Plant Journal*, 31(4): 423–430.
- Pray, C.E., Huang, J., Ma, D. & Qiao, F.** 2001. Impact of Bt cotton in China. *World Dev.*, 29(5): 813–825.
- Qaim, M. & Zilberman, D.** 2003. Yield effects of genetically modified crops in developing countries. *Science*, 299: 900–902.
- Qaim, M. & de Janvry, A.** 2003. Genetically modified crops, corporate pricing strategies, and farmers' adoption: the case of Bt cotton in Argentina. *Am. J. Agr. Econ.*, 85(4): 814–828.
- Qaim, M. & Traxler, G.** 2004. Roundup ready Soybeans in Argentina: farm level, environmental, and welfare effect. *Agr. Econ.*, in press.
- Renkow, M.** 1993. Differential technology adoption and income distribution in Pakistan: implications for research resource allocation. *Am. J. Agr. Econ.*, 75(1): 33–43.
- Rommens, C.M., Rudenko, G.N., Dijkwel, P.P., van Haaren, M.J., Ouwkerk, P.B., Blok, K.M., Nijkamp, H.J. & Hille, J.** 1992. Characterization of the Ac/Ds behaviour in transgenic tomato plants using plasmid rescue. *Plant Molec. Biol.*, 20(1): 61–70.
- Royal Society.** 2003. The Farm Scale Evaluations of spring-sown genetically modified crops. A themed issue. *Philos. Trans. R. Soc. Lond. B*, 358(1439): 1775–1913 (available at http://www.pubs.royalsoc.ac.uk/phil_bio/news/fse_toc.html; accessed March 2004).
- Ruttan, V.W.** 2001. *Technology, growth and development: an induced innovation perspective*. New York, USA, Oxford University Press.
- Sadoulet, E. & de Janvry, A.** 1995. *Quantitative development policy analysis*. Baltimore, USA, Johns Hopkins University Press.
- Secretariat of the Convention on Biological Diversity.** 1992. *Convention on Biological Diversity* (available at <http://www.biodiv.org/convention/articles.asp>; accessed March 2004).
- Secretariat of the Convention on Biological Diversity.** 2000. *Cartagena Protocol on Biosafety to the Convention on Biological Diversity: text and annexes*. Montreal, Canada (also available at <http://www.biodiv.org/biosafety/protocol.asp>; accessed March 2004).
- Stahl, R., Horvath, H., Van Fleet, J., Voetz, M., von Wettstein, D. & Wolf, N.** 2002. T-DNA integration into the barley genome from single and double cassette vectors. *Proc. Natl. Acad. Sci. USA*, 99: 2146–2151.

- Stone, G.D.** 2002. Both sides now: fallacies in the genetic modification wars, implications for developing countries, and anthropological perspectives. *Curr. Anthropol.*, 43(4): 611–630.
- Tegene, A., Huffman, W.E., Rousu, M. & Shogren, J.F.** 2003. *The effects of information on consumer demand for biotech foods: evidence from experimental auctions*. Technical Bulletin No. 1903. Washington, DC, USDA Economic Research Service.
- Thompson, P.B.** 1997. *Food biotechnology in ethical perspective*. London, Blackie Academic & Professional.
- Thro, A.M. & Spillane, C.** 2000. *Biotechnology-assisted participatory plant breeding: complement or contradiction*. CGIAR System-wide Program on Participatory Research and Gender Analysis for Technology Development and Institutional Innovation. Working Document No. 4. Cali, Colombia, International Center for Tropical Agriculture.
- Traxler, G.** 2004. *Economic impacts of biotechnology-based technological innovations*. ESA Working Paper, forthcoming. Rome, FAO.
- Traxler, G. & Byerlee, D.** 1992. Economic returns to crop management research in post-green revolution setting. *Am. J. Agric. Econ.*, 74 (3): 573–582.
- Traxler, G. & Pingali, P.L.** 1999. *International collaboration in crop improvement research: current status and future prospects*. Economics Working Paper No. 99-11. Mexico City, International Maize and Wheat Improvement Center.
- Traxler, G., Godoy-Avila, S., Falck-Zepeda, J. & Espinoza-Arellano, J.** 2003. Transgenic cotton in Mexico: economic and environmental impacts. In N. Kalaitzandonakes, ed. *The economic and environmental impacts of agbiotech: a global perspective*, New York, USA, Kluwer-Plenum Academic Publishers.
- USDA-AMS (United States Department of Agriculture, Agricultural Marketing Service).** Various years. *Cotton varieties planted* (available at www.ams.usda.gov/cotton/mnacs; accessed March 2004).
- van der Walt, W.J.** 2000. *Identifying increased production yield opportunities by monitoring biotechnology developments*. Presentation delivered at the 7th annual Agriculture Management Conference, VW Conference Centre, Midrand, South Africa, 25–26 October 2000.
- WHO (World Health Organization).** 2002. *20 questions on genetically modified (GM) foods* (available at http://www.who.int/foodsafety/publications/biotech/en/20questions_en.pdf; accessed March 2004).
- Ye, X., Al-Babili, S., Klöti, A., Zhang, J., Lucca, P., Beyer, P. & Potrykus, I.** 2000. Engineering the provitamin A (beta-carotene) biosynthetic pathway into (carotenoid-free) rice endosperm. *Science*, 287(5451): 303–305.
- Zimmerman, R. & Qaim, M.** 2002. *Projecting the benefits of golden rice in the Philippines*. Discussion Paper on Development Policy No. 51. Bonn, Germany, Centre for Development Research.
- Zuo, J., Niu, Q.W., Ikeda, Y. & Chua, N.H.** 2002. Marker-free transformation: increasing transformation frequency by the use of regeneration-promoting genes. *Curr. Opin. Biotechnol.*, 13(2): 173–180.

Special chapters of *The State of Food and Agriculture*

In addition to the usual review of the recent world food and agricultural situation, each issue of this report since 1957 has included one or more special studies on problems of longer-term interest. Special chapters in earlier issues have covered the following subjects:

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The State of Food Insecurity in the World
The State of World Fisheries and Aquaculture
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*Food, agriculture and rural development:
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THE STATE OF FOOD AND AGRICULTURE

The State of Food and Agriculture 2003-04 explores the potential of agricultural biotechnology – especially transgenic crops – to meet the needs of the poor. It is found that agricultural biotechnology can help the poor by reducing reliance on toxic agricultural chemicals, lowering production costs for farmers, enhancing the nutritional content of foods and improving the control of plant and animal diseases. These gains can boost agricultural productivity and reduce food prices, but the benefits may not reach the poor. The report also presents an analysis of the socio-economic impacts of technological change in agriculture and surveys the current evidence regarding the safety of transgenic crops for human health and the environment. It recommends targeted investments in agricultural research, extension and regulatory capacity to ensure that the potential of agricultural biotechnology is brought to bear on the needs of the poor.

included in this issue is the SOFA 2003-04 CD ROM, containing time series data for 150 countries and regions in English, French and Spanish, together with FAOSTAT software for easy access and use.



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