

valuable contribution to the Environmental Science and Technology series, it is recommended to all who are concerned with problems of the modern world—particularly those of Food, Climate, and Man.

Byron W. Boville
(Geneva, Switzerland)

The One-straw Revolution, by MASANOBU FUKUOKA. English translation published by Rodale Press, Emmaus, Pennsylvania: xxviii + 181 pp., illustr., 21 × 13.5 × 2.5 cm, £4.75, 1978.

Having, in the last year or two, reached the stage in my vegetable garden where I have more or less abandoned digging, fertilizing, and composting, I was delighted to come across this short book, written by someone who has been growing grain crops by very similar methods, on the same piece of ground, for 30 years, with apparently excellent results. His four principles of 'no cultivation, no chemical fertilizer or prepared compost, no weeding by tillage or herbicides, and no dependence on chemicals', have led him towards a system which requires very little input of energy or scarce resources, and yet gives yields that are comparable with those of the best of his neighbours' farms.

The Author is, perhaps rightly, very scathing about the narrow-minded approach of many scientists, and adopts an almost religious attitude to farming, which I personally cannot quite accept. One might have welcomed some figures on the amount of phosphorus, potassium, etc., taken out of the system each year, and some idea as to whether or not—and if so, how—this is replaced at an adequate rate to allow his method to continue indefinitely. It is not stated explicitly whether or not human wastes are returned to the fields. Loss of seed before germination, and the occurrence of particular pests and diseases, have all been surmounted by relatively simple means, involving gradual adjustment of his methods over the years. As the Author says, he seeks no victory over Nature—rather does he wish to live with Nature, as far as possible.

This, or some similar but better-documented book, should be required reading for all aspiring agronomists and for those already practicing that 'art' who are not totally 'hooked' on the philosophy of bigger and better tractors, sterile soil, and tonnes of chemicals.

Rodney Helliwell
(Wootton-under-Edge, United Kingdom)

World Wildlife Fund Yearbook 1977–78, Edited by PETER F. R. JACKSON. World Wildlife Fund, 1110 Morges*, Switzerland: 289 pp., 21 × 14.8 × 1.8 cm, stiff paper cover, [no price or date of publication indicated but apparently Sw. Frs. 15 and 1978].

The work of the World Wildlife Fund (WWF), which acts in close association with the International Union for Conservation of Nature and Natural Resources (IUCN) and other international bodies in specialized fields, is generally accepted as being of importance to conservationists, so that its Yearbook is eagerly awaited by many. The present volume, the ninth in the series, edited as before by Peter F. R. Jackson, is an extensive

review of the many projects which WWF supports, and indicates how its financial resources are allocated.

As pointed out by the President, John H. Loudon, in his introduction, every year there are certain priorities, such as the conservation of the seas and marine life, the major problem presented to the world by the gradual disappearance of tropical rain-forests, the progressive extinction of large mammals such as elephants, the preservation of whales, and so on. But it is not always realized that there are many other areas in which Man is steadily destroying his heritage, and where it is becoming a matter of urgency to make him aware of the problems which he faces if, for example, the many species that are now on the danger list are not to become extinct in the foreseeable future. The areas defined in this report themselves involve a record years' expenditure of about 4,500,000 US dollars relating to 417 national and international projects in 85 countries.

This Yearbook, therefore, makes fascinating reading for everyone who is directly involved or interested in the conservation of wildlife, both animal and vegetable, and it is a pity that the type used and the layout makes it a little trying to read for any length of time. Nevertheless the effort must be made, for the situation should be studied as widely as possible, and WWF supported financially as much as possible.

The expenditure needed for the establishment and support of national parks and reserves alone is colossal, and this is an important part of the work of WWF. Since 1961, it has helped to establish and maintain conservation areas throughout the world totalling some 1,300,000 square kilometres.

Apart from membership of WWF, the purchase of this small volume, at the modest price of 15 Sw. Frs., is a small way in which to support the vital and important aims of the World Wildlife Fund.

Clifford B. Holliday
(Lausanne, Switzerland)

Biogeochemistry of a Forested Ecosystem, by G. E. LIKENS, F. H. BORMANN, R. S. PIERCE, J. S. EATON & N. M. JOHNSON: Springer-Verlag, Berlin–Heidelberg–New York: xii + 146 pp., 29.5 × 15 × 1 cm, 37 figs, soft cover, DM 22.30 or US \$ 9.80, 1977.

Anybody who has followed the appearance of the numerous papers resulting from the Hubbard Brook ecosystem study will welcome this book, for it brings together much of the information that was hitherto scattered through a number of journals. The study itself first focused on the nutrient inputs to, and outputs from, a small forested watershed in New Hampshire, and then has gone on to measure aspects of the structure, function, and dynamics, of the forest itself—including studies of deforestation and subsequent recolonization. This book, however, is the first of a number of projected ones and deals only with the biogeochemistry of the intact watershed; separate chapters evaluate the nutrient cycling and other flows through the system. Thus the hydrology, chemistry, input-output budgets, weathering, and nutrient cycles, each receive a chapter, and then the Authors compare the Hubbard Brook system with other forested ecosystems in the world before reaching their discussion and conclusions.

Naturally, not all the numerical details from the papers are included here, but there is plentiful evidence

*Now moved to Avenue du Mont Blanc, 1196 Gland, Switzerland.—Ed.