
This book makes an important contribution to our understanding of how communities can work together to make agriculture more sustainable. As the editors suggest, the book tries to answer two questions: “can we learn our way to a more sustainable agriculture? And if so, what does it take?”

What it takes, according to all of the contributors to this volume, is a much more comprehensive approach than has been taken heretofore. More often than not, we attempt to bring about change in agriculture simply by introducing new technologies. But according to the findings of these authors, it is primarily the “human actor” not the “bio-physical process” that must be addressed.

These authors take their point of departure from an epistemological perspective that is at variance with the realist-positivist epistemology that is common among natural scientists. The latter, they argue, is showing itself increasingly incompatible with the efforts to establish a sustainable society. They suggest, as an alternative, an epistemological perspective that they call “constructionism,” by which they mean “reality no longer appears as a ‘given’ but as something actively ‘constructed’ by people.” This is not to suggest that there is no “reality” out there, but that the only conceivable perception we can have of it is that which we obtain through our own experience.

This may appear like so many angels dancing on the head of academic pins. But the authors of this volume go to great length to point out why our previous efforts, based largely on the “realist-positivist” perspective, have failed to bring about a more sustainable agriculture. And they provide rich examples of how their alternative approach can and does bring about change. Two examples of failed attempts at implementing a more environmentally friendly agriculture in the Netherlands, and a successful attempt in Switzerland serve to make the point.

Anyone interested in the subject of how change with respect to land use can be implemented would find much in this book that is instructive. The book provides many practical ideas for how farmers and environmentalists can work together to achieve common objectives and help to develop policies that benefit both farmers and the environment.

We are also reminded that if we want to achieve practical goals with respect to the ecological health of our communities, then we need to look not only at the farms but at the ecosystem—the watershed, the polder, the ocean, etc. And we have to consider not just the farm household, but also the institutions in which the households are embedded.


This book is primarily a reference manual for exercises designed to acquaint undergraduate and graduate students with basic concepts in the art and skill of culturing plant tissues in vitro. Detailed descriptions of reagents, timetables for exercises, and suggested questions answered after each exercise clearly will assist teachers.

Much of the manual is devoted to descriptions of new applications, workspace and equipment requirements, nutritional and hormonal requirements of cultured tissue, and specific technique, and detailed protocols for simple and complex experiments. The manual also includes brief introductory sections that provide contextual information for each series of exercises, which can guide interested students to add-on exercises.

The first chapter, a contribution authored by John Thorpe, is an interesting historical perspective on plant tissue culture development, and modern applications of plant tissue culture is well done, but discussion of specific applications and the current state of the art could have been improved by additional reference to recent (post-1995) research.

Chapters 2 through 5 comprise general overview of plant tissue culture. Descriptions of laboratory facilities and equipment are concise and to the point. However, the description of plant tissue culture media are described almost in passing, detail as to their functions and uses, and tips in their preparation can be provided in the introduction. Discussion of proper storage conditions, and the stability and pH of the media that are useful. Most of the information is universal in nature (such as not replacing potentially contaminated media with their original containers), but some information is specific to the personal preference of the author (the author uses only glass-distilled water for media preparation).

Particularly instructive are the detailed discussions of explant preparation, sterilization, and potential sources of contamination and methods for their control.

The remaining chapters introduce students to plant tissue culture techniques and provide protocols for empirical applications. Chapters 6 (Callus Induction) and 7 (Regenera-