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A PRELIMINARY STUDY OF FARM LABOUR ORGANISATION

IN

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ECONOMICS DEPARTMENT

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A PRELIMINARY STUDY OF FARM LABOUR ORGANISATION IN DEVON AND CORNWALL

Twenty two farmers kept a complete diary record of their man and horse labour for the year October 1930 to September 1931. A full report on this work will be issued when the diaries for the current year, 1931-32, are completed. Conditions of one year may not be typical, and it is expected that the average of two years will provide much more reliable information than could be hoped for if conclusions were based on the results of one year's work only.

In the meantime, an analysis of one year's figures brings to light certain points regarding method and results which should not be without interest to all those farmers who have kept their diary for the full year.

I.

PRODUCTIVE WORK PER ACRE.

In the last report on your financial accounts which was sent you a few months ago, some figures were included which represent the number of hours of man and horse labour which are needed to grow an acre of the more important crops and tend the stock under Devon and Cornwall conditions. These figures are given again overleaf:-

	Man labour Hours per acre	Horse labour Hours per acre		Man labour per head	Horse labour per head
Wheat	41.6	40.0	Dairy cows	210.9	8.5
Barley	40.8	43.3	Other cattle	34.8	8.6
Oats	41.8	42.2	Ewes	12.0	1.3
Arish	10.7	18.6	Other sheep	5.0	0.5
Mangolds	140.7	77.2	Brood Sows	30.0	5.0
Swedes	57.8	51.7	Other pigs	5.0	1.0
Rape	24.6	45.8			
Potatoes	229.5	65.5		per 100 head	per 100 head
Dung to roots	23.9	21.6			
Dung to grass	18.5	17.0	Poultry	200.0	20.0
Hay	15.8	12.7	Pullets	50.0	5.0
Temp. Grass (grazed)	2.2	1.3			
Perm. Pasture (grazed)	2.8	2.2			
Orchards	66.3	5.7			

By using these figures, (which refer only to productive labour) it is possible to work out how much productive work any individual farmer has on his farm, assuming that it takes the same amount of labour to grow an acre of wheat, barley, etc. on his farm as on the average. (This assumption, of course, is not always justified. The man with a particularly hilly farm, or one with a bad lay out, would probably take more labour than the average; the farm on level land, easy working soil, with large fields, should get through with less labour than the average. However, in most cases, the average figures should apply fairly well.)

The following examples will shew the way that productive work is arrived at in the case of man labour.

Suppose a farm is cropped as follows:- Barley 20 acres, Oats 10 acres, Mangolds 10 acres, Hay 25 acres,

Grazing 100 acres, Cows 12, other cattle 30, Breeding Ewes 60, Other sheep 30. The productive man work hours on this farm of 165 acres will be:-

	acres		hours per acre	work units	
Barley	20	X	40.8	816	
Oats	10	X	41.8	418	
Mangolds	10	X	140.7	1407	
Hay	25	X	15.8	395	
Grass	100	X	2.8	280	3316
	number			2530.8	
Cows	12	X	210.9		
Other cattle	30	X	34.8	1044	
Breeding Ewes	60	X	12.0	740	
Other sheep	30	X	5.0	150	4464.8
					7780.8

Such a man would have 7780.8 productive man work units (or hours) on his farm of 165 acres, made up of

Crops 3316 hours

Stock 4464.8 hours

If we divide by 165, the productive hours per acre can be worked out, thus

Crops	3316	÷	165	=	20.1 hours
Stock	4464.8	÷	165	=	27.1 "
Total	7780.8	÷	165	=	47.2 "

Horse labour figures can be worked out in a similar way.

These figures, which are, of course, entirely theoretical, have been worked out for each of the 22 farms, and they have then been compared with the actual hours per

acre, as worked out from the diary records.

THE RESULT SHEWS A CLOSE CONNECTION BETWEEN ACTUAL AND THEORETICAL HOURS OF LABOUR IN THE CASE OF CROPS ON NEARLY EVERY FARM, BUT THE STOCK FIGURES ARE DISAPPOINTING.

CROPS. The average productive man labour on crops (theoretical) on 21 [H] farms was 22.8 hours per acre.

The average productive man labour based on the diary records of the same farms was 24.0 hours per acre.

The average productive horse labour on crops (theoretical) on 21 [H] farms was 19.4 hours per acre.

The average productive horse labour based on the diary records was 18.9 hours per acre.

The very close connection between the hours per acre of both man and horse labour when worked out on two methods which have no connection with each other suggests that there can be very little wrong either with the theoretical figures, or with the diaries, which, so far as crops are concerned, must have been entered up very accurately and systematically by all the farmers participating in this scheme.

STOCK. The average productive man labour on stock (theoretical) on 21 [H] farms was 28.75 hours per acre.

The average productive man labour, based on the diary records of the same farms was 20.2 hours per acre.

[H] Complete information on one farm was lacking.

The average productive horse labour on stock (theoretical) on 21* farms was 3.7 hours per acre.

The average productive horse labour, based on the diary records of the same farms was 2.6 hours per acre.

It is not easy to say definitely whether these discrepancies with regard to labour on stock are due to the theoretical figures being too high, or to some work on stock having been omitted from some of the diary records. It is not likely that the theoretical figure is much, if any, too high, but from certain checks which it has been possible to apply to the diary records, we are of opinion that in some cases part of the work on stock has been omitted. We suggest that this may have happened when it has been work which the farmer has done himself, such as shepherding, or perhaps odd jobs, which may have been entered as jobbing, and which may, therefore, have been analysed as miscellaneous work. In any case, while we congratulate all those farmers co-operating on the very efficient way in which the crop work appears to have been entered in the diary, we would urge everyone to exercise particular care in the remaining months of the second year's diary with regard to work on stock. Enter up all work, whether done by paid or unpaid labour.

* Complete information on one farm was lacking.

II HORSE LABOUR

The average size of the 22 farms participating in this scheme was 227 acres. On an average, 101 acres were to crops (including hay and orchards, if any) and 126 acres were pasture, temporary or permanent.

The number of working horses averaged 4½ per farm. This does not allow anything for tractors, which were present on 4 of the 22 farms.

It is often assumed that a pair of horses should be capable of working 50 to 60 acres of arable, (i.e. 25 to 30 acres each). On the average of these farms, 4½ horses accounted for only 101 acres of crops on 22 or 23 acres per horse. (If the land hay acreage were excluded, in order to make the comparison on acres of arable, the horse work on the diary farms would be even fewer acres per horse.) No allowance has been made here for the tractors, where they occur.

The diary records indicate that on an average, each horse did 1087½ hours of work per year. If it is assumed that in a working day a horse will do 7½ hours work, then 145 full days were worked per horse during the year on an average. In the case of some farms, the figure would probably be higher if it were not for a horse kept for jobbing. Such a horse is not in regular employment, and the low number of hours worked by this horse helps to lower the average of the whole team.

But even allowing for this, and for the fact that not all the horse labour may have been entered against the stock (see page 5), there seems to be a tendency on many farms for more horses to be kept than is warranted by the amount of employment which can be given them.

YOUR FARM

III MISCELLANEOUS WORK

Work spent on crops and stock can fairly be regarded as directly productive work. In addition to this work, every farmer must devote some of his labour to work which is not directly productive, although in many cases it is work which is very necessary. Such work as hedging, ditching, white-washing etc. etc. In the analysis of the diary records, all this work has been entered under the one heading of "Miscellaneous Work". However efficiently the labour staff of a farm may be organised, a certain amount of Miscellaneous (or unproductive) work will be necessary. But it is probably true to say that the more insignificant this work is, the more efficiently will the labour force be organised, and the better chance will the farmer have of returning an adequate profit at the end of the year.

On an average 3021 hours of man labour (equal to one man for more than a year at 8½ hours per day) were spent on miscellaneous work over the year per farm. This equals 13·3 hours per acre, and between one-fifth and one-quarter of the total labour spent on a farm.

Horse labour on miscellaneous work totalled 409 hours per farm, or 1.8 hours per acre. It represented less than one-tenth of the total horse work per farm.

Summary.

We do not feel justified in drawing many conclusions from the diaries as analysed at present because one year's results appear to us to be inadequate as a basis. After, ~~when~~ a second year's records have been analysed, we hope to produce a much more comprehensive report.

The outstanding features of the analysis, as presented above, appear to be as follows:-

1. The method of estimating the amount of productive work on farms, as explained on page 3, appears to be justified for all normal farms by the actual time taken on crops as indicated by the average of the diary records.

2. The average estimated figures for stock would bear further investigation, although there are grounds for supposing that not all the stock work has been entered on all the diaries.

3. On nearly every farm it would appear that the horses scarcely do enough work to earn their keep.

4. Miscellaneous work (i.e. work which is not directly productive) accounts for about one-quarter of the total farm work.

We hope that you will write for further particulars on any points which are not quite clear to you.

W. H. Long.

February 1932. N. F. McCann.