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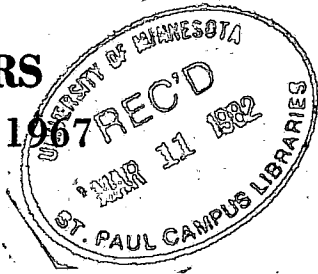
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## GROUP 4b. FARM MANAGEMENT AND PRODUCTION ECONOMICS IN INDUSTRIAL ECONOMIES

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*Secretary:* C. W. Smith, *U.S.A.*

*Consultants:*

M. Petit, *France*

U. Renborg, *Sweden*

The primary field of interest was growth of individual farms. Aspects considered in detail were the use of farm accounting records in advising farmers on improved management and conveying farm management advice to extension officers. These aspects were discussed with particular reference to the use of individual programme plans, linear programming and applications of electronic data processing.

Measures of farm size suggested for analysing growth were (i) total assets; (ii) potential capacity to generate utility (satisfaction); (iii) net income plus man-hours of labour; (iv) mobilizable resources; and (v) integration of all measures. No one measure was considered best for all purposes.

A hypothesis was posed that almost all farmers are forced to expand their businesses, but doubts were expressed that all farmers wish to do so. Thirteen factors which stimulate growth and eighteen factors which impede growth were listed (see below). A need for a satisfactory theory of growth was urgently pressed, with several possibilities listed, but none was considered satisfactory. On the other hand, several participants expressed doubt that a theory of growth is needed. There was general agreement that all the numerous factors impeding and encouraging growth are difficult to incorporate into a workable theory.

One viewpoint included dissatisfaction with the number of useful analytical coefficients that have been developed from accounting records, even though advisory agents have been able effectively to communicate valuable planning information to individual farmers. This is being assisted now with an electronic data-processing programme for 1,500 Michigan farms (tel-farm). Another view was that farm account-book data is being fully utilized but its usefulness in advance planning is limited by rapidly changing technology. It was also suggested that we do not have enough data now to give



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IN INDUSTRIAL ECONOMIES

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farmers a complete analysis or to provide labour coefficients for linear programming.

Regarding the critical factors in analysing farm accounts it was suggested that the following had to be included: (i) net income, (ii) capital position and (iii) cash position. Where advisory service funds are limited (as in many countries) analysis should best be limited to a few factors, like output per man and output per unit of capital. For research work there was stress on establishing priorities regarding data that can be most easily collected and analysed. It was thought that formalized comparative analysis has been overdone to the point of being harmful and that some efficiency ratios have been deceptive.

A formal plan was considered by some as an essential yardstick against which to evaluate current operations. Others regarded complete plans as unrealistic because of inability to incorporate unforeseeable changes like government policy and new technology. One view was that the most realistic farm planning involves a set of goals against which the plan is flexible, with short-run and long-run objectives which are revised annually to take account of changing conditions. In several areas farmers are now being charged fees for records analysis and planning advice from government advisory service. This has resulted in more, not less, demand for the service.

Experience was compared between procedures now being devised in Australia and the United Kingdom for application of linear programming in farm management planning, the work of university economists integrated with advisers who interpret results to farmers. A three-stage procedure (control, analysis, complete plan) in Sweden, but not using linear programming, was described. Aspects discussed included the need for (i) getting the farmer's adviser involved in the whole process; (ii) finding the minimum size of matrix to be manageable yet meaningful ( $60 \times 60$  was considered large enough in the United Kingdom for a 500-acre farm, but  $100 \times 80$  was considered necessary in France); (iii) the importance of simplifying linear programming work with a standard matrix (challenged by another view that variation among farms defies standardization); (iv) the desirability of a standardized form for farm-data collection; (v) the plan to produce several requested alternatives; (vi) the ability to develop the plan quickly to obtain much farmer patronage (fortnight considered possible); and (vii) data gathering in terms the farmer understands.

The difficulties associated with adequately taking account of farmers' value judgements were discussed, as was the need to consider the impact of the level of taxation in planning for growth of farm businesses. The group also considered the adequacy of research data and of the ability of advisers and also the justification of advising farmers who at high levels of technical and economic efficiency are making very high profits.