Genetically Modified Planet: Environmental Impacts of Genetically Engineered Plants. 2004. C. Neal Stewart, Jr. Oxford University Press, New York. 240 p. ISBN 0-19-515745-1.

C. Neal Stewart, Jr., currently holds the Racheff Chair of Excellence in Plant Molecular Genetics and is a professor in the Department of Plant Sciences at the University of Tennessee–Knoxville. He conducts research in plant genomics and his lab is active in genetic modification of plants for crop improvement and other applications. Stewart received his BS degree in Horticulture from North Carolina State University, and his MS and PhD degrees in Biology from Virginia Polytechnic Institute and State University. He did postdoctoral training in the Department of Crop and Soil Sciences at the University of Georgia, before joining the Biology faculty at University of North Carolina–Greensboro, where he taught until moving to the University of Tennessee in 2002. Stewart has thorough academic training and experience in the subject matter of his book *Genetically Modified Planet: Environmental Impacts of Genetically Engineered Plants*. Genetic modification of plants and its applications to agriculture are his specialty. The tradeoff of such expertise is the author's perspective, which is naturally biased toward the technology.

This book focuses entirely on ecological issues of genetically engineered plants and their potential impacts when released into the open environment. No consideration is given to human health effects such as allergenicity and compromised immune systems from exposure to novel proteins, or horizontal transfer of antibiotic resistance genes into natural bacterial populations like *E. coli* that inhabit the guts of humans and animals. Although near the end of the book, the author is highly critical of various environmental groups and he does discuss regulatory affairs, issues related to ethical responsibilities of scientists and applications of their creations for social welfare are not within his purview. Stewart states: "Politics and sociology are not within the realm of science" (p. 22).

The primary topics addressed include movement of transgenes into weedy plants with the possibility of creating super weeds, or of contaminating genetic diversity resources such as the land races of important crop plants essential for adaptation of crops to pests and changing environmental conditions in the future. Other issues addressed include the potential harm insect resistant transgenes

can cause in killing off beneficial insects, and the development of resistance by target insects or weeds to the transges for insect or herbicide resistance. In spite of the author's strong pro biotechnology bias, he is an engaging writer who does an excellent job explaining the basics of this technology, and in most cases, accurately describes evidence of concern such as transgene escape. There are some minor factual errors. For example, the author states that corn, which is the quintessential United States cash crop grown on more than 70 million acres per year, does not have any wild relatives in North America. To the contrary, a close relative of corn is Eastern gamagrass, *Tripsacum dactyloides* L., which grows throughout North America except in the northwestern states. This book is a study in contrasts of one of the hottest, most controversial topics of our time. In spite of the author's pro-biotechnology bias peppered throughout with emotional comments, he does an outstanding job elucidating key areas of environmental concern related to this new technology. This is a excellent book for stimulating critical thinking and discussion on this vital topic—pro and con.

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