degree of apical dominance. He argues that because variability for degree of apical dominance exists among genotypes, it can be manipulated through breeding.

In Chapter 9, ‘Breeding maize to face weed problems’, Ghera advances two conceptual management strategies: the first one assumes skilled managers and hybrids with “rigid” (non-plastic) phenotype that vary very little when grown in different environments (stable harvest index). The second concept assumes less skillful or resourceful managers, crop environment is poorly controlled, and optimum production will depend more on the capability of the crop plants to adjust to these circumstances. A changing (“plastic”) phenotype is required for such conditions. The author suggests that improving maize characteristics should reduce the negative effects of weed interference on yield.

Chapter 10 relates to simulation modeling for crop improvement. Hunt suggests that crop simulation models can be used to increase the efficiency of crop improvement programs. He recognizes three phases of activity in self-pollinated crops: (i) planning and hybridization, (ii) segregation and stabilization, and (iii) line evaluation and release, with the breeder spending 40% of the time on the planning and hybridization phase and 50% on line evaluation and release, in contrast with the technician who spends 5% time in the planning and hybridization phase and 85% in the line evaluation and release phase.

A scheme for breeding a cross-pollinated crop also is presented. He recognizes that confidence in any simulation models requires an extensive evaluation; data on several genotype-specific traits and software are required for modeling.

The final chapter (Maddonni et al.) is a synthesis of previous chapters and posters presented at the workshop. Important points are highlighted by referring to figures in previous chapters and presenting figures from other references. Overall, a strong case has been made for the use of physiological traits in maize breeding. The information organized in this book should help maize breeders understand and successfully use physiological traits/parameters as selection criteria. Much additional research is, however, required on heritability of and relationships among these traits to fine-tune breeding programs.

I noted only a few, small typographical and grammatical errors. On page 10: the sentence “... there are no clear indications of what are the likely sources for the next step.” needs restructuring. On page 124: ‘plastic DNA’ should be ‘plastid DNA,’ and on page 163: ‘Theosinte’ should be ‘Teosinte.’

In conclusion, the authors and editors have done a commendable job in preparing this book. The book should be an excellent reference for maize researchers. In addition, it could serve as a supplementary reading in crop physiology/breeding courses for undergraduate and graduate students.

The price of the book, $69.95, seems reasonable.

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The subtitle to this book, “The potential and hazards of genetically modified foods” aptly describes the content of this book. The book was written to educate those interested in understanding the food they consume, and to foster a more rational debate on genetically modified foods. Food safety and environmental concerns are emphasized. The book is easy to read and should be understandable to anyone with a college degree or equivalent. A glossary is included to help the reader understand unfamiliar terms, and a number of easily accessible web sites are included in the reference section. The author, Alan McHughen, has a unique perspective, as he is one of the few public researchers who has released a genetically modified crop plant.

Using an extended food or menu metaphor throughout the boo, Dr. McHughen has succeeded in providing the reader with a comprehensive discussion on what is genetically modified food. Written for the lay audience, he has included well-written and easy to understand descriptions of molecular genetics, gene banks, the polymerase chain reaction, genetic transformation, a history of genetic engineering, and the fundamentals of plant breeding (the conventional system of crop improvement which serves as the comparison to genetically modified foods). Having provided the reader with the necessary technical background, he then describes the food system, scientific regulation (includes an excellent discussion of risk, hazard, exposure, toxicity, tolerances, and the precautionary principle), what are real vs. perceived hazards with this new technology, intellectual property rights, and issues related to labeling foods. In this section, he describes in detail all of the experiments that have been cited (e.g., L-tryptophan, lectins in potatoes, Bt and butterflies, and allergenic proteins in foods) as reasons to fear genetically modified foods, and explains their experimental flaws. He also describes in detail those concerns that are real and important. His description on why the general public has difficulty identifying groups (e.g., activists, regulators, academics, media) who can be trusted to provide unbiased information on genetically modified foods highlights the complexity of trying to communicate science.

The strengths of the book are its comprehensiveness, its ability to describe complex issues in understandable terms, and the author’s personal anecdotes concerning getting a genetically modified crop approved through the regulatory system. A few examples are illustrative. In “a picture is worth a thousand words” category is a picture on p. 148, where the author simply photographed the paperwork needed to release a conventionally developed (a thin folder) and a transgenic (a bottle of cooking oil that listed as its ingredients as “vegetable oil” and “factually informative and unambiguous, but still useless” (he gives the material safety data sheet on sodium benzoate, a common food additive which, in some foods, is being replaced by potassium benzoate so they can say the new product is lower in sodium). The “may contain” label is particularly poignant, because anyone with an allergy to the “may contain” ingredient must avoid that food. Finally, some labels are not complete. Can a vegetarian eat flour that includes insect parts, which often occur but are not labeled as such? And what about products with a set tolerance level?”

Another strength of the book is its ability to compare how we treat genetically modified foods to other products and technologies. His chapter on getting a genetically modified