The Handbook of Medicinal Plants comprises five main sections; the first chapter by Professor Dr. h. c. Hildebert Wagner, a world renowned pharmacognosist, provides an enlightened look at the trends and challenges facing medicinal plant research. He emphasises the need for continued research in key areas such as the search for new bio-active compounds and highlights major concerns which include quality assurance and herb–drug interactions.

The second section covers the use of herbal medicines throughout history in China (in considerable detail), the Americas, the Middle East, the Mediterranean, lastly Africa and Australia, which are often neglected. The third section discusses the latest technologies in production and breeding, crop improvement, farming, biological screening and plant research.

The fourth section focuses on groundbreaking advances in the medicinal application of therapeutic herbs. Areas discussed include cancer therapy, prevention of coronary heart disease, gastrointestinal tract treatments, the treatment of endocrinological and metabolic diseases. The use of plants to treat central nervous system (CNS) disorders has gained interest recently with the popular use of Ginkgo (*Ginkgo biloba*) and St. John's Wort (*Hypericum perforatum*). These and other CNS-acting plants are covered by Peter John Houghton professor in pharmacognosy in the Department of Pharmacy, King's College London.

Michael Heinrich, professor and head of the Centre for Pharmacognosy and Phytotherapy, The School of Pharmacy, University of London, concludes by reflecting on the aspirations, challenges and threats to interdisciplinary medicinal plant research.

The Handbook of Medicinal Plants' objective is to encourage further research and public understanding of this complex, intriguing subject. It demonstrates the global relevance of sharing local knowledge about phytomedicines, and highlights the need to make information on plants available on a worldwide basis. From a research point of view, this book will help meet the challenges in delivering scientifically rationalized medicines that are safer, more effective, and readily available to patients from all walks of life.

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Dictionary of Plant Tissue Culture, AC Cassells and PB Gahan, Food Products Press (Haworth Press), 2006, Recommended price USD 29.95 ISBN 13: 978-1-56022-919-3.

The Dictionary of Plant Tissue Culture by AC Cassells and PB Gahan is a useful source of information on almost all matters relating to the techniques of plant tissue culture. Rather unusual for this type of dictionary (compare, for example, those of Life Sciences or Environment) the entries – or about 75% of them – are furnished with reference citations. In itself this may at first hand be seen as helpful but the reader is soon left with two main impressions. The first is that in numerous cases these are not the most authoritative references. Three such examples are: (1) the omission under protoplast fusion and cybrids of any reference to the pioneering work of Otto Schieder and Kristina Glimelius and their colleagues; (2) concerning the broad-spectrum-medium, failure to acknowledge RA de Fossard, creator of the concept and who presented a comprehensive experimental broad-spectrum set-up in his now classic book Tissue Culture for Plant Propagators 1975, The University of New England Printery, Armidale, NSW, 2351 Australia; and (3) if only one reference were to be cited for somaclonal variation then surely this would have to be that of Larkin PJ, Scowcroft WR 1981 (Somaclonal variation—a novel source of variability from cell cultures for plant improvement. Theoretical and Applied Genetics 60: 197–216).

The second impression is that the senior author, his wide tissue culture experience notwithstanding, has used this dictionary to publicise his own work. The reference section with 12% of the listings and a glossary with 95 citations of the work of Cassells and co-workers make the Dictionary read like a personal CV.

An obvious weakness is the treatment accorded light or irradiance, an area of plant physiology in which plant tissue culture generally is weak. It is surprising how many manuscripts are submitted still using lux, the measure of illuminance based on the candela (and sensitivity of the human eye). Some investigators probably have access only to devices calibrated in lux, but unless a careful description is given of the light source, interconversions to photon irradiance (expressed in mol m^{-2} s^{-1}, most commonly as μmol m^{-2} s^{-1}) or energy irradiance (expressed in W m^{-2} but not mentioned by the authors) are *sensu stricto* not possible. In this regard a word of caution would not have been amiss. However, the unit for photon irradiance is not written as μmole m^{-2} s^{-1} as on pp 102 and 172 and elsewhere. There is confusion in the number of units of photosynthetic photon flux used in tissue culture lighting. Compare mmol m^{-2} s^{-1} on p. 22 and μmol m^{-2} s^{-1} elsewhere. At the millimolar levels mentioned, plants grown *in vitro* would be severely light-inhibited or more likely totally frizzled. In the two upper blocks of Fig. 4, in addition to mmol instead of μmol, there are also typographical errors in the remainder of the units.

My overall impression is of a hastily-written and poorly-proofread text. In fact, typographical and other errors abound. The worst case is the misspelling of Zeiger, co-author of the Taiz and Zeiger Plant Physiology textbook that is so copiously cited. Throughout the dictionary Zeiger is written as Zeigler and at least once also as Zeifler (p. 202). See also Jelska instead of Jelaska (p. 258) and Hartmnann instead of Hartmann (p. 218), napthalene acetic acid (instead of napthaleneacetic acid, p.149), abscissic acid (instead of

abscisic acid, p. 175), etc. The present authors, like most other tissue culture authors, have also wrongly cited the classic Murashige and Skoog reference, the backbone of plant tissue culture experimentation. In the original publication bio assays was written as two words, not as bioassays or bio-assays. Whether authors agree or disagree, the reference has to be cited as published.

I compared the Dictionary under current review with the crisply-written Glossary of Terms used in Plant Cellular and Developmental Biology by GC Phillips and OL Gamborg (In: Plant Cell. Organ and Tissue Culture—Fundamental Methods, OL Gamborg, GC Phillips, eds Springer Lab Manual, 1995). The comparison convinced me that the Dictionary of Plant Tissue Culture is not only less user-friendly, but perhaps already in need of revision.

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Genetic Resources, Chromosome Engineering, And Crop Improvement: Vegetable Crops, Volume 3, Ram J. Singh (Ed.), Taylor and Francis Group, Boca Raton, London, New York, 6000 Broken Sound Parkway NW, Suite 300 Boca Raton FL 33487-2742, CRC Press, 2006. Recommended price $159.99. ISBN: 0-8493-9646-8, Hardcover, pp 352. Webmail: www.taylorandfrancis.com.

This book serves as a basic resource handbook for vegetable crop breeders, focusing on potato, tomato, brassicas, okra, capsicum, onions, cucurbits, lettuce, eggplant and carrot. Bean and peas are covered in another volume of this series on genetic resources, chromosome engineering and crop improvement. The editor of this book did an excellent job by selecting respected scientists for each chapter, as he did for other volumes of this series. Each chapter contains a short introduction and then covers comprehensive information on the origin, genetic resources, cytogenetics and strategies for breeding methods of the respected crops. Both conventional breeding as well as molecular breeding techniques are covered. The editor invited experts to cover each vegetable. They are actively working on the given plant species and have the capacity to summarize at the highest level the state of the art of current knowledge. As there are several germplasm collections around the world, serving as excellent resources for genetic enhancement of various traits in vegetable crops and broadening their genetic base, reference to these is a major achievement of the book. These centres include the International Potato Center, (Centro Internacional de la Papa, CIP) in Lima Peru, the Asian Vegetable Research and Developmental Center, (AVRDC) in Shanhua, Taiwan, the International Tropical Agricultural Center, (Centro Internacional de Agricultura Tropical, CIAT) in Cali Columbia, the Indian Institute of Vegetable Research (IIVR), in Varanasi India, and in Europe the former National Vegetable Research Station, at Wellesbourne, UK.

The majority of the vegetables originated in the Old World, primarily from Asia, while potato, tomato and capsicum originated in the New World and these essential crops are enriching our food in several important nutrition's, such as minerals, vitamins and antioxidants. Almost all vegetables have additional compounds with important health effects. Lycopene is known as a powerful protector of prostate, breast and digestive tract cancer, while quercetin is a potent antioxidant linked as a preventing agent to stomach cancer. These compounds are present in vegetables in high levels. Vegetables are the major resources for vitamins for humans. Vitamin C was first isolated from pepper, and this plant is still one of the best resources for vitamin C. All the benefits of vegetables for man are listed and the book covers all the important data in this field.

I highly recommend this book as well as others from this series for those who are actively working on breeding of these important plant species, and for those scientists who are interested in the enormous biological diversity of vegetable crops. The book is clearly written, contains very important information and each Chapter has an excellent bibliography for further reading. The book is strongly recommended for graduate and postgraduate students and for all who are committed to higher education. It should be on the shelves of all University Libraries.

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Genetically Modified Crops: Assessing Safety, Keith T. Atherton (Ed.), Taylor and Francis Inc., 29 West 35th Street, New York, NY 10001, U.S.A., CRC Press, 2002. Recommended price £69.00 Includes bibliographical references and index, ISBN: 0-7484-0913-0, pp. 272. www.taylorandfrancis.com.

More than 20 years have passed since the first transgenic plants were reported by two independent laboratories in 1983. Since then