BOOK REVIEWS

The Analysis of Response in Crop and Livestock Production, John L. Dillon. Oxford: Pergamon Press, 1968. Pp. xiii, 135. $2.00.

The agricultural economist and the agricultural scientist have paid lip service to inter-disciplinary co-operation for many years. Co-operative research, although slowly increasing in volume and quality, has only begun to fill the long-standing voids in input-output data for planning and decisions at the micro-economic level. Inevitably there has developed a type of "no man's land" between the scientist and economist in which neither profession accepts responsibility; yet this is an area potentially capable of producing a wealth of useful information. Dillon's book should provide for the agricultural science student an appreciation of economic reasoning, and for the student of economics it will put some empirical flesh on the all-too-bare bones of micro-economic production theory.

In all, the text is less than 120 pages. A refreshing brevity is achieved both by the judicious use of mathematics and by sacrificing the detail one usually expects in production function treatises. In the first two chapters the brevity and systematic treatment of alternative production situations add to the quality of the book. The author claims, fashionably, that the text is based on a series of lectures. From a reading of the book, this is not difficult to accept. In common with most lecture material, there are several places in the text where more explanation would be helpful as concepts are introduced, in particular the important theoretical consequences of the assumption of decreasing returns to scale and the concept of irrational production. Chapter 3 provides a stimulating approach to the incorporation of time in response efficiency; it is constructed with a logic rarely met in books of this type.

If it can be assumed that future generations of agricultural scientists will be equipped with a background sufficient to understand the mathematical exposition Dillon provides, it can also be assumed that they will be able to understand some of the more common problems in statistical estimation in response research. In this respect, Chapter 4 (14 pages) is a disappointment. The question of statistical estimation is dismissed in less than two pages with a series of references. Perusal of the excellent list of references which the author provides would have exposed a number of conceptual and procedural difficulties encountered in empirical investigations. A brief discussion of the more common of these would have added significantly to the value of this book in the hands of the scientist.

This is not a book for the advanced student of micro-economics but is appropriate for introducing the student to farm management and analytical aspects of production economics. It is a book which should be

compulsory reading for those responsible for direction and planning of agricultural response research. If they understand only the first ten pages (the concept of a production function), and note Dillon's perceptive remarks on experimental design (p. 104), we can hope for some redirection of research resources to enable the satifactory estimation of response functions.

R. C. JENSEN

Lincoln College, New Zealand.

Cows, Crops, and Grass on a Card Index, G. P. Chitty and N. Bomford. London: Crosby Lockwood & Son Ltd, 1967. Pp. 20 plus 122 Index Cards. $5.70.

Cows, Crops, and Grass on a Card Index is a farm management costing system presented as a book. Subtitled "An Advanced System of Farm Recording", and based on printed cards measuring 5 inches by $7\frac{1}{4}$ inches. it comprises a package deal of an explanatory booklet and a two-year supply of cards. The publishers also offer separately a special loose leaf ring binder in which to keep the completed cards.

The explanatory booklet forms Part 1 of the package. It sets out the objectives of the system, describes the features of the cards, and shows how the recorded information can be used for forward budgeting. The presentation is straightforward and somewhat spartan in style and expression. It assumes, according to the introduction, that "some detailed records are being kept such as the N.F.U./N.A.A.S. Farm Record Book" and the booklet is simply an introduction to a new set of costing procedures.

The recording cards form Parts 2 to 6 of the book. A "Field Card—Crops" and a "Crop Summary" card respectively accumulate and aggregate paddock-by-paddock details of actual variable costs matched against budget estimates, together with some physical information such as acreage planted, variety planted, and yields. A composite field and grazing card plus a "Grassland Summary" card provide for the same details for pastures. Cards 5 and 6 are for a gross margins analysis of net farm income, as actual results from the summary cards for the current year and as control budgets for two future years.

Although claimed to be the result of collaboration between a N.A.A.S. Advisory Officer and a farmer, *Cows, Crops, and Grass on a Card Index* has a number of irritating inadequacies. In the field card for crops, for instance, no specific provision is made for recording details of cultivations or the quantities of materials used, though possibly the information could be fitted into the "Remarks" section which makes up a good third of each card. Similarly, the grassland grazing record provides space only for recording type of stock and cow days in the months from March to October. A further amendment would be needed on Cards 1, 2, and 3 to make the layout fit our practice of grazing crops and running mixed mobs of sheep and cattle.

But for all its possible shortcomings, the "book" provides a neat if expensive system for collecting and analysing paddock records. Moreover, this aspect of farm accounting is inadequately serviced by local publications, and thus *Cows, Crops, and Grass on a Card Index* is a welcome addition to the legion of record systems available to the Australian farmer and grazier.

R. E. COOKE-YARBOROUGH.

Bank of New South Wales, Sydney.