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Form AN INTRODUCTION

FARM MANAGEMENT ANALYSIS

WITH AN APPENDIX GIVING THE FINANCIAL RESULTS OF A SAMPLE OF WELSH FARMS IN 1956/57

GIANNINI FOUNDATION OF AGRICULTURA ECONOMICS

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Acknowledgements . . .

On behalf of the Department I should like to thank the farmers who co-operate in the Farm Management Survey. Their willingness to provide detailed information has made possible the production of this report, which it is hoped will be found valuable by all those who are anxious to improve the management of their farms.

E. F. NASH,

Professor of Agricultural Economics.

December, 1958.

The author would like to thank his colleague, Mr. M. B. Jawetz, M.Sc., B.Comm., for his many valuable suggestions on the preparation of this booklet, and Miss E. Johnson for her skilled assistance in reading the proofs. He would also like to acknowledge the work of Messrs. D. B. Garner, M. B. Roberts, R. L. Evans and Gwilym Hughes, who compile the accounts of the Farm Management Survey, and of Messrs. Trevor Evans and J. D. Edwards, who supervise their analysis.

foreword . . .

THIS booklet is intended to be only an elementary introduction to the analysis of farm accounts for management purposes. It is not designed for experienced students of farm management but for farmers, accountants and consultants who require an introduction to the subject. For those who wish to go further some references are given in the text to publications which deal more fully with the questions which are briefly discussed here. The average results of Welsh farm types given in the Appendix are extracted from more detailed tables compiled by Mr. M. B. Jawetz, M.Sc., B.Comm., Head of Farm Management Survey work in this Department, to whom any enquiries in connection with the Survey should be addressed. The results given in this booklet are those for 1956/57; a supplement giving the results for 1957/58 will be published shortly. Farmers wishing for advice on their management problems should, in the first instance, approach the local District Advisory Officer of the National Agricultural Advisory Service.

Introduction . . .

Although notoriously bad book-keepers, farmers are coming to recognise that it is nowadays necessary to keep some accounts as an aid in running the farm. A farmer needs to know where the money is coming from and going to, and what the probable financial results would be if changes were made in the farm organisation. Moreover, by comparing his profits with published figures of profits on farms of a similar kind he can see whether they are good, bad, or average. If they are unsatisfactory he can find out the reason by calculating certain economic "indicators"—such as production per acre, costs per acre—and comparing them with the published "standards." This will tell him whether, for example, his low profits are due to low production or to high costs, and so give him an indication of the ways in which improvements might be made. Because no two farms (or no two farmers) are similar, this method can never be an exact science. The results can only give a rough indication of weaknesses in the existing system and the type of farm policy which ought to be pursued; they must always be supplemented by the farmer's knowledge of conditions on the particular farm. In conjunction with such knowledge an analysis of this type can often be very valuable. It should never be forgotten, however, that the various calculations described below are only applied commonsense—not a magic formula which will solve all the farmer's problems.

KEEPING FARM ACCOUNTS

It must be stressed that nowadays all farmers, however small, should keep accounts for income tax purposes. Up till 1948 many small farmers were assessed for taxation on a different basis and did not need to make income tax returns. Since 1948 all farmers have been liable to income tax in the normal way and are, strictly speaking, obliged to render returns each year. Because of shortage of staff, however, the Inland Revenue authorities in some areas have not yet got round to examining income tax returns from all farms and have been content to levy tax (if any is payable) on a fairly low "assessment" of the farmer's income. The authorities, however, are gradually insisting on the presentation of accounts. They can, moreover, insist on the presentation of accounts for previous years and levy tax on them, which can create severe difficulties for farmers who have not previously kept accounts. For these reasons the majority of farmers now keep accounts, usually through an accountant. Since they have to be kept in any case it requires relatively little extra work to produce the accounts in a form suitable for management as well as for income tax purposes.

The method most farmers adopt is to send a collection of cheque book stubs, bills, monthly milk slips, etc., to the accountant at the end of the year and leave it to him to sort them out and produce the accounts. Accounts produced in this way are satisfactory for income tax purposes but very often they are virtually useless from the point of view of management because they give insufficient detail. For income tax purposes it is only necessary to calculate a single figure—the farm profit. For management purposes, however, it is necessary to know how this profit was obtained. For example, a farmer may buy from his local merchant, Mr. Bloggs, a variety of things, including fertilisers, feedingstuffs, veterinary preparations and seeds. The accountant, given a number of cheque counterfoils recording payment of various sums to Mr. Bloggs, can only produce some such total as "Purchases from Mr. Bloggs, £983 10s. 9d." In analysing the farm's profitability, however, it is essential to know (even if only roughly) how much of this was expenditure on fertilisers and how much on feedingstuffs.

There are several ways in which a farmer could obtain accounts giving the necessary information. He could, of course, keep detailed records himself. However, this is a job which many farmers would not relish. Alternatively, it might be possible for the farmer to arrange with his accountant to produce accounts giving the information required. If, in the example given above, the farmer entered on his cheque counterfoils the details of the payments, such as "Bloggs £56 Fertilisers," or "Bloggs £23 Feedingstuffs," the accountant could produce the necessary breakdown. It would be necessary for him to go through the details with the farmer, however, to settle the inevitable queries, and his time would have to be paid for. Probably the best method would be for the farmer and his accountant to adopt a similar system to that evolved by this Department for farmers who co-operate in keeping financial accounts in the Farm Management Survey. The system is briefly as follows: the farmer keeps an Account Book with pages for various items of sales and purchases—sales of Milk, Cattle, Sheep, etc., purchases of Fertilisers, Feedingstuffs, Machinery, etc. There is also a page for the Opening and Closing Valuation of livestock, crops, and machinery. (It should be mentioned that many books on farm accounting describe rather elaborate systems using several account books and often double-entry or cost accounting methods of compiling accounts; these systems have been found in practice to be unnecessarily complicated.) The farmer keeps his cheque book stubs and bills, etc... and from these he periodically enters the details of his sales and purchases on the appropriate page of the account book. At the end of the year a representative of the Department goes through the book, checks any queries and produces the account. A farmer and his accountant could conveniently adopt a somewhat similar system. The amount of clerical work required of the farmer (or his wife) would be small, and it would involve the accountant in only very slightly more work than producing normal income tax accounts. The accountant could then, if required, present a simple comparison of the farm's results with the appropriate "standards," in the way described below. Some accountants may not welcome a suggestion of this type, and suitable "standards" may not always be available. However, it is interesting to find an accountant, in a recent book,* urging his colleagues to enter this field.

^{* &}quot;Management Accounting for Agriculture" by S. V. P. Cornwell. Gee & Co., 1957.

THE INFORMATION REQUIRED

The accounts thus produced, although more detailed than the normal Income Tax accounts, are in the normal form, with Opening Valuation and Expenditure, and Closing Valuation and Receipts, as shown on page 9. There are three changes which may need to be made before the accounts can be used for management analysis.

First, all farmers are treated as tenants for the purposes of management analysis even if they are, in fact, owner-occupiers. Only in this way is it possible to compare results on farms which may be tenanted or owner-occupied. The expenses of ownership, such as major repairs to buildings, occur intermittently, and it is obviously unrealistic to treat an owner-occupier as making a large loss in one year when he happens to build a new cowshed, and a large profit in the following year when he has no expenditure of this kind. The owner-occupier should therefore exclude from these accounts all the payments which are a landlord's responsibility—such as Schedule A tax, tithe, major buildings repairs—and substitute instead a fair rental value. This will be the rent which he estimates he would have to pay for his farm if he were a tenant.

If there are any bank charges for overdrafts obtained for the purchase of machinery, livestock, etc., these should also be excluded. The reason is as follows: even if the farmer happened to have sufficient capital of his own and did not need to borrow money, his purchase of machinery and livestock would still be depriving him of the return on money which, if invested in securities, would be earning interest. If interest is to be charged, therefore, it should be charged on the value of the whole of the tenant's capital (mainly livestock and machinery) whether or not the farmer had to borrow money in order to acquire it. In the Farm Management Survey, however, it is found more convenient to ignore this item and so, for comparative purposes, the farmer should do the same.

Secondly, if there is any family labour apart from the farmer and wife, e.g. sons or daughters, for which a charge is not made in the accounts then a charge should be entered, based on the statutory minimum wage. If this were not done a farmer, for example, with a working son would be shown as making unduly high profits compared with a farmer who had to hire a man. (It may be added that it is highly desirable on social grounds that working sons or daughters should be paid a regular wage by the farmer.)

Thirdly, it is necessary to alter the layout of the accounts and express them in terms of Production and Costs instead of Opening and Closing Valuations, Receipts, and Expenditure. This is to enable the accounts to be compared with the results of the Farm Management Survey, which must now be briefly described.

THE FARM MANAGEMENT SURVEY

The Farm Management Survey is made in every region of the United Kingdom by local University Departments. In Wales, approximately 400 farmers co-operate with the Department of Agricultural Economics of the University College of Wales in keeping records of the kind described below.

The names of the co-operating farmers are, of course, kept in strict confidence and farm results are only published under code numbers. The results are of considerable value for research and advisory purposes: in the Appendix some of the average results for 1956/57 are given*.

Because of the wide range of types of farm in Wales it is necessary to group the farms into various classes. Of course, one type of farm merges imperceptibly into another without any clear dividing line, so that there are often troublesome border-line cases. However, it is possible to group farms into categories which have enough in common to enable some useful comparisons to be made. At present the Welsh farms included in the Survey are divided into three classes, Dairy, Livestock Rearing and Mixed. Each of these is further divided into a Poor Land group and a Better Land group, making six type groups in all. Dairy farms are those on which more than 50 per cent. of production consists of milk; Livestock Rearing farms are those which sell little or no milk and on which cattle and sheep comprise most of the production; and Mixed farms are those on which sales of milk are substantial but do not account for more than 50 per cent. of their production. The division into Poor Land and Better Land is even more difficult, and is more a matter of judgement than of precise rules. Broadly speaking, Poor Land is mountain or upland and Better Land is lowland; farms in the valleys of the Towy or the Clwyd would certainly be Better Land, and farms in most parts of Caernarvonshire and Merionethshire would be Poor Land. The Better Land farms normally have a rent of over £1 per acre and, in all except the Livestock Rearing (Better Land) group, are below about 600 feet above sea level. The percentage of rough grazing is also taken into account in deciding whether a farm belongs to the Poor Land or Better Land group. In the case of the Livestock Rearing (Better Land) group the farms are mainly found in Breconshire, Radnorshire, and Monmouthshire and are at elevations of up to 1,000 feet, but on good land. The Livestock Rearing (Poor Land) farms produce store lambs, draft ewes, and store cattle; the Livestock Rearing (Better Land) farms produce fat lambs, fat ewes and fat or store cattle.

Within each type group the farms are further divided into size groups, because the problems of, for example, a small dairy farm are very different from those of a large dairy farm. Since some farms have rough grazing of relatively low value, an "adjusted acreage" is arrived at by expressing the rough grazing in terms of its value as a normal pasture. For example, 20 acres of rough grazing may be as useful as 4 acres of permanent grassland and will therefore be expressed as 4 adjusted acres. This "adjusted acreage" is used when the farms are divided into size groups. For Dairy farms the groups are 20—49 acres, 50—99 acres, 100—199 acres, and over 200 acres. For Livestock Rearing and Mixed Farms the groups are 20—99 acres, 100—199 acres, and over 200 acres. There is a further division in the case of the Livestock Rearing (Poor Land) group of over 200 acres. This group contains hill sheep farms consisting mainly of rough grazing together with other farms having a greater proportion of enclosed land. The group is therefore divided into farms with more than 80 per cent. of their total

^{*}These figures are based on tables produced by my colleague, Mr. M. B. Jawetz.

acreage in the form of rough grazing and those with less. There are thus a total of 21 type and size groups (see Contents for detailed list of groups). This grouping is not necessarily permanent, however, and may be altered if it is found desirable.

The average results of each group, and the average of the most profitable third of the farms in each group, are given in the Appendix and are used in farm management advisory work as "standards" for assessing an individual farm's performance. It is impossible to be absolutely sure that these results give a true picture of Welsh farming, since the farms represented in the Survey may be better or worse than farms in general. Efforts are made, however, to make the sample as representative as possible and it is believed that it provides a reasonable cross-section, with examples of the best and the worst in Welsh farming. The figures, however, should be treated with discrimination and without too much reverence; they are only the results of a small sample of farms and so may, in some cases, contain oddities and anomalies as a result of peculiar circumstances in a particular group.

There is considerable divergence between different centres in the United Kingdom in the methods and the terminology used in analysing farm results. The terminology used in the following example is that used in the Welsh Survey, and the method of analysis is a simple one which seems suitable in the circumstances.

AN EXAMPLE

To illustrate the methods of management analysis an imaginary example will be taken. Mr. Jones of Caemawr* farmed 70 acres, situated in a river valley at 300 to 350 feet above sea level. The land was gently sloping, well drained, and fairly fertile. The stocking consisted of a milking herd of 23 cows of mixed breeds, mainly Shorthorn and Welsh Blacks, and their followers, 12 Clun ewes and a ram, and 200 hens on deep litter.

The cropping was as follows:—

	1	Acre
Oats		8
Kale		3
Hay		25
Pasture		34
		_
		70
	•••	$\frac{34}{70}$

The labour consisted of the farmer and his wife and one hired man. There was one tractor and the usual machinery on a farm of this kind.

The farm accounts for 1957 showed a profit of £466. This was the sort of profit that the farmer had made for some years. He was reasonably content with it and he did not really see how he could do very much better, but as he was worried about falling milk prices he decided to ask the advice of the District Officer of the N.A.A.S. The District Officer first walked the

*This farm is purely fictional (the author apologises if there is a farm of this name) but there are farms of a similar type in the Survey.

farm with the farmer and noted that the standard of grassland management seemed quite high and that the cattle and sheep were in good condition. He then sat down with the farmer to examine the accounts.

ORIGINAL FARM ACCOUNTS

Opening Valuation, January 1st, 1957	Closing Valuation, December 31st, 1957
23 cows	### £ 23 cows
Expenditure 3 ewes 18 100 day old chicks 15 Rental value 170 Feedingstuffs 1,300 Fertilisers 150 Seeds 50 Purchases of machinery 60 Repairs to machinery 60 Petrol and oil 70 Electricity 45 Vehicle taxes and insurance 25 Contract work 70 Wages and national insurance 500 Vet. and medicines 60 Haulage 40 Sundries 60	Receipts 5 store cows 250 17 calves 67 15,500 gallons milk 2,200 15 fat lambs 105 3 fat ewes 12 40 lb. wool 10 30 cull hens 10 2,350 dozen eggs 490 Oats deficiency payment 40 Plough-up subsidy 70 Sundries (including milk and eggs used in house and rental value of house) 130 — 3,384
Farm Profit 6,148 466 £6,614	£6,614

The District Officer first made some changes in the presentation of these accounts so that they could be compared with the financial "standards". In the original layout details were given of the Opening and Closing Valuations, Expenditure and Receipts. For comparative purposes, however, it is necessary to calculate details of Production and Costs under various headings; an example will show the reason why. Farmer A, who buys store cattle and fattens them, may have receipts of £800 from the sales of fat cattle and an expenditure of £400 on store cattle. On the other hand farmer B, who rears calves, might have receipts of £600 with no expenditure on purchases of cattle. Farmer A has the higher receipts but because of his expenditure on stores the contribution of his cattle enterprise to the income of the farm is only £400, compared with £600 in the case of farmer B. Thus in addition to sales the purchases of cattle, together with changes in the

opening and closing valuations, have to be taken into account in assessing the contribution of the enterprise to the farm's receipts. By combining the four figures it is possible to express the production of cattle as a single figure. This can then be used for making comparisons between farms.

The Production of Cattle is the difference between the Opening Valuation plus Purchases and the Closing Valuation plus Sales. On Caemawr for example:—

		£	£
Closing Valuation of Cattle		1,790	
Plus Sales of Cattle		317	
T			2,107
Less: Opening Valuation of Cattle		1,780	
Plus Purchases of Cattle	••		1,780
Production of Cattle			327

Production is calculated in a similar way for the other items. The deficiency payment for oats is treated as a sale of crops, even though no crops are in fact sold. The value of milk and eggs consumed in the house, and an estimate of the rental value of the house, are included under "Sundries". The item "Subsidies" includes only the plough-up subsidy (the only one in this case) together with drainage grants, Hill Cow and Sheep subsidies, and Calf subsidies; capital grants to owner-occupiers are taken into account in fixing the rental value, while deficiency payments on cereals and fatstock are included under the respective items of Production. In the official results compiled by Mr. M. B. Jawetz—the "Broadsheets" of individual farm results and the "Financial, Technical and Economic Data and Measures of Efficiency"—the item "Subsidies" is not included in "Production". It has, however, been included in the simplified tables given here. In the Welsh Farm Management Survey, Production is divided into the following headings: Cattle, Sheep and Wool, Pigs, Poultry and Eggs, Crops, Milk, and Sundries. (The term Output is often used instead of Production; in this context the two words mean exactly the same thing.)

Under the heading of "Costs", the only alteration that needs to be made is in the case of Implements and Power. This consists of the depreciation on machinery plus four other items. The depreciation is calculated in a similar way to Production, as follows:—

	£	£
Opening Valuation of Machinery	1,500	
Plus Purchases of Machinery	60	
_		1,560
Less: Closing Valuation of Machinery	1,260	
Plus Sales of Machinery		1,260
Depreciation of Machinery		300

The other items are added to the depreciation (i.e. £300) to give the total cost of "Implements and Power", as shown below.

	t
nery	 300
	 60
	 70
	 45
	 25
ower	 500

Finally the items "Vet. and Medicines" and "Haulage" are included in "Sundries".

After these changes had been made by the District Officer the following modified farming account was produced. It was now in a form in which it could be used for comparison with the Farm Management Survey "standards".

MODIFIED FARM ACCOUNT

Production	c	Costs	£
Cattle Sheep and Wool Poultry and Eggs Crops Milk Sundries Subsidies	£ 327 104 495 40 2,200 130 70	Rental Value Feedingstuffs 1, Fertilisers Seeds Implements and Power Contract Work Sundries Labour	170 ,300 150 50 500 70 160 500
Total Production (in	c. Subsidies) 3,366	Farm Profit	,900 466 ,366

As well over half the farm's Production consisted of milk it clearly belonged to the Dairy group; from the elevation and rent, and the general appearance of the land, it was also clear that the farm was of the Better Land type. As there was no rough grazing the actual acreage (70) was also the adjusted acreage, so that the farm fell in the middle of the 50—100 acre group. The District Officer therefore first compared the farm's profit with that of the Dairy (Better Land) 50—99 acre group (page 19). The profit of £466 was obviously low in relation to the average profit of £726 and the profit on the above-average farms of £1,263. The Costs of £2,900 were slightly lower than those in the average group—£3,165—but the Production of £3,366 was considerably lower than that of the group— £3,891. The above-average farms had lower Costs and higher Production than the average. As the average size of farm in the groups (74 and 70 acres respectively) is very close to that of Caemawr the entire comparison could, in this case, be made by using "Per Farm" figures. However, the figures usually published by this Department are only in terms of "per 100 acres"; the comparison will therefore be made on this basis.

The results of the Modified Trading Account are divided throughout by 70/100 to give results "per 100 acres", which are then compared with the "per 100 acres" results of the group.

		Caemawr	Group Average
	Act	ual Per 100	acres Per 100 acres
Production		£	£
Cattle	323	7 467	7 454
Sheep and Wool	104	149	200
Pigs			- 526
Poultry and Eggs	49:	5 707	
Crops	40		
Milk	2 200		
Sundries	130		
Subsidies	70		
Total Production (inc. Subsidi	es) 3,366	4,809	5,247
Total Troduction (me. paosiai	5,500	- 1,005	3,277
Costs			
Rent	170	243	3 234
Purchased Food	1 200		
Fertilisers	150	214	2,033
Seeds	50		
Implements and Power	500		- ,
Contract Work	70		
Sundries	160		
T . 1	500		
Labour	300	, /15	, 303
Total Costs	2,900	4,143	4,268
Farm Profit	460	5 666	5 979

Looking down the list the District Officer could see that the Production of milk and of the subsidiary enterprises (pigs and poultry) was lower than average, while among the Costs only purchased food was appreciably lower than average.

To investigate the causes of low Production the District Officer first checked the stocking of cattle and sheep. He could tell at a glance that 23 cows, with followers, and 12 ewes, was a reasonable stocking for a 70-acre farm (62 acres after excluding the acreage of cereals). However, he carried out the calculation of expressing the stocking in terms of "cow units". This is done by taking the number of animals (the average of the opening and closing valuations) and expressing them in "cow units" on a conventional basis. The calculation, using the Welsh Survey rates, is shown below.

		Actual Nos.	Cow Units	Nos. in Cow Units (per farm)	Nos. in Cow Units (per 100 acres)
Cows		23	1	23	32.8
Cattle over 2 years		7	1	7)	
Cattle 1—2 years		3.5	$\frac{1}{2}$	1.8 \ 10.	2 14.6
Cattle under 1 year		5.5	· 1	1.4)	
Sheep*	• •	13	6	2.2	3.2
				35.4	50.6

^{*}Only ewes and other sheep over 1 year, i.e. lambs are excluded. The rate of $\frac{1}{6}$ of a cow unit applies only to larger breeds. Welsh ewes are rated at $\frac{1}{6}$.

By dividing the number of cow units by 70/100 the number per 100 acres can be calculated. The total stocking of 50.6 compared with the average of 44.6, and the 32.8 cows with an average of 27.8. It was clear that the low production of milk was not due to under-stocking.

			Cow Units per 100 acres		
		-	Caemawr	Group Average	
Cows			32.8	27.8	
Other Cattle			14.6	13.3	
Sheep			3.2	3.5	
	Total		50.6	44.6	
					

The District Officer next calculated the milk sales and yield per cow. This he did by dividing the total value of milk sold in the year, and the total quantity plus an estimate of the quantity fed to calves and used in the house, by the number of cows. The total value sold was £2,200 and the total quantity 15,500 gallons plus 220 gallons. Divided by 23 this gave sales of £96 and a yield of 683 gallons. This compared with a group average of £119 and 760 gallons, and £131 and 841 gallons on the above-average farms. The farmer was at first reluctant to accept these figures because he had always liked to think that his cows gave over 800 gallons. Probably the best cows did give as much as this *per lactation*, but the average of all cows, including first calvers, *per year*, was considerably lower. These figures —the yearly production and sales divided by the total number of cows—are the only reliable ones for purposes of comparison.

The milk yield was below average but this had to be related to the feeding of concentrated feedingstuffs; it would be quite satisfactory if only a small quantity of concentrates were being fed. It was therefore necessary to obtain a breakdown of the consumption of concentrates by the various classes of stock. This was not available in the final accounts and involved working through the "Purchased Foods" section of the Account Book and making calculations with the farmer on the rations fed to the cows and other cattle. The details of purchased food were fortunately entered in the Account Book; the total of poultry food came to 240 cwt., costing £470, the remainder being dairy cake, balancer meal and calf food. The farmer estimated the yield of oats at 1 ton to the acre, giving a total of 8 tons. These were fed only to the cattle, and the farmer and the District Officer made a rough estimate of the amount fed respectively to the cows, yearlings and calves. In this way the following estimate was obtained of the consumption of the concentrates (purchased and home grown) by the cattle.

				Tons
23 cows			 	26
10-11 cat	tle over	r 1 year	 	2
5—6 cattle	under	1 year	 	2
				30

The consumption by the cows was, on average, nearly 23 cwt. The District Officer knew, from various studies of milk production, that this was extremely high for a milk yield of under 700 gallons. It was clear to him that the cows were not capable of producing high milk yields in response to high concentrate feeding and that they were therefore being overfed. With the existing type of cows it would be profitable to cut down the feeding of concentrates. If the quantity were cut to 15 cwt. per cow, for example, the milk yield would probably fall slightly but not in proportion. If it fell from 683 gallons to 650 gallons the receipts from milk would fall by roughly £5 but the saving in the cost of purchased concentrates (at £35 per ton) would be £14. The increased profit would therefore be £9 per cow, or $9 \times 23 = £207$ in all.

Alternatively, higher yielding cows such as Ayrshires or Friesians could be introduced which would be able profitably to use the same, or even a higher, level of feeding. If, for example, the yield could be increased to 770 gallons at the same level of feeding the profit per cow would rise by £12, or a total of £276. As the farmer seemed to like feeding his cattle well the District Officer tended to favour this alternative.

The District Officer next examined the poultry enterprise. The Production was £495, while the cost of purchased food was £470. There was obviously something seriously wrong here. The average egg yield was 12 dozen, and on questioning the farmer the District Officer discovered that he had had a very high death rate, over 25 per cent., and that the remaining hens had not been laying very well. The District Officer examined the deep-litter house and came to the conclusion that there was inadequate ventilation, leading to a stuffy, humid atmosphere and an unsatisfactory, wet litter which lowered egg yields and increased the hens' liability to illness. He decided, however, to consult the Poultry Officer for expert advice on this question. In the present conditions the hens were making no contribution to farm profits and it would be better for the farmer to get rid of them, apart from a few to supply eggs for the house. If, however, the death rate could be cut down and the egg yield raised the profitability of the poultry enterprise could be considerably increased. If the egg yield could be increased to 17 dozen the sales of eggs would be 3,400 dozen, worth £680, and with a normal death rate there would be perhaps 80 culled hens bringing in £27. Sales of poultry and eggs would thus be £702—an increase of £207.

Finally the District Officer examined the sheep enterprise. The production of £104 from 12 ewes came to £8.13 per ewe. The average results of the group (page 19) were 20.5 ewes per farm with a production of £149, roughly £7 5s. per ewe. The production per ewe was therefore satisfactory. However, when he considered the farm organisation as a whole the District Officer wondered whether it was worth keeping a mere 12 ewes. Looking after them involved a certain amount of work which was not very much greater for 50 ewes than 12. Moreover, the fact that sheep were kept meant that the hedges had to be kept in better condition than would otherwise have been necessary. The District Officer felt that it was best to have either 50 ewes or none.

The District Officer now knew the weaknesses in the farm system and could discuss with the farmer ways of putting them right. The chief fault was that concentrates were being fed wastefully to the cows. The District Officer suggested gradually introducing higher yielding cows and carefully rationing the concentrates; they should be fed at 4 lb. per gallon for every gallon after the first in winter and every gallon after the first two in summer. This should cut down the concentrates to the low yielding cows but allow the high yielding cows to receive a sufficient ration. In the case of the poultry it should be possible, by improving ventilation and carrying out any other steps recommended by the Poultry Officer, to increase production by £150—£200 without any additional costs. If the farmer were to concentrate on these two tasks it would, in the District Officer's opinion, be as well to get rid of the sheep. The farmer had indicated that he and the man were kept fairly busy in running the farm, and the changes he had recommended might make it necessary to devote more time to the cows and poultry. If the labour had been underemployed and the grazing not fully utilized it might have been profitable to increase the ewe flock, but in the circumstances the District Officer thought that it would be better to abandon it and concentrate on the cows and hens. If there were any signs of undergrazing the farmer could rear and sell 2 or 3 heifers which could be done with very little extra labour.

The farmer agreed with these suggestions. He decided to buy two good Friesian cows in the near future and increase their number as soon as he was able. He would also ration carefully the quantity of concentrates and cut down the amount being fed to the low-yielding cows. He would also take steps to improve conditions in the poultry house and if he was successful with the cows and hens he would sell the ewes after the next lamb crop.

The District Officer drew up a budget of the results he might expect in the coming year. It would be too early for the new cows to have much effect on production of milk, but the cutting down of concentrates to the low yielders would reduce the purchased food bill. On the basis of the figures quoted when dealing with the milk yields the fall in the purchased food bill would be £322 compared with a fall of £115 in receipts from milk. It had been calculated that it should be possible to raise the production of poultry and eggs by £207; to be on the safe side the District Officer took a figure of £150. On the other hand there would be no production of sheep and wool if the ewe flock was sold.

FARM ACCOUNT FO	RECAST
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Production			£	C	osts				£
Cattle			327		Rental Va	alue			170
Poultry an	d Eggs	S	645		Purchase	d Foods			978
Crops			40		Fertilisers	·			150
Milk			2,085		Seeds				50
Sundries			130		Contract	Work			70
Subsidies			70		Implemen	its and	Power		500
					Sundries				160
					Labour				500
						T . 1	a .		2.550
							Costs	• •	2,578
						Farm	Profit		719
m . 1 m									
Total Prod	uction	• •	3,297						3,297

Assuming that other items remained unaltered, this would give the above results, with a profit of £719. The District Officer did not imagine that this budget would be exactly achieved; it was merely intended to give a rough indication of the sort of changes in Production and Costs that should be aimed at. The results were in any case not particularly good. After this first stage had been reached it would be necessary to make another plan by comparing the farm results with the above-average figures.

CONCLUSIONS

This example is intended to illustrate the *method* of farm management analysis rather than recommend any particular policy. The causes of low profit can be varied; in addition to those mentioned in the example there may be poor crop yields, poor grassland management, inefficient use of labour, or many others. Sometimes the farmer is doing the best he can with badly planned buildings, and an improvement would require an alteration in the physical layout of the farm. Quite often the farm is too small or the land too infertile to allow of very much improvement. The lowest incomes in the Survey are made on the smaller farms of the Poor Land group. On some of these farms the quantity and quality of the land is simply not sufficient to support other than a very low standard of living and the most honest advice that can be given to such a farmer who wishes to raise his income is to try farming elsewhere.

In the example the budgets were worked out by an advisory officer in conjunction with the farmer. However, if he is given suitable information the farmer can analyse his own farm results and draw up his own budgets. In many cases it might be convenient for him to get his accountant to draw up a comparative table of Production and Costs when completing the year's financial accounts. There is certainly scope for accountants to undertake this type of work. It is to be hoped that research institutions will publish information in a form which will enable farmers or their accountants to do this work for themselves.

The method of analysis used in this example was a fairly simple one. A simple system is most desirable, for, whatever its virtues, a complicated one will, in fact, not be used by practical farmers and advisory officers. There are other methods of analysis, some of which make use of indices of various kinds. (These are described, and a great deal of useful factual information is given, in "The Farm as a Business", H.M.S.O., 7s.). All these methods, however, are based on the same principle of expressing farm results in terms of Production (Output) and Costs, and comparing the results of an individual farm with those of a group of farms in the Farm Management Survey. From these comparisons it is possible to pin-point the causes of low profits and devise plans for raising them.

APPENDIX

The following tables are based on work undertaken by my colleague Mr. M. B. Jawetz on the financial, technical and economic data and measures of efficiency for typical groups of farms in Wales.

DAIRY FARMS (BETTER LAND) 1956/57 20—49 acres

		Per I	arm	Per 10	0 acres
		Average	Above Average	Average	Above Average
Number of Farms		29	10	_	
Average Size (acres): Actual Adjusted		39.7 39.3	38.1 37.7	_	_
Elevation (feet)		310—380	330—410	_	
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 214 47 216 455 32 1,868 99 13	£ 244 23 233 659 10 2,136 97 5	£ 546 120 550 1,159 81 4,758 251 33	£ 647 61 618 1,748 27 5,667 257 13
Total Production		2,944	3,407	7,498	9,038
Costs: Rent Purchased Food Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 125 1,228 86 24 378 31 198 241	£ 123 1,470 60 16 368 29 202 167	£ 320 3,128 218 60 963 79 505 614	£ 327 3,900 160 42 975 77 535 444
Total Costs		2,311	2,435	5,887	6,460
Farm Profit		633	972	1,611	2,578
Stocking: (Cow Units) Cows		No. 14.7 6.0 0.9	No. 15.9 5.7 0.3	No. 37.6 15.2 2.4	No. 42.2 15.1 0.8
Total	••	21.0	21.9	33.2	36.1
(Actual Numbers) Breeding Ewes		6.6 1.5 220.1	2.7 1.8 273.1	16.7 3.8 560.7	7.2 4.6 724.3
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		Acres 2.3 2.3 15.0 19.7	Acres 2.1 1.4 14.5 19.7	Acres 5.7 5.8 38.4 50.1	Acres 5.7 3.6 38.4 52.3
Milk Yield per Cow (gallons) Milk Sales per Cow (£)	• • •	822 127	874 134		_

DAIRY FARMS (BETTER LAND) 1956/57 50—99 acres

		Per 1	Farm	Per 100	0 acres
		Average	Above Average	Average	Above Average
Number of Farms		26	9	_	_
Average Size (acres): Actual Adjusted		76.1 74.2	70.6 70.1	_	· _
Elevation (feet)		370—460	360—490		_
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 337 149 390 340 60 2,451 110 54	£ 206 186 478 403 115 2,633 128 39	£ 454 200 526 459 81 3,305 149 73	£ 295 266 681 575 164 3,755 183 55
Total Production		3,891	4,188	5,247	5,974
Costs: Rent Purchased Food Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 174 1,507 150 65 528 71 252 418	£ 161 1,500 142 42 490 56 223 311	£ 234 2,033 203 87 712 96 340 563	£ 229 2,140 203 61 699 80 318 443
Total Costs		3,165	2,925	4,268	4,173
Farm Profit		726	1,263	979	1,801
Stocking: (Cow Units) Cows		No. 20.6 9.9 2.6	No. 20.0 7.5 3.0	No. 27.8 13.3 3.5	No. 28.6 10.6 4.2
	• •	33.1	30.5	44.6	43.4
(Actual Numbers) Breeding Ewes Breeding Pigs Poultry		20.5 3.6 176.6	20.4 4.5 215.2	27.7 4.8 238.1	29.2 6.4 306.9
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		Acres 10.5 3.6 24.1 36.0	Acres 8.7 4.6 22.9 33.9	Acres 14.2 4.9 32.4 48.5	Acres 12.4 6.6 32.7 48.3
Milk Yield per Cow (gallons) Milk Sales per Cow (£)		760 119	841 131	_	_

DAIRY FARMS (BETTER LAND) 1956/57 100—199 acres

		Per Farm		Per 100 acres		
		Average	Above Average	Average	Above Average	
Number of Farms		24	. 8	_		
Average Size (acres): Actual Adjusted		139.9 135.0	146.8 141.2	_	=	
Elevation (feet)		300—450	330—550		_	
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 732 326 404 244 155 4,024 175 70	£ 815 578 268 84 182 4,193 165 75	£ 542 241 299 181 115 2,980 130 52	£ 577 409 189 60 129 2,969 117 53	
Total Production	•	6,130	6,360	4,540	4,503	
Costs: Rent Purchased Food Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 314 2,196 269 95 815 92 400 924	£ 347 1,840 214 123 776 90 292 891	£ 233 1,627 199 70 604 68 296 684	£ 246 1,302 151 87 550 64 207 631	
Total Costs		5,105	4,573	3,781	3,238	
Farm Profit		1,025	1,787	759	1,265	
Stocking: (Cow Units) Cows		No. 34.4 22.9 6.5	No. 33.9 21.6 12.6	No. 25.5 16.9 4.9	No. 24.0 15.3 8.9	
(Actual Numbers) Breeding Ewes		48.0 2.9 163.7	90.8 1.4 58.7	35.5 2.1 121.3	64.3 1.0 41.6	
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		Acres 14.3 5.0 42.4 73.3	Acres 17.2 5.2 37.7 81.1	Acres 10.6 3.7 31.4 54.3	Acres 12.1 3.7 26.8 57.4	
Milk Yield per Cow (gallons) Milk Sales per Cow (£)	• • •	805 117	827 124	_	_	

DAIRY FARMS (BETTER LAND) 1956/57

200 acres and over

		Per I	arm	Per 100) acres
		Average	Above Average	Average	Above Average
Number of Farms		14	5	-	
Average Size (acres): Actual Adjusted	• •	301.5 278.9	254.4 245.0		=
Elevation (feet)		270—420	320—390		_
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 1,455 698 188 236 376 5,449 311 214	£ 1,205 73113* 328 206 5,476 218 111	£ 522 250 67 84 135 1,954 112 77	£ 492 298 — 5* 134 84 2,235 89 46
Total Production		8,927	8,262	3,201	3,373
Costs: Rent Purchased Food Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 564 2,211 648 228 1,349 165 677 1,724	£ 473 1,864 737 165 1,129 150 421 1,232	£ 202 793 232 82 484 59 243 618	£ 193 761 301 67 461 61 172 503
Total Costs		7,566	6,171	2,713	2,519
Farm Profit		1,361	2,091	488	854
Stocking: (Cow Units) Cows Other Cattle Sheep		No. 45.9 38.8 14.5	No. 40.1 35.0 14.8	No. 16.5 13.9 5.2	No. 16.4 14.3 5.9
Total	• •	99.2	89.9	35.6	36.6
(Actual Numbers) Breeding Ewes Breeding Pigs Poultry	.:	106.8 1.4 144.9	99.7 0.2 213.3	38.3 0.5 51.9	40.7 0.1 87.1
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		Acres 40.2 17.7 76.5 144.5	Acres 30.8 12.9 70.6 130.7	Acres 14.4 6.3 27.5 51.8	Acres 12.6 5.3 28.8 53.3
Milk Yield per Cow (gallons) Milk Sales per Cow (£)	• •	795 119	925 137		

^{*}This curious minus figure arises because the pigs were generally killed for the farmer's own use. Their value has therefore been included under "Sundries" instead of under "Pigs".

DAIRY FARMS (POOR LAND) 1956/57

20-49 acres

	1	Per I	arm	Per 100) acres
		Average	Above Average	Average	Above Average
Number of Farms		20	7	_	_
Average Size (acres): Actual Adjusted		42.4 35.2	45.1 36.7	_	_
Elevation (feet)		510—660	490—610	_	_
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 138 79 68 83 39 935 67 28	£ 165 149 91 76 67 1,343 79 35	£ 394 224 193 235 112 2,660 190 79	£ 449 405 248 206 182 3,658 216 96
Total Production		1,437	2,005	4,087	5,460
Costs: Rent Purchased Food Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 64 421 68 22 216 19 112	£ 70 555 106 36 324 30 139 60	£ 181 1,199 193 64 616 54 317 442	£ 191 1,512 288 97 882 81 378
Total Costs		1,078	1,320	3,066	3,594
Farm Profit	• • •	359	685	1,021	1,866
Stocking: (Cow Units) Cows Other Cattle Sheep Total		No. 9.7 3.9 1.5	No. 11.3 4.0 2.5	No. 27.5 11.1 4.4	No. 30.9 10.9 6.5
(Actual Numbers) Breeding Ewes	••	16.6 0.6 61.9	23.2 0.9 52.9	47.2 1.6 176.1	63.2 2.3 144.0
Cropping: Corn Roots and Fodder Crops Hay and Silage	••	Acres 3.8 1.7 13.7 16.0	Acres 5.6 2.6 15.5 13.0	Acres 10.9 4.8 38.8 45.5	Acres 15.4 7.0 42.1 35.5
Milk Yield per Cow (gallons) Milk Sales per Cow (£)		655 97	801 118		

DAIRY FARMS (POOR LAND) 1956/57 50—99 acres

		Per Farm Pe		Per 100	100 acres	
		Average	Above Average	Average	Above Average	
Number of Farms	$ \cdot $	23	8	_		
Average Size (acres): Actual Adjusted	•••	83.7 72.3	89.3 74.1	_	-	
Elevation (feet)		460—670	320—560			
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries		£ 210 151 38 111 37 1,318	£ 161 208 23 172 78 1,666	£ 290 209 53 153 51 1,824 118	£ 217 281 31 232 106 2,250	
Subsidies Total Production		2,014	2,434	2,786	3,287	
Costs: Rent Purchased Food Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 81 528 115 47 362 28 154 329	£ 94 654 143 57 348 25 165	£ 112 731 160 65 500 38 213 455	£ 127 884 192 77 470 34 222 219	
Total Costs		1,644	1,648	2,274	2,225	
Farm Profit		370	786	512	1,062	
Stocking: (Cow Units) Cows	••	No. 14.0 6.1 3.3	No. 15.7 4.9 3.9	No. 19.3 8.5 4.6	No. 21.2 6.6 5.3	
(Actual Numbers) Breeding Ewes Breeding Pigs Poultry	• •	34.7 0.2 70.2	38.8 0.4 88.1	48.0 0.3 97.1	52.3 0.6 118.9	
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		Acres 8.7 5.4 18.6 39.6	Acres 8.2 5.8 19.4 40.7	Acres 12.0 7.5 25.8 54.7	Acres 11.1 7.8 26.2 54.9	
Milk Yield per Cow (gallons) Milk Sales per Cow (£)		635 94	706 106			

DAIRY FARMS (POOR LAND) 1956/57 100—199 acres

		Per I	arm	Per 100) acres
		Average	Above Average	Average	Above Average
Number of Farms		13	4	-	. —
Average Size (acres): Actual Adjusted		171.7 130.7	174.8 138.0		
Elevation (feet)	• •	400—680	360—740		
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 409 430 22 246 114 1,951 134 114	£ 579 304 62 565 190 2,333 140 65	£ 312 329 17 188 87 1,493 103 87	£ 420 220 45 410 138 1,691 101 47
Total Production		3,420	4,238	2,616	3,072
Costs: Rent Purchased Food Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 174 821 176 66 565 30 258 493	£ 176 1,282 155 71 569 33 225 477	£ 133 628 134 51 432 23 198 377	£ 128 929 113 51 412 24 163 346
Total Costs		2,583	2,988	1,976	2,166
Farm Profit		837	1,250	640	906
Stocking: (Cow Units) Cows		No. 21.1 14.0 10.5	No. 20.6 14.2 5.9	No. 16.2 10.7 8.0	No. 14.9 10.3 4.3
Total	• •	45.0	40.7	J4.7	
(Actual Numbers) Breeding Ewes Breeding Pigs		89.7 0.3 101.7	52.9 0.9 187.1	68.6 0.3 77.8	38.3 0.6 135.6
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		Acres 11.4 6.1 35.0 78.2	Acres 7.6 7.5 43.2 79.7	Acres 8.8 4.7 26.7 59.8	Acres 5.6 5.4 31.3 57.7
Milk Yield per Cow (gallons) Milk Sales per Cow (£)		665 92	748 113	_	= ,

DAIRY FARMS (POOR LAND) 1956/57 200 acres and over

		Per Farm	Per 100 acres
		Average	Average
Number of Farms		3	
Average Size (acres):			
Actual Adjusted	• •	247.0	_
Adjusted	•••	212.0	· -
Elevation (feet)	• •	620—870	
Production:	ļ	£	£
Cattle Sheep and Wool	• •	1,225	578
Pigs	• •	655 17	309
Poultry and Eggs	• •	522	8 246
Crops	• •	343	162
Milk	• •	3,401	1,604
Sundries		185	87
Subsidies		318	150
Total Production		6,666	3,144
Costs:		£	£
Rent		364	171
Purchased Food		1.567	739
Fertilisers		183	86
Seeds		128	60
Implements and Power		745	352
Contract Work		67	32
Sundries		319	150
Labour	• •	1,027	485
Total Costs		4,400	2,075
Farm Profit		2,266	1,069
Stocking:	!		
(Cow Units)	1	No.	No.
Cows	:	30.3	14.3
Other Cattle		30.0	14.2
Sheep		12.6	5.8
Total		72.9	34.3
(Actual Numbers)			
Breeding Ewes		100.5	47.4
Breeding Pigs			-
Poultry	••	176.0	83.0
Cropping:		Acres	Acres
Corn		24.8	11.7
Roots and Fodder Crops		7.3	3.5
Hay and Silage	• •	54.7	25.8
Pasture and Rough Grazing	3	125.2	59.0
Milk Yield per Cow (gallons)		738	
Milk Sales per Cow (£)	1	112	

Note.—This group happens to contain only 3 farms, all of which are farmed exceptionally well. Consequently the average results are better than those of the Dairy (Better Land) over 200 acres group. These results cannot be taken as typical but they are given as an example of what can be done by good management even on poorish land.

MIXED FARMS (BETTER LAND) 1956/57 20—99 acres

		Per Farm		Per 100 acres		
		Average	Above Average	Average	Above Average	
Number of Farms		19	6	_	. —	
Average Size (acres): Actual Adjusted		63.0 60.2	60.0 58.5	_	_	
Elevation (feet)		330—400	300—330	_		
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 438 201 243 538 228 1,302 133 85	£ 337 176 153 957 449 1,752 157 86	£ 727 335 404 894 379 2,165 220 140	£ 577 300 262 1,635 769 2,994 269 147	
Total Production	• •	3,168	4,067	5,264	6,953	
Costs: Rent Purchased Foods Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 158 1,096 111 46 454 56 202 357	£ 174 1,305 153 37 519 25 231 458	£ 262 1,822 185 76 754 93 335 594	£ 298 2,231 262 62 886 42 396 783	
Total Costs	• •	2,480	2,902	4,121	4,960	
Farm Profit	•	688	1,165	1,143	1,993	
Stocking: (Cow Units) Cows Other Cattle	 	No. 13.4 10.7 4.0	No. 14.6 8.4 2.7	No. 22.3 17.7 6.8	No. 24.9 14.4 4.6	
Total		28.1	25.7	46.8	43.9	
(Actual Numbers) Breeding Ewes Breeding Pigs Poultry		31.4 1.2 239.5	20.0 0.5 397.0	52.2 2.1 397.9	34.2 0.9 678.6	
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		Acres 7.8 3.8 18.7 29.9	Acres 3.9 5.8 20.5 28.3	Acres 13.0 6.2 31.0 49.8	Acres 6.7 10.0 35.0 48.3	

MIXED FARMS (BETTER LAND) 1956/57 100—199 acres

		Per Farm		Per 100 acres		
•		Average	Above Average	Average	Above Average	
Number of Farms		14	5	_	_	
Average Size (acres):						
Actual		164.0	152.4			
Adjusted	• •	141.3	142.7			
Elevation (feet)		320—440	400—440	_	_	
Production:		£	£	£	£	
Cattle		820	1,038	581	728	
Sheep and Wool		634	777	449	545	
Pigs	• •	174	264	123	185	
Poultry and Eggs	• •	480	398	339	279	
Crops	• •	418	136	296	95	
Milk Sundries	• •	1.754	2,028	1,242	1,421	
C. 1 1.11	• •	238 98	278	168	194	
	••	90	131	69	92	
Total Production		4,616	5,050	3,267	3,539	
Costs:		£	£	£	£	
Rent		233	209	164	147	
Purchased Foods	••	1,069	1,093	757	766	
Fertilisers	• •	218	187	154	131	
Seeds Implements and Power	• •	159	137	112	96	
Contract Worls	• •	637	758	451	531	
Conduina	• •	69 237	49	49	34	
Lahaum	• •	809	302 637	168 573	212 446	
	• •					
Total Costs	••	3,431	3,372	2,428	2,363	
Farm Profit		1,185	1,678	839	1,176	
Stocking:						
(Cow Units)	1	No.	No.	No.	No.	
Cows Other Cattle	• •	21.8	23.1	15.4	16.2	
Chase	• •	19.9 14.3	21.3 16.6	14.1	14.9	
•	••	14.3	16.6	10.2	11.7	
Total	• •	56.0	61.0	39.7	42.8	
(Actual Numbers)		o= -				
Breeding Ewes	• •	97.3	113.3	68.8	79.4	
Breeding Pigs	• •	1.1	1.1	0.8	0.8	
Poultry		180.6	144.7	127.8	101.4	
Cropping:	1	Acres	Acres	Acres	Acres	
Corn		21.5	28.1	15.2	19.7	
Roots and Fodder Crops	• •	9.5	4.8	6.7	3.4	
Hay and Silage	• •	34.6	37.0	24.4	25.9	
Pasture and Rough Grazi	ng	75.7	72.8	53.7	51.0	

MIXED FARMS (BETTER LAND) 1956/57 200 acres and over

		Per Farm		Per 100) acres
		Average	Above Average	Average	Above Average
Number of Farms		10	3	_	
Average Size (acres): Actual Adjusted		324.9 296.4	294.3 275.7		_
Elevation (feet)		300—470	330—400		
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 2,008 1,347 1,350 520 904 3,369 295 434	£ 2,547 1,640 866 169 929 3,638 275 316	£ 678 454 455 175 305 1,137 100 146	£ 924 595 314 61 337 1,319 100 115
Total Production		10,227	10,380	3,450	3,765
Costs: Rent		£ 635 2,692 640 204 1,478 77 681 2,218	£ 407 2,391 430 104 1,370 43 686 2,002	£ 214 908 216 69 499 26 230 748	£ 148 867 156 38 497 15 249
Total Costs		8,625	7,433	2,910	2,696
Farm Profit	• • •	1,602	2,947	540	1,069
Stocking: (Cow Units) Cows Other Cattle Sheep		No. 43.7 44.6 28.7	No. 39.7 52.4 36.6	No. 14.7 15.1 9.7	No. 14.4 19.0 13.3
Total		117.0	128.7	39.5	46.7
(Actual Numbers) Breeding Ewes		205.2 6.9 243.2	243.0 7.7 142.8	69.2 2.3 82.0	88.1 2.8 51.8
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Grazing		13.0 79.2	Acres 30.5 13.3 77.3 154.6	Acres 15.6 4.4 26.8 53.2	Acres 11.1 4.8 28.0 56.1

MIXED FARMS (POOR LAND) 1956/57

20---99 acres

•		Per Farm		Per 10	Per 100 acres	
		Average	Above Average	Average	Above Average	
Number of Farms		22	7	_		
Average Size (acres):						
Actual Adjusted		122.4 73.1	105.7 71.1			
Floredian (Cont)						
		580—830	540—890			
Production: Cattle		£ 297	£ 299	£ 406	£	
Sheep and Wool		357	434	488	421 611	
Pigs		41	31	55	44	
Poultry and Eggs		241	346	330	485	
Crops		51	58	70	82	
Milk		622	909	851	1,279	
Sundries	• •	95	111	130	156	
Subsidies	• •	122	100	167	142	
Total Production		1,826	2,288	2,497	3,220	
Costs:		£	£	£	£	
Rent		70	77	. 97	108	
Purchased Foods		483	570	660	802	
Fertilisers	• •	78	99	107	139	
Seeds	• •	38	44	.52	62	
Implements and Power Contract Work	• •	297	303	407	427	
C 1'	• •	34 133	23 150	46	32	
Labour		282	190	181 385	211 268	
Total Costs		1,415	1,456	1,935	2,049	
Farm Profit		411	832	562	1,171	
Stocking:					-,	
(Cow Units)		No.	No.	No.	No.	
Cows		9.3	11.4	12.7	16.1	
Other Cattle		8.1	8.2	11.1	11.5	
Sheep		11.6	12.1	15.9	17.0	
Total		29.0	31.7	39.7	44.6	
(Actual Numbers)	ĺ					
Breeding Ewes		103.2	97.4	141.1	137.0	
Breeding Pigs		0.2	0.4	0.3	0.5	
Poultry	• •	124.5	155.6	170.2	219.0	
Cropping:		Acres	Acres	Acres	Acres	
Corn		7.0	7.4	9.6	10.5	
Roots and Fodder Crops	• •	2.6	3.1	3.6	4.3	
Hay and Silage	• •	19.6	19.3	26.8	27.1	
Pasture and Rough Grazing	• •	43.9	41.3	60.0	58.1	

MIXED FARMS (POOR LAND) 1956/57 100—199 acres

		Per Farm		Per 100 acres	
		Average	Above Average	Average	Above Average
Number of Farms		26	9	_	
Average Size (acres): Actual Adjusted		279.4 147.4	264.7 146.5	_	· <u>-</u>
Elevation (feet)		620—690	500—980		_
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk Sundries Subsidies		£ 444 794 40 229 17 782 106 163	£ 370 1,055 62 462 22 1,062 99 165	£ 301 539 27 155 11 531 72 111	£ 253 720 43 315 15 725 67 113
Total Production	• •	2,575	3,297	1,747	2,251
Costs: Rent Purchased Foods Fertilisers Seeds Implements and Power Contract Work Sundries Labour		£ 133 599 114 43 420 30 167 626	£ 144 708 119 36 500 53 195 526	£ 91 406 77 29 285 20 113 425	£ 99 483 81 25 341 36 133 359
Total Costs		2,132	2,281	1,446	1,557
Farm Profit		443	1,016	301	694
Stocking: (Cow Units) Cows		No. 11.9 12.3 24.5	No. 12.3 10.4 27.3	No. 8.1 8.3 16.6	No. 8.4 7.1 18.6
Total	• • •	48.7	50.0	33.0	34.1
(Actual Numbers) Breeding Ewes		222.4 0.3 94.7	236.1 0.5 114.1	150.9 0.2 64.2	161.2 0.3 77.9
Cropping: Corn Roots and Fodder Crops Hay and Silage Pasture and Rough Graz		Acres 9.2 4.3 26.2 107.7	Acres 6.6 3.9 23.4 112.6	Acres 6.2 2.9 17.8 73.1	Acres 4.5 2.6 16.0 76.9

MIXED FARMS (POOR LAND) 1956/57

200 acres and over

		Per Farm		Per 10	0 acres
		Average	Above Average	Average	Above Average
Number of Farms .		13	4	_	
Average Size (acres): Actual Adjusted		537.1 263.4	561.0 281.8	_	
Elevation (feet)		530—1,600	560—1,050		
Production: Cattle	· · · · · · · · · · · · · · · · · · ·	£ 582 1,301 59 110 72 977 187 232	£ 583 1,766 7 115 196 1,435 336 336	£ 221 494 22 42 27 371 71 88	£ 207 627 2 41 69 509 120 119
Total Production		3,520	4,774	1,336	1,694
Costs: Rent	·	£ 156 774 150 53 484 23 206 543	£ 193 782 210 119 637 25 238 581	£ 59 294 57 20 184 9 78 206	£ 69 277 75 42 226 9 84 206
Total Costs		2,389	2,785	907	988
Farm Profit		1,131	1,989	429	706
Stocking: (Cow Units) Cows Other Cattle Sheep		No. 14.1 15.9 46.3	No. 18.5 15.7 45.4	No. 5.4 6.0 17.6	No. 6.6 5.5 16.2
Total	• •	76.3	79.6	29.0	28.3
(Actual Numbers) Breeding Ewes Breeding Pigs Poultry		404.5 0.4 86.0	441.8 0.1 78.8	153.6 0.1 32.6	156.8 0.1 28.0
Cropping: Corn		Acres 9.6 3.7 32.8 217.3	Acres 16.3 8.9 40.0 216.6	Acres 3.7 1.4 12.4 82.5	Acres 5.8 3.2 14.2 76.8

LIVESTOCK REARING FARMS (BETTER LAND) 1956/57 20—99 acres

			Per Farm		Per 10	Per 100 acres	
			Average	Above Average	Average	Above Average	
Number of Farms			20	7		_	
Average Size (acres): Actual Adjusted			81.6 70.4	70.1 66.2	<u> </u>	_	
Elevation (feet)			510650	440—650		_	
Production: Cattle			£ 558 559 85 230 61 12 96 153	£ 701 659 127 307 71 17 108 199	£ 792 794 120 327 87 17 136 218	£ 1,059 996 193 464 108 25 163 301	
Total Production			1,754	2,189	2,491	3,309	
Costs: Rent Purchased Foods Fertilisers Seeds Implements and Powe Contract Work Sundries Labour	 er 		£ 112 298 92 37 309 37 132 280	£ 108 366 120 59 348 42 175 260	£ 158 423 131 52 439 53 188 397	£ 164 553 182 89 526 63 264 393	
Total Costs			1,297	1,478	1,841	2,234	
Farm Profit	• •		457	711	650	1,075	
Stocking: (Cow Units) Cows Other Cattle Sheep			No. 6.8 8.8 10.5	No. 6.6 8.4 10.4	No. 9.7 12.5 14.8	No. 10.0 12.7 15.6	
Total			26.1	25.4	37.0	38.3	
(Actual Numbers) Breeding Ewes Breeding Pigs Poultry			73.5 0.6 128.1	71.3 0.9 180.0	104.3 0.9 181.9	107.7 1.4 272.0	
Cropping: Corn Roots and Fodder Cr Hay and Silage Pasture and Rough G			Acres 7.4 4.4 18.1 40.5	Acres 7.7 4.2 16.4 37.9	Acres 10.5 6.3 25.8 57.4	Acres 11.6 6.4 24.8 57.2	

LIVESTOCK REARING FARMS (BETTER LAND) 1956/57 100—199 acres

	Per 1	Farm	Per 100 acres		
	 Average	Above Average	Average	Above Average	
Number of Farms	 22	7	_		
A -1 1	167.6 152.9	161.1 153.3			
Elevation (feet)	 610—920	650—990			
Pigs Poultry and Eggs Crops Milk Sundries	£ 997 1,160 198 198 181 10 126 326	£ 1,085 1,335 329 404 391 6 151	£ 652 759 130 130 118 6 82 213	£ 708 871 215 264 255 4 98 246	
Total Production	 3,196	4,078	2,090	2,661	
Seeds	£ 254 360 194 90 546 54 244 623	£ 249 457 218 98 558 55 255 752	£ 167 235 127 59 357 35 159 408	£ 162 298 142 64 364 36 167 491	
Total Costs	 2,365	2,642	1,547	1,724	
Farm Profit	 831	1,436	543	937	
Chara	 No. 14.9 19.5 22.4	No. 18.0 19.0 24.0	No. 9.7 12.8 14.7	No. 11.8 12.4 15.6	
Total	 56.8	61.0	37.2	39.8	
Breeding Pigs	 155.4 1.4 131.0	148.6 3.0 242.8	101.6 0.9 85.7	97.0 2.0 158.4	
Cropping: Corn	 Acres 19.7 10.7 28.0 94.5	Acres 22.4 12.1 29.9 88.9	Acres 12.9 7.0 18.3 61.8	Acres 14.6 7.9 19.5 58.0	

LIVESTOCK REARING FARMS (BETTER LAND) 1956/57 200 acres and over

	2	200 acres and	over			
,		Per Farm		Per 100 acres		
		Average	Above Average	Average	Above Average	
Number of Farms	••	16	5			
Average Size (acres): Actual Adjusted		305.1 287.1	335.0 308.6	_	<u>-</u>	
Elevation (feet)	• •	510—730	480—760			
Production: Cattle Sheep and Wool Pigs Poultry and Eggs Crops Milk	•••	£ 1,932 1,955 484 216 945	£ 1,943 2,196 162 244 1,834	£ 673 681 169 75 329	£ 630 712 52 79 594	
Sundries Subsidies	• •	195 441	182 601	68 153	59 195	
Total Production		6,168	7,162	2,148	2,321	
Costs: Rent		£ 455 702 409 170 907 93 421 1,373	£ 447 373 495 212 920 124 385 1,450	£ 159 245 142 59 316 32 147 478	£ 145 121 160 69 298 40 125 470	
Total Costs		4,530	4,406	1,578	1,428	
Farm Profit	• • •	1,638	2,756	570	893	
Stocking: (Cow Units) Cows		20.2	No. 23.0 33.2 39.4	No. 8.5 13.3 11.5	No. 7.5 10.7 12.7	
Total		96.7	95.6	33.3	30.9	
(Actual Numbers) Breeding Ewes Breeding Pigs Poultry		223.4 0.9 106.2	211.6 0.6 134.2	77.8 0.3 37.0	68.6 0.2 43.5	
Cropping: Corn Roots and Fodder Crops Hay and Silage		Acres 44.6 20.5 56.1 165.9	Acres 49.4 23.2 64.3 171.7	Acres 15.5 7.2 19.5 57.8	Acres 16.0 7.5 20.8 55.7	

LIVESTOCK REARING FARMS (POOR LAND) 1956/57 20—99 acres

		Per Farm		Per 100 acres	
		Average	Above Average	Average	Above Average
Number of Farms		24	8		
Average Size (acres):					
A 1° 4 1		136.7	165.5		_
Adjusted	• • • •	69.3	74.3		
Elevation (feet)	• •	650—1,120	690—1,240		
Production:		£	£	£	£
Cattle	• • • • • • • • • • • • • • • • • • • •	280	315	405	424
Sheep and Wool	• • • • •	438	557	632	749
Pigs	• • • •	14	6	19	9
Poultry and Eggs Crops	•• ••	238 29	467 12	344	628
Milk	• • • • • • • • • • • • • • • • • • • •	29 27	51	42 38	17 69
Sundries		79	98	115	132
Subsidies		142	200	205	269
Total Production		1,247	1,706	1,800	2,297
Costs:		£	£	£	£
Rent		6 9	66	100	89
Purchased Foods		•••	403	431	542
Fertilisers		38	54	54	73
Seeds		22	30	33	41
Implements and Power		210	238	304	320
Contract Work		. 14	12	20	16
Sundries		. 86	83	124	112
Labour	•• ••	217	181	313	244
Total Costs		955	1,067	1,379	1,437
Farm Profit		292	639	421	860
Stocking:					
(Cow Units)		No.	No.	No.	No.
Cows	••	5.6	6.8	8.0	9.1
Other Cattle	• • • • • • • • • • • • • • • • • • • •	6.7	7.3	9.7	9.8
Sheep	••	12.0	16.9	17.4	22.8
Total		24.3	31.0	35.1	41.7
(Actual Numbers)	ļ	106.7	151 4	4.5.4.5	
Breeding Ewes	• • • •	106.7	151.1	154.0	203.4
	• • • • • • • • • • • • • • • • • • • •	0.1	206.3	0.1	277.7
Poultry	•••••	115.0	200.3	166.1	277.7
Cropping:		Acres	Acres	Acres	Acres
Corn		4.6	5.8	6.6	7.8
Roots and Fodder Cro	ps	2.7	3.6	3.9	4.9
Hay and Silage	••. ••	14.9	17.6	21.4	23.7
Pasture and Rough Gr	azing	47.1	47.3	68.1	63.6

LIVESTOCK REARING FARMS (POOR LAND) 1956/57 100—199 acres

		Per Farm		Per 10	0 acres
		Average	Above Average	Average	Above Average
Number of Farms		33	11		
Average Size (acres):					
Actual Adjusted		257.9 142.6	218.2 141.5	_	_
Elevation (feet)		610—1,140	520—970		
Production:		£	£	£	£
Cattle		517	700	363	495
Sheep and Wool			1,065	607	753
Pigs	• •	30	89	21	63
Poultry and Eggs	• • •	88	88	62 17	62 30
Crops	• •	25	43 168	67	119
Milk	• •	95 112	136	78	96
Sundries	• •	250	274	175	193
	• •				
Total Production	···	1,983	2,563	1,390	1,811
Costs:		£	£	£	£
Rent		116	143	81	101
Purchased Foods		302	364	212	257
Fertilisers	• •	87	113	61	80
Seeds	• •	45 315	59 3 6 3	31 221	42 256
Implements and Power	٠.	313	303	22	230
Contract Work	• •	137	135	96	95
Sundries	• •	464	437	326	309
Total Costs		1,498	1,645	1,050	1,162
Farm Profit		485	918	340	649
Stocking:					
(Cow Units)		No.	No.	No.	No.
Cows		7.4	7.5	5.2	5.3
Other Cattle			16.6	8.2	11.7
Sheep		24.1	26.0	16.9	18.4
Total		43.2	50.1	30.3	35.4
(Actual Numbers)					
Breeding Ewes			232.3	149.8	164.1
Breeding Pigs			0.6	0.2	0.4
Poultry	• •	61.8	56.1	43.3	39.6
Cropping:		Acres	Acres	Acres	Acres
Corn	٠.	8.7	10.7	6.1	7.6
Roots and Fodder Crops		5.4	6.3	3.8	4.4
Hay and Silage		19.8	21.3	13.9	15.0
Pasture and Rough Grazing		108.7	103.2	76.2	73.0

LIVESTOCK REARING FARMS (POOR LAND) 1956/57

200 acres and over with under 80% Rough Grazing

		!	Per I	arm	Per 10	0 acres
			Average	Above Average	Average	Above Average
Number of Farms			14	5		
Average Size (acres):						
Actual Adjusted	• •	••	574.0 326.6	563.5 307.7	_	_
Elevation (feet)	••		726—1,224	740—1,280	_	
Production:			£	£	£	£
Cattle	• •	••;	970	1,182	297	384
Sheep and Wool Pigs	• •	• •	2,070	2,618 — 7*	634	850
Poultry and Eggs	• •		7 97	96	2 30	-2*
Crops			43	32	13	31 11
Milk			43		13	
Sundries			158	145	48	47
Subsidies	• •	• •	560	544	171	177
Total Production	••		3,948	4,610	1,208	1,498
Costs:		-	£	£	£	£
Rent			237	266	73	86
Purchased Foods			442	347	135	113
Fertilisers	• •		255	232	78	76
Seeds	••	• •	106	65	32	21
Implements and Powe Contract Work		• •	549	585	168	190
Sundries	• •	• • ;	43 259	36 306	13	12
Labour	• •	::	877	957	80 268	99 311
Total Costs	• • •		2,768	2,794	847	908
Farm Profit	••		1,180	1,816	361	590
Stocking:	******					
(Cow Units)		i	No.	No.	No.	No.
Cows			16.6	15.3	5.0	5.0
Other Cattle			23.4	30.1	7.2	9.7
Sheep	• •	•••	59.4	72.4	18.3	23.6
Total	••		99.4	117.8	30 5	38.3
(Actual Numbers)		Ī			i	
Breeding Ewes		• •	493.2	561.5	151.0	182.5
Breeding Pigs	• •		0.4	0.7	0.1	0.2
Poultry	••	···	80.0	93.4	24.5	30.4
Cropping:		-	Acres	Acres	Acres	Acres
Corn	• •		15.5	15.6	4.8	5.1
Roots and Fodder Cro	ops	• •	16.1	12.3	4.9	4.0
Hay and Silage			37.4	39.0	11.4	12.7
Pasture and Rough G		ş	257.6	240.8	78.9	78.2

^{*}This curious minus figure arises because pigs were generally killed for the farmer's own use. Their value is therefore included under "Sundries" instead of under "Pigs".

LIVESTOCK REARING FARMS (POOR LAND) 1956/57 200 acres and over with over 80% Rough Grazing

	Per Farm		arm	Per 100 acres		
		Average	Above Average	Average	Above Average	
Number of Farms .		16	5			
		1210.5 462.2	1191.0 459.6	_	_	
Elevation (feet)		680—1,950	580—1,980			
Sheep and Wool Pigs Poultry and Eggs . Crops Milk Sundries		0.8	£ 519 2,452 — 5* 188 — 4* 67 133 440	£ 84 455 — 3* 21 — 2* 15 27 75	£ 113 533 — 1* 41 — 1 14 29 96	
		2 105	3,790	672	824	
Seeds Implements and Power Contract Work		736 69 23 485 18 221	£ 216 626 88 39 517 47 226 563	£ 34 159 15 5 105 4 48 106	£ 47 136 19 9 113 10 49 122	
Total Costs		2,199	2,322	476	505	
Farm Profit		906	1,468	196	319	
C1		105 (No. 8.1 14.2 104.5	No. 1.6 3.0 22.8	No. 1.8 3.1 22.7	
Total		. 126.6	126.8	27.4	27.6	
			815.3	164.4 10.3	177.4 15.9	
Cropping: Corn Roots and Fodder Cro Hay and Silage Pasture and Rough Gr	 azing .	3.3 24.7 430.8	Acres 6.0 7.8 29.8 416.0	Acres 0.8 0.7 5.3 93.2	Acres 1.3 1.7 6.5 90.5	

^{*}These curious minus figures arise, in one case because the pigs were killed for the farmer's own use and so are included under "Sundries", and in the other case because the quantity of hay on hand at the end of the year was less than at the beginning (see definition of "Production" in text).