

to understand the basic processes involved in the uptake and movement of substances within plants. Study of these transport processes is therefore a rapidly expanding area within the plant sciences." This is not a well-chosen argument, when EEC farm surpluses and problems with the environment are obliging us to think in terms of the increased extensification of a post-modern agriculture. As the pendulum swings away from intensification, will there be a lesser need to understand the basic processes of plant

transport, and consequently will study of these transport processes cease to be a rapidly expanding area within the plant sciences? For anyone who nevertheless needs to understand the transport processes that occur in plants this collection of well presented, authoritative contributions will be essential reading for some years to come.

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Air Pollution and its Influence on Vegetation: edited by H. G. DÄSSLER and S. BÖRTJITZ, Dr. W. Junk Publishers, Dordrecht, 223 pp. £46.50.

To justify the expenditure of almost fifty pounds on another book about air pollution, it must be expected that such a book makes an important contribution to the existing literature. This book clearly falls short of such intentions and it must be suspected that its main aim is to produce revenues by covering a currently highly popular research topic. While the structure of the book and the way some of the old literature is cited, demonstrates how little progress has been made in recent years, this is no excuse for not including the recent literature where new discoveries have been made, especially work with more realistic pollutant concentrations over longer periods of time. The book title suggests that a comprehensive treatment of the wide variety of air pollutants was intended

but coverage of the various air pollutants is inconsistent and appears haphazard throughout the book. Every paragraph contains statements that are not supported by citations from the literature. The only interesting contribution of the book, to me, was the citation of work carried out in Eastern European research institutions. For those that speak German and do not mind struggling through the mostly German references and afterwards having to order them from abroad, the book may include some new aspects of the literature one was not aware of before. But even in this respect, the book is incomplete and largely outdated. Literature written in English is largely not cited. Consequently, if you have fifty pounds to spare, spend it on something else.

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Drought Tolerance in Winter Cereals: edited by J. P. SRIVASTAVA, E. PORCEDDU, E. ACEVEDO and S. VARMA, Proceedings of an International Workshop, Wiley, 1987, pp. xvi + 387. £25.50.

This issue brings together the proceedings of a workshop held in Capri in October 1987 in the framework of the International Center for Agricultural Research in Dry Areas, (ICARDA). A major objective of this organisation is to develop improved winter cereals from the dry areas of West Asia and North Africa. The participation in the meeting must raise eyebrows due to the absence of contributions from Greece, Turkey, Israel, Egypt, Tunisia and Algeria, all part of the area under discussion. A very large number of participants from the host country, Italy, took part and the next delegation in size was from Syria and followed by a large number of participants from the U.K., other countries are essentially represented by a sprinkling of participants. This does not make it a representative, International meeting, as claimed in the preface and foreword.

The volume is divided into four sections: I. The Frame Work for Winter Cereal Research; II. Breeding for Winter Cereals in Low-rainfall Areas; III. Physiological Research for Drought Avoidance & Tolerance and IV. Plant Characteristics Required for Improved Performance. The first section chiefly brings data on the climatological ecology and interaction between crop genotypes and their environment and tries to analyse potential vs actual yields in a water limited region.

The second section chiefly discusses possibly breeding strategies and attempts to suggest some physiological and morphological traits which might be used in the breeding and selection programs. This section brings a fair amount of experimental data on the behaviour of certain kinds of cereals under difficult conditions but most of the information is of the review type.

The third section on physiological research deals chiefly with some aspects of water relations under drought condition and with some aspects of stomatal conductance and its significance. Again most of the papers are of the review type and very few new experimental data are presented. The most thoughtful of the articles is probably

that of Lawlor and the paper by Richard in section II should probably be in this section.

The last section of the book tries to identify plant characteristics which are required to improve crop performance such as net photosynthesis, water balance, vegetative growth and biochemical aspects. Physiological and biochemical aspects of drought tolerance, avoidance or evasion are hardly dealt with and such topics as C3 vs C4 photosynthesis are not mentioned. For those who are interested in a general survey, including such aspects as modelling of crop growth and yield will find a useful compendium of facts.

Those who want to approach the problem at basic, experimental level will find background information, but little to guide them as to how to tackle the problem. No

attention is given to the potential use of species such as Sorghum or millets, or to breeding procedures other than conventional ones. New techniques such as genetic engineering, the use of cell cultures or somaclonal variation are not even mentioned. Breeding for drought tolerance has a long way to go before the problems are solved.

The overall production of the volume is good. There is no author index, which seems a pity. I am afraid that most readers of *Phytochemistry* will not find much to interest them in this volume and it is not directed to them as potential readers.

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