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UNIVERSITY OF EXETER

Department of Agricultural Economics



**THE RESPONSE TO A MAIL SURVEY OF DEVON  
FARMS IN 1965**

by

E. T. DAVIES

and

B. E. HILL

*Price Two Shillings*

**I, COURTENAY PARK  
NEWTON ABBOT  
DEVON**

UNIVERSITY OF EXETER

Department of Agricultural Economics

The Response to a Mail Survey  
of Devon Farms in 1965.

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The Response to a Mail Survey of Devon Farms  
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This note outlines the methodology employed and the response achieved in a recent mail survey of Devon farms, the object of which was to establish a comprehensive picture of the structure and organisation of the farming industry in the county. The selection of a mail survey to obtain statistical information on a large number of farms was principally on the grounds of relative cheapness and expediency. Uncertainty about the likely response rate and the extent of the response bias gave rise to some doubt as to the practicability of this method, but reference to C. Scott's (1961) definitive paper\* dispelled a large element of this uncertainty, and provided the initiative to proceed with reasonable assurance.

The Sample

The selected sample represented ten per cent. of the holdings in each

Table 1 Distribution of Sample Holdings by Acreage Size Group

Size Group Acres	No. of Holdings
1 $\frac{1}{4}$ - 4 $\frac{3}{4}$	195
5 - 19 $\frac{3}{4}$	281
20 - 49 $\frac{3}{4}$	287
50 - 99 $\frac{3}{4}$	378
100 - 149 $\frac{3}{4}$	196
150 - 299 $\frac{3}{4}$	190
300 and over	27
Total	1554

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\* C. Scott, "Research on Mail Surveys". Journal of the Royal Statistical Society. 124. pp. 143 - 205 (1961).

of seven acreage size groups. These were selected randomly, every tenth address being taken from the list of addresses of all holdings in the county. This gave a total of 1554 holdings, and the authors wish to express their gratitude to the Agricultural Census Branch of the M.A.F.F. for drawing this sample. The distribution of holdings according to size is presented in Table 1.

### Methodology

Prior to embarking upon the survey proper, a draft questionnaire was circulated in April to a pilot sample of sixty farmers, together with an explanatory letter and a stamped addressed reply envelope. These names were extracted at random from the classified telephone directory, and scrutinised to ensure that none was also included in the main sample. The function of this pilot survey was to test for any shortcomings in the questionnaire.

No reminders were sent to the non-respondents, but some were telephoned and asked about the questionnaire. Their replies, and the way in which the respondents had completed the questionnaire led to a number of minor modifications in its general design.

The initial mailing of questionnaires to the main sample holdings was undertaken on the 31st May, and included a covering letter and a stamped addressed reply envelope. Since a great deal of the information requested was also asked for in the compulsory June 4th Census, it was considered

that mailing the survey questionnaires to coincide with the Census would not only encourage the recipients to reply, but also provide the opportunity to compare certain of the information obtained with the official statistics. At intervals of nearly three weeks after the initial mailing, reminder notices were sent to the sample members who had not responded. The first of these consisted of a reminder letter only, but the second included a further questionnaire and a stamped addressed reply envelope. Specimen copies of the survey questionnaire, the initial explanatory letter and reminder letters are included in Appendix II.

To facilitate a test of the respondents' returns for bias, a 10% sub-sample was drawn of the study members who had not responded to the second reminder notice.\* Forty of these, representing approximately three-quarters of the sub-sample, were contacted by telephone to ascertain if they were prepared to complete the questionnaire. Those members who expressed willingness to return the form but who failed to do so after a lapse of nearly three weeks were subsequently visited, along with those members not listed in the telephone directory.

#### Pattern of Response

The data in Table 2 show that 1044 questionnaires, just over 67% of the sample, were returned. Of this number, 983 (63.3%) were in a completed form,

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\* The results of this test for bias will be published together with those of the main survey at a later date.

and 61 questionnaires (3.9%) were returned uncompleted.

Table 2. Analysis of Response to 1,554 Postal Questionnaires

	Number	% Total Sample
1. Questionnaires Returned:-		
(a) Completed: (i) In full	735	47.3
(ii) Partially*	248	16.0
Total Completed	983	63.3
(b) Uncompleted:		
(i) Refusals	40	2.6
(ii) Other Reasons+	21	1.3
Total Uncompleted	61	3.9
<b>TOTAL QUESTIONNAIRES RETURNED</b>	<b>1044</b>	<b>67.2</b>
2. Questionnaires Not Returned	510	32.8
<b>GRAND TOTAL</b>	<b>1554</b>	<b>100.0</b>

\* Subsequently completed in full by telephone.

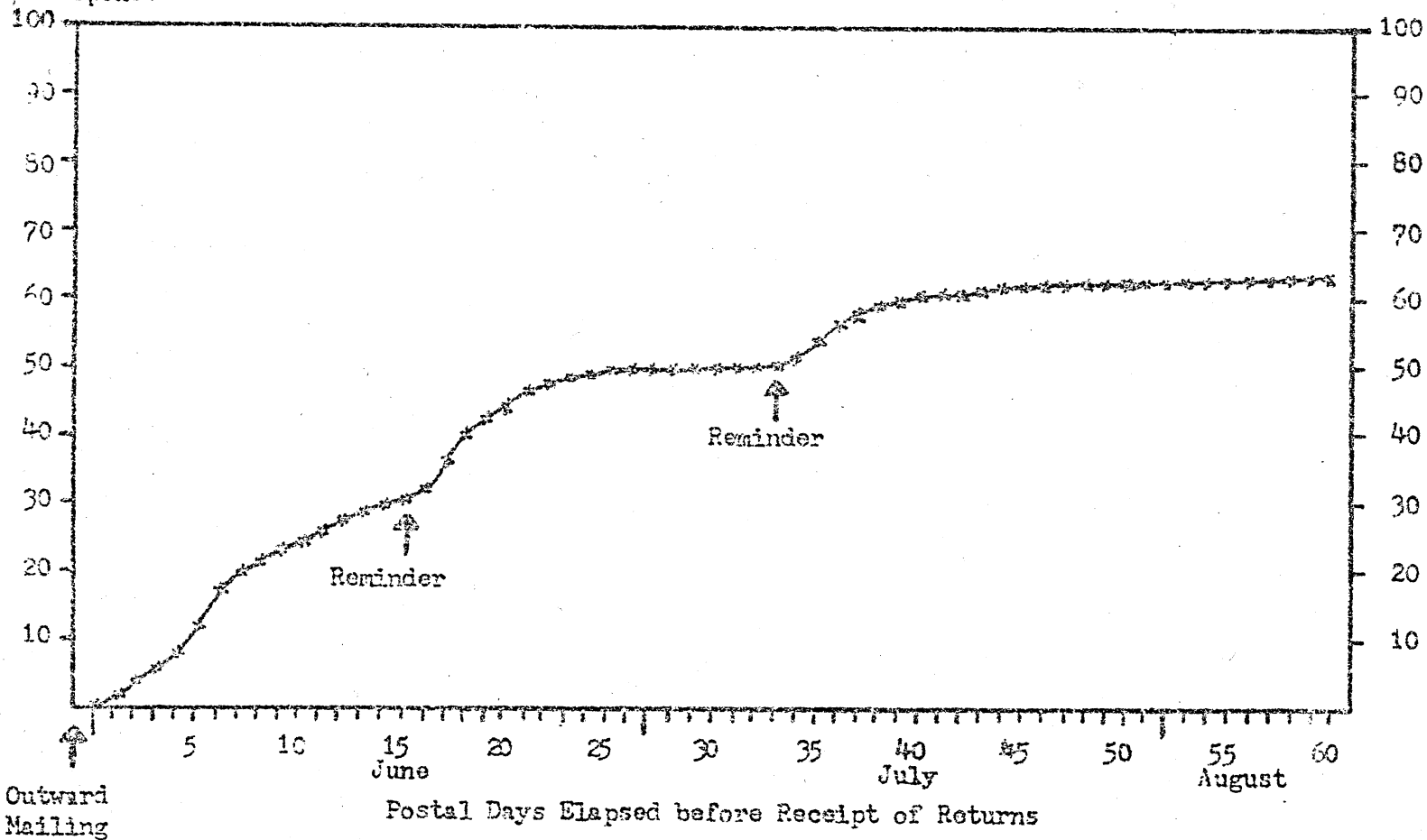
+ Refer to unoccupied holdings and holdings where recipients were too ill to complete the form or had recently died.

Of the completed questionnaires, approximately three-quarters were accurately completed in full, and one-quarter which required brief telephone calls with the respondents to either complete certain omissions in the questionnaire or to clarify some apparent error in the data. In this respect, failure of the cropping data to add to the given total, and inclusion of housework by the farmer's wife as part of her outside farm work were by

CHART 1

The Daily Cumulative % Response for a  
Total of 983 Completed Questionnaires

Cumulative  
% Response



Outward  
Mailing

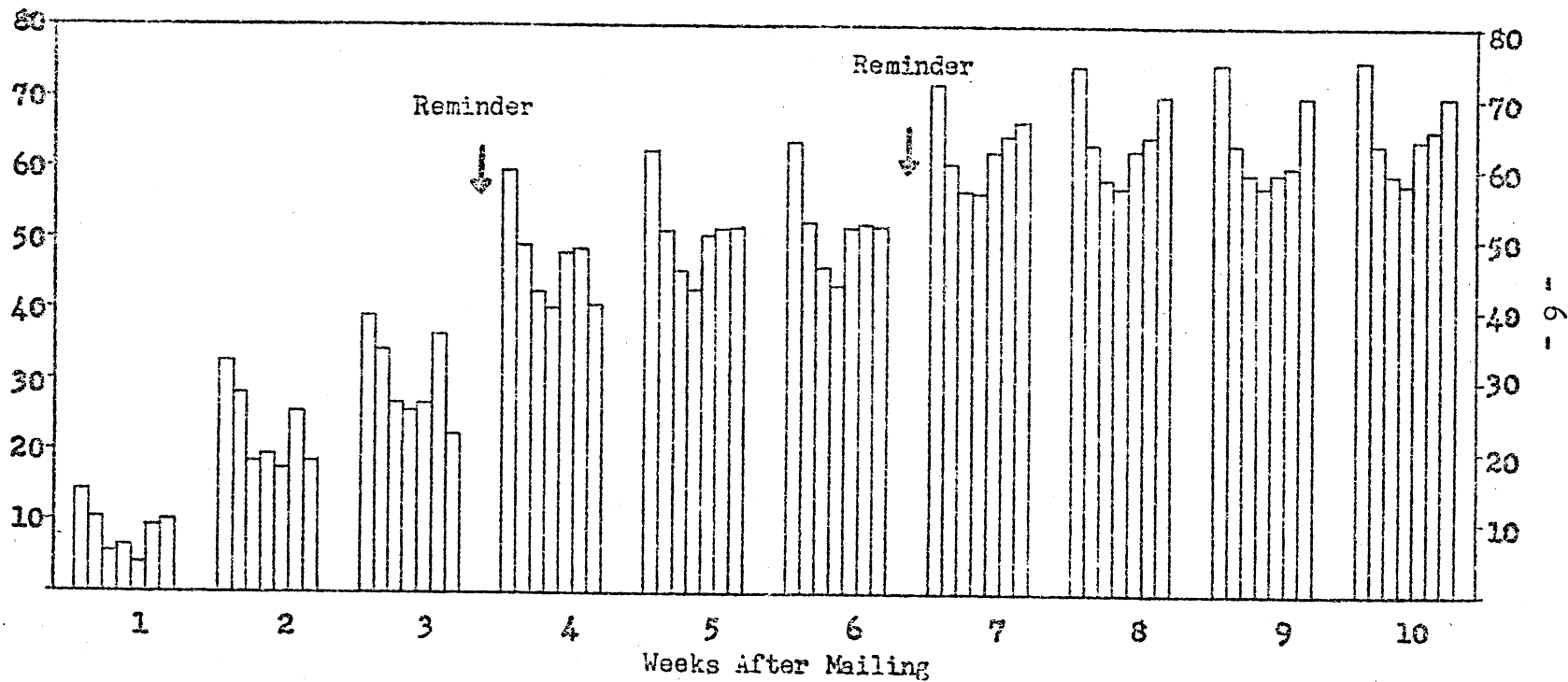
Postal Days Elapsed before Receipt of Returns



CHART 2

The Weekly Cumulative % Response for a  
Total of 933 Completed Questionnaires  
According to Acreage Size Group.

Cumulative  
% Response



Note. The seven divisions in the above histograms represent  
acreage size groups I to 7 respectively.

far the most common mistakes.

Two-thirds of the uncompleted returns were outright refusals to cooperate, and one-third was due to holdings being unoccupied, the recipient being too ill to complete the form or the former occupier having recently died.

The pattern of total response over time, shown in Chart I and Table A. Appendix I, indicates that a worthwhile response was obtained to the reminder notices. It is difficult, of course, to assess the precise effect of such reminders, since it is conceivable that many respondents would have returned their questionnaires in any case over the course of time. Nevertheless, it is certain that the reminder notices both reduced the time lag in response and enhanced the response rate. It is interesting to observe, however, that the proportion of outstanding returns received in response to the first and second reminder notices was approximately the same as with the initial mailing. This is very much in keeping with the findings of Clausen and Ford (1947) and Gray (1957) as reported in C. Scott (1961).\*

The individual response patterns for the seven acreage size groups, presented in Chart 2 and Table B, Appendix I, indicate that the lowest response rate was achieved in the two size groups 20 -  $49\frac{3}{4}$  acres and 50 -  $99\frac{3}{4}$  acres. These two groups may well represent the smaller type of full-time family holding where both the opportunity and inclination to indulge in voluntary clerical work is strictly limited.

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\* Op.cit. p. 166.

In regard to the 51 non-respondents tested for bias, 20 out of the 40 contacted by telephone subsequently returned the questionnaire fully completed. Of the remaining 31 members who were visited, 21 supplied the required information and 10 refused to co-operate.

### Conclusions

The pattern of response over time suggests that there was no apparent advantage in mailing at the beginning of June, when the annual Census Returns are completed. Indeed, it is conceivable that a higher response could be achieved from farmers at a less busy season of the year. The results also suggest that the reminders themselves might well have been sent out sooner with no significant loss in response, although in this particular study the intervals were deliberately chosen to coincide with breaks in the fine harvesting weather during mid-June and early July. The timing of mail surveys at less busy seasons, say December or January, would obviate this difficulty and hence economise on the overall time factor.

In view of the relative cheapness of mail surveys, coupled with the satisfactory response rate achieved in the Devon Farm Survey, the authors are of the opinion that this research technique deserves wider application in the field of agricultural economics. It is also considered that the telephone is a possible alternative to postal reminder notices which merits recognition.

A P P E N D I C E S

APPENDIX I.

Table A. The Daily Cumulative Response for a Total of 983 Completed Questionnaires (Based on Postal Days Only)

Postal Days	JUNE		JULY		AUGUST	
	No. of Returns	% of Total Sample	No. of Returns	% of Total Sample	No. of Returns	% of Total Sample
1	2	0.1	763	49.1	973	62.6
2	25	1.6	768	49.4	973	62.6
3	62	4.0	768	49.4	977	62.9
4	87	5.6	768	49.4	978	62.9
5	126	8.1	772	49.7	979	63.0
6	196	12.6	774	49.8	980	63.1
7	266	17.1	775	49.9	980	63.1
8	309	19.9	777	50.0	981	63.1
9	333	21.4	778	50.1	983	63.2
10	357	23.0	779	51.4	-	-
11	375	24.1	→ 837	53.9	-	-
12	404	26.0	880	56.6	-	-
13	427	27.5	904	58.2	-	-
14	447	28.8	920	59.2	-	-
15	463	29.8	927	59.7	-	-
16	473	30.4	937	60.3	-	-
17	→ 498	32.0	942	60.6	-	-
18	567	36.5	947	60.9	-	-
19	626	40.3	953	61.3	-	-
20	664	42.7	956	61.5	-	-
21	698	44.9	960	61.8	-	-
22	724	46.6	960	61.8	-	-
23	739	47.6	962	61.9	-	-
24	747	48.1	965	62.1	-	-
25	757	48.7	968	62.3	-	-
26	-	-	971	62.5	-	-
27	-	-	972	62.5	-	-

Note: Arrows indicate the first day whose returns could have been influenced by the first and second reminders respectively.

APPENDIX I.

Table B. Weekly Returns of Completed Questionnaires  
Total Refusals and "Other" Returns, Analysed  
by Acreage Size Groups.

Weeks	Holdings Acreage Size Group						
	$\frac{1}{4}$ - $4\frac{3}{4}$	5- $19\frac{3}{4}$	20- $49\frac{3}{4}$	50- $99\frac{3}{4}$	100- $149\frac{3}{4}$	150- $299\frac{3}{4}$	300 & over
	%	%	%	%	%	%	%
1	14.4	10.3	5.6	6.4	4.1	9.5	11.1
2	32.4	28.1	18.5	19.4	17.4	25.3	18.5
3	39.0	34.1	26.8	25.7	26.6	36.4	22.2
4	59.6	49.0	42.5	40.1	48.0	48.5	40.7
5	62.2	51.0	45.6	42.8	50.6	51.6	51.8
6	63.7	52.2	46.0	43.3	51.6	52.1	51.8
7	71.9	60.7	56.4	52.8	60.3	63.1	62.9
8	73.4	63.3	56.8	56.5	62.3	64.7	66.6
9	74.4	63.3	58.5	57.3	62.8	64.7	70.3
10	74.9	63.3	59.2	57.6	64.3	65.2	70.3
Over 10	75.4	63.3	59.2	57.9	64.3	65.7	70.3
Refusals	3.1	2.7	1.7	3.5	2.0	4.2	0.0
* Other	1.5	4.3	0.6	1.1	1.0	0.0	0.0

\* Refer to unoccupied holdings and holdings where recipients were too ill to complete the form or had recently died.

A P P E N D I X II.

Specimen copies of:-

Covering letter

First reminder letter

Second reminder letter

The Questionnaire

UNIVERSITY OF EXETER

Department of Economics  
(Agricultural Economics)

S. T. Morris, M.Sc.  
Provincial Agricultural Economist

Tel. Newton Abbot 3711



1. Courtenay Park,  
Newton Abbot,  
Devon  
May, 1965.

Dear Sir/Madam,

Devon Farming Inquiry.

The current interest in regional economic development has exposed many gaps in our knowledge, not least in agriculture. Farming is of tremendous importance to Devon, yet little is known about its individual farms, farmers or farm-workers. This inquiry is an attempt to shed some light upon the situation, and to this end the enclosed questionnaire is being sent to a large number of farmers in the county.

To enable a true picture of farming to be built up your reply is very important, even if you have only a few acres or farm part-time. I would, therefore, be extremely grateful if you could spend some of your valuable time filling in the enclosed questionnaire, and return it to this department in the pre-paid envelope provided as soon as possible after June 4th. It is appreciated that much of the information asked for in this questionnaire appears to be a duplication of what you already submit to the Ministry in your 4th June Returns. However, since the Ministry is not empowered to disclose these details to the University, we have no alternative but to collect the information ourselves.

The details which you supply will be treated as strictly confidential and will not be communicated to any third person whatsoever. Your farm and personal details will be added to those of many other farms and only average figures will be published. To help preserve your anonymity please do not write your name or address on the questionnaire.

If you have any queries concerning this study, please write to me.

Yours sincerely,

*S. T. Morris*

S. T. Morris.

encls.



UNIVERSITY OF EXETER

Department of Economics  
(Agricultural Economics)  
S. T. Morris, M.Sc.  
Provincial Agricultural Economist  
Tel. Newton Abbot 3711



1, Courtenay Park,  
Newton Abbot,  
Devon

18th June, 1965.

Dear Sir/Madam,

Devon Farming Inquiry

At the beginning of this month we sent you a questionnaire concerning your holding. This letter is to remind you that your reply is important if a complete picture of Devon farming is to be built up. This is true whether your farm is large or small, you are a full or part-time farmer, or even if your land is not used for agricultural purposes. We would, therefore, be very grateful if you would fill in the questionnaire and return it to us as soon as possible.

Yours faithfully,

*S. T. Morris*

S. T. Morris.

UNIVERSITY OF EXETER

Department of Economics  
(Agricultural Economics)  
S. T. Morris, M.Sc.  
Provincial Agricultural Economist  
Tel. Newton Abbot 3711



1, Courtenay Park,  
Newton Abbot,  
Devon

9th July, 1965.

Dear Sir/Madam,

Devon Farming Inquiry

At the beginning of June we sent you a questionnaire concerning your holding. This letter is to remind you that your reply is important if a complete picture of Devon farming is to be built up. This is true whether your farm is large or small, you are a full or part-time farmer, or even if your land is not used for agricultural purposes. We would, therefore, be very grateful if you would fill in the questionnaire and return it to us as soon as possible. A second copy of the questionnaire is herewith enclosed in case the original has been mislaid.

Yours faithfully,

*S. T. Morris*

S.T. Morris.

# UNIVERSITY OF EXETER

CONFIDENTIAL



1, COURTENAY PARK  
NEWTON ABBOT

Tel. Newton Abbot 3711/2

## DEVON FARMING ENQUIRY

### Section I

#### DETAILS OF FARM AND FARMER

1. If you own/rent other farms besides the one to which the questionnaire is addressed and which are separate in the sense that each has its own labour force and equipment, please tick.
2. If the farm to which this questionnaire is addressed is made up of more than one holding but which share the same labour and equipment, please state the number of holdings involved.
3. If you make separate June Returns to the Ministry for the individual holdings referred to in question 2, please tick.

### Section II

THE REMAINDER OF THIS QUESTIONNAIRE RELATES ONLY TO THE FARM TO WHICH IT IS ADDRESSED. WHERE THE FARM TO WHICH THIS QUESTIONNAIRE IS ADDRESSED IS MADE UP OF MORE THAN ONE HOLDING PLEASE GIVE THE TOTALS RELATING TO THE WHOLE FARM, NOT FOR AN INDIVIDUAL HOLDING.

1. Details of Land Farmed at June, 1965  
Acres owned   
Acres rented
2. Please state proportion (i.e.  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$  or 1) of total income of farmer and wife derived from:
  - (i) Farm business
  - (ii) Other paid employment
  - (iii) Other sources, excluding Old Age Pension

**Section III**  
**DETAILS OF STOCKING AND CROPPING**  
**at 4th June, 1965**

**STOCKING**

	No.	Please tick which of the following milking systems you use:
<b>CATTLE</b>		
<b>COWS IN MILK AND IN-CALF:</b>		
(i) Mainly for milk production or rearing calves for dairy herd	.....	(i) Handmilking <span style="float: right;"><input type="checkbox"/></span>
(ii) Mainly for rearing calves for beef	.....	(ii) Machine milking in:
	.....	(a) Cowshed <span style="float: right;"><input type="checkbox"/></span>
	.....	(b) Parlour <span style="float: right;"><input type="checkbox"/></span>
	.....	(c) Bail <span style="float: right;"><input type="checkbox"/></span>
<b>HEIFERS-IN-CALF (first calf)</b>		
<b>BULLS:</b>		
(i) Used for service	.....	Please tick which of the following beef systems you normally pursue:
(ii) Being reared for service	.....	(i) Selling mainly stores <span style="float: right;"><input type="checkbox"/></span>
	.....	(ii) Selling mainly fat as:
	.....	(a) Traditional beef <span style="float: right;"><input type="checkbox"/></span>
	.....	(b) Barley beef <span style="float: right;"><input type="checkbox"/></span>
	.....	Please tick if you fatten cattle on summer grazings <span style="float: right;"><input type="checkbox"/></span>
<b>OTHER CATTLE:</b>		
(i) 2 years and over	.....	
(ii) 1-2 years	.....	
(iii) 0-1 year	.....	
<b>TOTAL CATTLE</b>		
<b>SHEEP</b>		
Ewes and Rams (inc. 2-tooth)	.....	Please tick which of the following systems you normally pursue:
Lambs	.....	(i) Selling mainly Store Lambs <span style="float: right;"><input type="checkbox"/></span>
Other Sheep over 1 year:	.....	(ii) Selling mainly Fat Lambs:
(i) Wether Hogs	.....	(a) Out-of-season Lamb <span style="float: right;"><input type="checkbox"/></span>
(ii) Ewe Hogs	.....	(b) Early and mid-season Lamb <span style="float: right;"><input type="checkbox"/></span>
	.....	(c) Mid-season and late Lamb <span style="float: right;"><input type="checkbox"/></span>
	.....	(d) Winter fattened Hoggets <span style="float: right;"><input type="checkbox"/></span>
<b>TOTAL SHEEP</b>		
<b>PIGS</b>		
Boars	.....	Please state the approximate number of pigs sold during the past 12 months as:
Sows and Gilts	.....	(i) Baconers <span style="float: right;"><input type="checkbox"/></span>
Other Pigs:	.....	(ii) Porkers <span style="float: right;"><input type="checkbox"/></span>
(i) 5 months old and over	.....	(iii) Weaners <span style="float: right;"><input type="checkbox"/></span>
(ii) 2-5 months old	.....	(iv) Stores over 12 weeks <span style="float: right;"><input type="checkbox"/></span>
(iii) Under 2 months	.....	(v) Heavy Pigs <span style="float: right;"><input type="checkbox"/></span>
<b>TOTAL PIGS</b>		

**STOCKING — continued**

POULTRY	No.	Please state the numbers of Laying Hens kept in:	
Fowls 6 months old and over	.....	(i) Batteries	
Fowls under 6 months:	.....	(ii) Deep Litter	
(i) For breeding or egg laying	.....	(iii) Free Range	
(ii) For broiler production	.....	(iv) Other	
(iii) For production of other table poultry	.....		
Ducks	.....		
Geese	.....		
Turkeys	.....		
<b>TOTAL POULTRY</b>			

**CROPPING**

	Acres		Acres
Wheat	.....	Orchards	.....
Barley	.....	Total Vegetables (including turnips, swedes, peas, beans, cabbage, etc. for human consumption)	.....
Oats, Mixed Corn, Rye	.....	Small Fruits, and Flowers	.....
Potatoes: First Earlies	.....	Grass for:	.....
Other	.....	Hay	.....
Sugar Beet	.....	Silage	.....
Peas and Beans for Fodder	.....	Grazing	.....
Turnips and Swedes for Fodder	.....	Enclosed Rough Grazings	.....
Mangolds	.....		
Kale	.....	<b>TOTAL FARM ACREAGE</b>	
Rape	.....		
Cabbage, Savoys, Kohl Rabi for Fodder	.....	<i>Double Cropping</i> —Please specify other crops produced on farm not indicated in above list:	.....
Other Fodder Crops (specify):	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
Bare Fallow	.....	Please tick if you normally:	
		(1) Use Common Land Grazing	
		(2) Purchase additional Keep	
		(3) Sell Keep	

**Section IV**  
**DETAILS OF THE LABOUR USED**  
**ON THE FARM DURING THE PAST 12 MONTHS**

FAMILY LABOUR		Age	Number of weeks worked	Average number of hours per week (including overtime)	Tick if paid	
	Farmer				—	
	Wife					
Aged 20 and over	Men:	1				
		2				
	Women:	1				
		2				
Aged 15-20	Youths:	1				
		2				
Aged Under 15	Girls:	1				
		2				
	Boys and Girls:	1			—	
		2			—	
<b>NON-FAMILY LABOUR</b>						
Regular Full-time, Regular Part-time, and Temporary	Men:	1				
		2				
	Aged 20 and over		3			
			4			
Aged 15-20	Women:	1				
		2				
		1				

**OTHER LABOUR**

(Man Day = 8 hours)

(A) Casual:

Total number of man days


Total casual wages paid

£

(B) Included in Contract Work done for farmer

Total number of man days

--

**OFF-FARM CONTRACT WORK**

Please state time spent on Off-Farm Contract Work by farm staff, including farmer

Total number of man days

--

PROPORTION (i.e.  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$  or 1) OF FARMER'S TIME USED FOR:

(a) Manual Work

--

(b) Management

--