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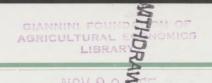
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Statistics



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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

Department of Agricultural Economics

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

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B. E. HILL

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

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
$ \begin{array}{rcl} 1\frac{1}{4} & & 4\frac{3}{4} \\ 5 & & & & & & \\ 20 & & & & & & \\ 50 & & & & & & \\ 50 & & & & & & \\ 100 & & & & & & \\ 150 & & & & & & \\ 299\frac{3}{4} \\ 300 & & & & & & \\ \end{array} $	195 281 287 378 196 190 27
Total	1554

<sup>\*</sup> 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 rely 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% subsample 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,

<sup>\*</sup> 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

		- A4
	Number	% Total Sample
1. Questionnaires Returned; - (a) Completed; (i) In full (ii) Partially*	735 248	47•3 16•0
Total Completed	983	63•3
(b) Uncompleted: (i) Refusals (ii) Other Reasons+	40 21	2°6 1•3
Total Uncompleted	61	3•9
TOTAL QUESTIONNAIRES RETURNED	1044	67•2
2. Questionnaires Not Returned	510	32•8
GRAND TOTAL	1554	100•0

<sup>\*</sup> Subsequently completed in full by telephone.

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

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

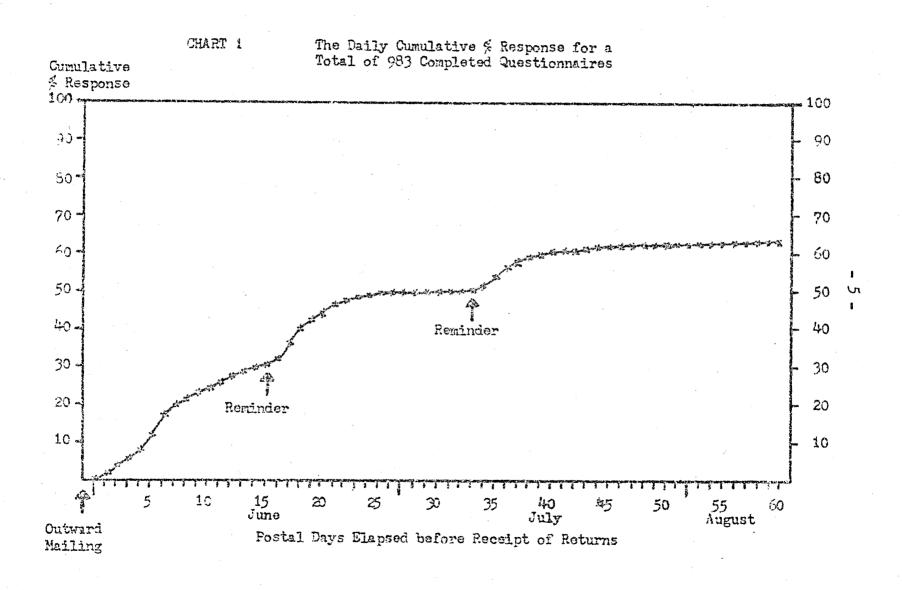
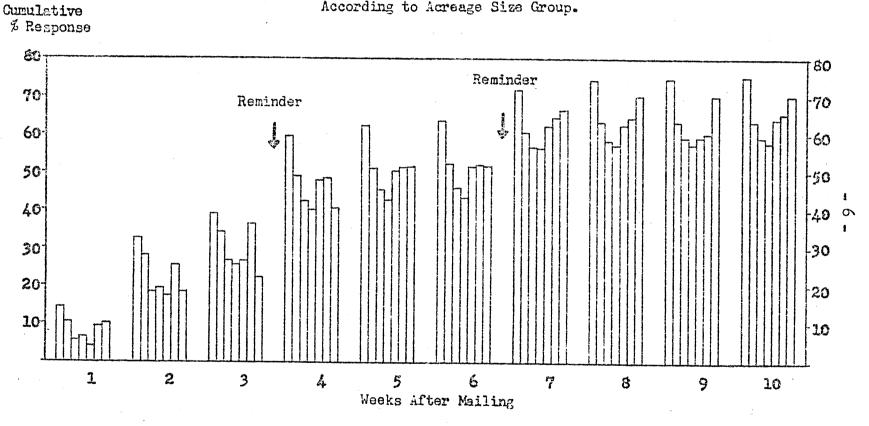


CHART 2

The Weekly Cumulative % Response for a Total of 983 Completed Questionnaires According to Acreage Size Group.



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.

<sup>\*</sup> 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.

APPENDICES

#### APPENDIX I.

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

-						
Pos-	JUNE		JUIX		AUGUST	
tal Days	No. of Returns	% of Total Sample	No. of Returns	% of Total Sample	No. of Returns	% of Total Sample
1 2 3 4 5 6 7 8 9 10 11 2 13 14 15 17 18 19 21 22 32 25 27 27	2 25 62 87 126 196 266 333 357 404 447 463 473 498 7247 757 -	0·1 1·6 4·0 5·6 12·6 17·1 19·9 21·4 23·0 24·1 26·0 27·5 28·8 29·8 30·4 32·0 36·5 40·6 47·6 48·1 48·1 48·7	763 768 768 768 774 775 777 778 779 837 920 927 937 947 953 960 962 965 968 971 972	49.4 49.4 49.8 49.9 49.9 49.9 49.9 49.9	973 973 977 978 979 980 981 983 	62.6 62.6 62.9 62.9 63.0 63.1 63.1 63.2

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.

			· · · · · · · · · · · · · · · · · · ·				
Wooks	Holdings Acreage Size Group						
	<u>1</u> _43	5 <b>-</b> 19 <del>3</del>	20 <b>-</b> 49 <del>3</del>	50 <b>-</b> 99 <del>3</del>	100-1493	150_299 <sup>급</sup>	300 & over
1 2 3 4 5 6 7 8 9 10 0ver 10	% 14•4 32•4 39•6 59•6 62•2 63•7 71•9 73•4 74•9 75•4	% 10•3 28•1 34•1 49•0 51•0 52•2 60•7 63•3 63•3 63•3	5.6 18.5 26.8 42.6 45.6 45.6 45.6 56.8 59.2 59.2	% 6°4 19°4 25°7 40°1 42°8 43°3 52°8 56°5 57°9	4°1 17°4 26°6 48°0 50°6 51°6 62°3 62°8 64°3	% 9°5 25°3 36°4 48°5 51°6 52°1 64°7 64°7 65°7	% 11·1 18·5 22·2 40·7 51·8 51·8 62·9 66·6 70·3 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

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

### APPENDIX II.

Specimen copies of:-

Covering letter
First reminder letter
Second reminder letter
The Questionnaire

Department of Economics (Agricultural Economics)

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

Tel. Newton Abbot 3711



I. 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. homis

S. T. Merris.

encls.

Department of Economics (Agricultural Economics)

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

Tel. Newton Abbot 3711



 Courtenay Park, Newton Abbot, Devon

18th June, 1955.

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.

Department of Economics (Agricultural Economics)

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

Tel. Newton Abbot 3711



t, 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.

You's faithfully,

S.T. Morris.

	UNIVERSITY OF EXETER
CONFIDE	NTIAL  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:

(iii) Other sources, excluding Old Age Pension

(i) Farm business

(ii) Other paid employment

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

## STOCKING

CATTLE	No.	ing systems you use:
Cows in Milk and in-Calf:		
(i) Mainly for milk production or rearing calves for dairy herd		(i) Handmilking
(ii) Mainly for rearing calves for		(ii) Machine milking in:
beef		(a) Cowshed
Heifers-in-Calf (first calf)		(b) Parlour
Bulls:		(c) Bail
(i) Used for service		Please tick which of the following beef systems you normally pursue:
(ii) Being reared for service		(i) Selling mainly stores
OTHER CATTLE:	-	(ii) Selling mainly fat as:
		(a) Traditional beef
(i) 2 years and over		(b) Barley beef
(ii) 1–2 years		Please tick if you fatten cattle on
(iii) 0–1 year		summer grazings
TOTAL CATTLE		
SHEEP		Please tick which of the following systems you normally pursue:
Ewes and Rams (inc. 2-tooth)		(i) Selling mainly Store Lambs
Lambs		(ii) Selling mainly Fat Lambs:
Other Sheep over 1 year:		(a) Out-of-season-Lamb
(i) Wether Hoggs		(b) Early and mid-season Lamb
(ii) Ewe Hoggs		(c) Mid-season and late Lamb
		(d) Winter fattened Hoggets
TOTAL SHEEP		
PIGS Boars		Please state the approximate number of pigs sold during the past 12 months as:
Sows and Gilts		(i) Baconers
Other Pigs:		(ii) Porkers
		(iii) Weaners
(i) 5 months old and over		(iv) Stores over 12 weeks
(ii) 2-5 months old		(v) Heavy Pigs
(iii) Under 2 months	,	
TOTAL PIGS		

### **STOCKING** — continued Please state the numbers of Laying **POULTRY** Hens kept in: No. 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 TOTAL POULTRY **CROPPING** | Acres | Acres

			1
Wheat		Orchards	
Barley		Total Vegetables (including turnips,	
Oats, Mixed Corn, Rye		swedes, peas, beans, cabbage, etc. for human consumption)	
Potatoes: First Earlies		Small Fruits, and Flowers	••••
Other		Grass for:	
Sugar Beet		Hay	
Peas and Beans for Fodder		Silage	
Turnips and Swedes for Fodder		Grazing	
Mangolds		Enclosed Rough Grazings	
Kale			
Rape		TOTAL FARM ACREAGE	
Kape			
Cabbage, Savoys, Kohl Rabi for Fodder		Double Cropping—Please specify other crops produced on farm not indicated	
Other Fodder Crops (specify):		in above list:	.i. 4
			••••
			••••
A supplied to the second secon			
		Please tick if you normally:	
		(1) Use Common Land Grazing	
*		(2) Purchase additional Keep	
Bare Fallow		(3) Sell Keep	
		t in the second	

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

FAMILY LA	A DOLLD		Age	Number of weeks worked	Average nu hours per (including o	week	Tick if paid
FAMILI LA	ADOUK						
	•	Farmer				•••••	
		Wife				••••••	
		Men: 1					4
	Aged 20	2					
	and over	Women: 1				••••••••	
		2				•••••	
	······································	Youths: 1				•••••	
	Aged	2 ·		-		~P ·	
	15–20	Girls: 1					
	) المحالا	•				••••••	
	Aged	Boys 1 and				•••••	
	Under 15	Girls: 2					
	LY LABOUR	Men: 1					
Regular Fu Regular Pa	ırt-time,	2					
and Tempo	orary Aged 20	3		· · · · · · · · · · · · · · · · · · ·			
	≺					••••••	
•	and over	4		•		•••••	
,		Women: 1				•••••	
			-			***************************************	
	Aged	Youths: 1	-			······································	
	15–20	2				2	
	15–20	Girls: 1				,,	
OTHER LA	BOUR			(Man Day = 8 hour	s)		
(A)	Casual:			Total number of	of man days		
(* <del>- /</del> )			• •	Total casual wa	iges paid	£	
<b>(D)</b>	T., .1., 1. 1 : C.						
(B)	Included in Co done for farme	ntract work		Total number of	of man days		
OFF-FA	ARM CONTRA Please state tim Contract Work ing farmer	CT WORK ne spent on Off- by farm staff, in	-Farm nclud-	Total number o	of man days		
PROPO	RTION (i.e. $\frac{1}{4}$ ,	$\frac{1}{2}$ , $\frac{3}{4}$ or 1) OF	FARN	MER'S TIME US	ED FOR:		
(a)	Manual Work						
(b)	Management			en e	· · · · · · · · · · · · · · · · · · ·		