A STUDY OF THE FINANCIAL RETURNS TO PROCESS PEA GROWERS IN HAWKE'S BAY.

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CHAPTER I

INTRODUCTION

1.1. Motivation of the Study

This study stemmed initially from discussions between New Zealand farmers concerning the economics of growing certain agricultural crops for food processing. These discussions lead directly to one main problem which may be outlined within a two-fold objective namely:-

(1) To determine the profitability of growing green peas for food processing, and

(2) To assess cost accounting and linear programming as methods for farm management analysis.

Within their National Federation, growers of food processing crops found the support and finance to conduct an economic investigation to provide them with information concerning the costs associated with producing their main crop, peas. Further information was required in the form of the extent of the price fall of peas in relation to existing prices, which could be absorbed by growers before new production alternatives would have to be considered as replacements for the pea crop. The present study stems, then, from the felt needs of farmers producing peas for processing.

Although the problem was one of national interest to growers, it was realised that meaningful answers could only be derived for one district at a time. The National Federation decided that the most suitable area in which to conduct the investigation would be the Central Hawke's Bay area, one of the richest primary producing districts of New Zealand. At this stage, at the invitation of the Federation, the study became the primary concern of the author.

The investigation was directed primarily towards assisting growers within Hawke's Bay to make better informed and more confident decisions as to the place of peas within their respective farm management plans, and to provide the Growers' Federation with actual and imputed costs of growing peas and other crops under the conditions encountered in Hawke's Bay. In other words information obtained and analysed pertained solely to the individual farm level. Macro-economic aspects such as outlets available in overseas trading for processed foods and subsequent effects on the possibility of increasing crop production in New Zealand, food factory production trends, and long-term price changes were ignored.

Both cost accounting and linear programming were used to help study the profitability of pea growing. At the outset, it was suspected that the cost accounting results would not be as useful as those derived by linear programming. In view of this, a concerted attempt was made to extract as much information as possible from the cost accounting results to enable a critical comparison of the two methods to be made. At the same time, the National Federation, and individual farmers, felt that they would "understand" the cost accounting results, whereas they doubted if linear programming results would be intelligible. The relative meaningfulness of the results obtained in these two ways are discussed in the main body of the thesis.

1.2. Characteristics of a Farm Survey

For both linear programming and cost accounting, the only way to obtain the relevant information was to talk to the farmers who were growing peas in Central Hawke's Bay. It was not possible to gain the information from any other source. This fact indicated the collection

of information in the form of a series of interviews with farmers about a particular management practice, a "farm survey" in fact. "Farm survey" is here used in the sense of:

> " .....the term 'farm survey,' is used to mean a series of interviews with farmers to gain information about some one management practice. Usually all interviews will be conducted by the research worker himself and particular attention will be paid to the way the farm practice has fitted into each farmer's overall management system. In short, the farm survey is a procedure for interviewing farmers to test the hypothesis that a particular management practice is profitable. At the same time, the research worker attempts to define exactly what are the pre-conditions necessary for success, and what associated changes are necessary." 1/

The above quotation adequately summarizes the objective of the study in relation to pea production in Hawke's Bay.

Thirty-five farmers were actually interviewed for the survey. As the survey was done at the invitation of the New Zealand Vegetable and Produce Growers Federation, the sample of farmers interviewed consisted of 75% Federation Members and 25% Federation non-members.2/ All the interviews with farmers were conducted by the author, with information being collected on a prepared questionnaire.

1.3. A Guide to the Thesis.

A brief summary of the contents of this Thesis now follows.

Chapter 2 deals with farm surveys. The role of farm surveys in farm management research, and a brief history of the development of surveys and their basic forms is discussed. Chapter 3 is concerned with some problems associated with designing the survey of Hawke's Bay pea growers, and discusses in detail the selection of farms and their

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1/ Candler, W.V.: "Production Economics and Problems of Animal Production." Proc. N.Z. Soc.An.Prod. 22 p.142, 1962.

2/ The details of farm selection appear in (3.4).

classification into the four main groups. Chapter 4 concludes Part I with a detailed discussion of designing and pre-testing the questionnaire.

Chapter 5 provides a critical analysis of cost accounting and budgeting as tools for farm management research. This chapter sets out an algebraic statement of the cost accounting convention which it is hoped, will help to clarify much that has been written about this method of analysis. The results of the cost accounting analysis appear in Chapter 6, while Chapter 7 sets out the linear programming model together with the results obtained. The major points in these results are also discussed. Chapter 8 provides the farmer's comments on the linear programming results for his farm. These comments indicate that the farmer felt that the linear programming model had adequately represented his management problem, and had produced meaningful, and even improved farm plans which he would seriously consider adopting. Chapter 9 deals with a comparison of the results obtained by cost accounting and linear programming, and is followed by the Thesis summary.

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