



UNIVERSITY OF
CALIFORNIA PRESS
JOURNALS • DIGITAL PUBLISHING

Review: Medicinal Plants Compendium

Author(s): Richard Evans Schultes

Source: *BioScience*, Vol. 28, No. 7 (Jul., 1978), p. 464

Published by: University of California Press on behalf of the American Institute of Biological Sciences

Stable URL: <http://www.jstor.org/stable/1307232>

Accessed: 13/08/2010 09:35

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/action/showPublisher?publisherCode=aibs>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



American Institute of Biological Sciences and University of California Press are collaborating with JSTOR to digitize, preserve and extend access to BioScience.

<http://www.jstor.org>

CONTAMINATION OF THE SOILS

Trace-Element Contamination of the Environment (Fundamental Aspects of Pollution Control and Environmental Science, 1) by David Purves. Elsevier North-Holland, Inc., New York, 1977, 260 p., illus., \$34.75 (77-4037).

Trace Element Contamination of the Environment is a bit misleading title since the thrust of the work is about contamination of agricultural lands of the United Kingdom. The single main point is to the effect that, for the most part, trace element input to agricultural soils (or any soil) is additive and of very long-term residence. Thus decades, centuries, and even millenia from now agricultural soils to which

waste of various types has been added, including simple fallout from a polluted atmosphere, will either be toxic to plant growth or such plant growth will contain levels of various elements inappropriate for human consumption. Such accumulation in soils is essentially irreversible.

Treatment of atmospheric and hydrologic environments is superficial. The author develops in some detail the size of the oceanic waterbody as a sink for trace elements diluted to extinction without realizing that such an assumption is as erroneous as assuming that trace elements on the land are homogeneously mixed throughout the regolith. In fact, in both cases, the surface is only slowly mixed with the deeper layers, and there is just as much concern for environmental contamination of the sea as there is for the land. The mercury-swordfish problem a few years back is a good example.

Another area not considered is that of natural ecosystems, especially forested systems, where surface soil is not mixed by plowing. In fact, almost no reference is made to forest ecosystems.

The author makes a point of the ability of plants to restrict their uptake of various elements from soils even though the elements may be relatively highly concentrated in soils. On the other hand, he overlooks the fact that

some species, for example birch, take up zinc and cadmium at levels an order of magnitude higher than co-occurring species even in uncontaminated environments.

Another point for which there is no answer but which needed to be developed is the composite effects on plants, soils, and people of the combined concentration of the dozen or so elements. Some length was given to discussing specific element effects, but in natural situations elevated levels of many elements comprise the milieu in which the plants grow.

On the trivia side, the author implies that pencils contain lead; he probably means $\mu\text{g}/\text{m}^3$ in Table 8; coalbings, potato haulms, and pig slurries add local color. Table 17 is meaningless without any indication of the elements under consideration, and it took a few minutes to figure out DM in Table 19.

This book should be read by that set of applied ecologists, regional planners, and agriculturalists who plan to spread the net waste of the cities into the productive farmland in the name of fertilizer or recycling.

THOMAS G. SICCAMO
*School of Forestry and
Environmental Studies
Yale University
New Haven, CT 06511*

The Life of Yeasts

*Second Edition, Revised
and Enlarged*

H.J. Phaff, J.W. Miller,
and E.M. Mrak

Praised as "one of those rare scientific books that can be read both for pleasure and instruction" when it was first published, this new edition incorporates the exciting developments in the morphology, physiology, genetics, and ecology of yeasts during the last decade. Nowhere else is there an introduction that is so succinct, clear and useful. \$15.00

Harvard University Press
Cambridge, MA 02138

MEDICINAL PLANTS COMPENDIUM

Major Medicinal Plants: Botany, Culture and Uses, by Julia F. Morton. Charles C Thomas, Springfield, IL, 1977, 431 p., illus., \$49.50 (77-3287).

Although all the material presented in this pioneering book is somewhere available in the literature, much of it has not hitherto been brought together in one volume. And it is set forth in the clear, straightforward, business-like style that is characteristic of Julia Morton's publications. This volume is a remarkably usable contribution destined to enjoy a long, successful life.

One is struck at first by the vast amount of information included in this compendium. It is far beyond a recitation of botanical descriptions, chemical constituents, pharmacological and toxicological information, and medicinal uses: It delves into new uses for some of the older drugs and even discusses old uses long passed out of current medical practice. Some 46 genera in 28 families are considered.

A significant aspect of such a book is the insistence that the Plant Kingdom is still of vital importance in modern medicine. This fact is not often emphasized in the usual textbooks.

Of special value are the two tables or appendices at the end of the book: (a) plants no longer official but still employed abroad and (b) plants serving as pharmaceutical aids or

adjuncts. The selected bibliography of more than 600 items, while naturally omitting some titles that might be expected, should be very useful. The book is well illustrated, although some of the color illustrations are poorly reproduced.

Two criticisms might be made, but they hardly detract from the intrinsic value of the book: First, what constitutes a "major medicinal plant" might well be open for serious discussion, since some of the species included would not be generally considered as major members of a modern pharmacopoeia. Second, it would have been more helpful in many cases to cite primary sources for the chemical and pharmacological data.

The inclusion of so much ethnobotanical information to which specialized readers might object constitutes, in my opinion, one of the unique strengths of the book.

The price of the book, unfortunately, places it beyond the reach of student purchasers who might like to use it as a supplement to already costly textbooks. It is beautifully produced, but the cost might have been lowered if the number of blank or near-blank pages had been reduced.

RICHARD EVANS SCHULTES
*Botanical Museum
Harvard University
Cambridge, MA 02138*