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Wheat - Cost of production 0.5  
NOVEMBER 1964

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# WHEAT PRODUCTION IN THE EAST OF SCOTLAND, 1963

by

J. L. ANDERSON, B.Sc.

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THE EDINBURGH SCHOOL OF AGRICULTURE  
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EDINBURGH 9

Dept. of Economics

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Publications

A. Annual Reports on Financial Results of East of Scotland Farms:-

Hill Sheep Farms	}	Reports for the years 1948-49 to 1962-63
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Stock Raising and	}	Reports for the years 1948-49 to 1962-63
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Milk Production (Annual Reports)  
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C. Miscellaneous:-

Piece-Work Potato Gathering  
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Some Notes on Reseeding Old Grassland on Hill and Upland Farms, 1955-57  
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Report on Grain Drying - 1958 Harvest  
Organisation of Hill and Upland Farming in Selkirkshire  
Economic Aspects of Tractor Work, 1957-58  
Some Notes on the Depreciation and Repair Costs of Farm Machinery  
Hill and Upland Sheep Production Costs

Copies of these publications may be obtained on request  
to the Secretary of the College or the Advisory Economist.

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## FOREWORD

The study of the economics of any farm enterprise at the present time should do two things. It should provide some overall picture of the enterprise in terms of the resources required and the returns which have been obtained. It should also provide information which can be studied by the individual producer with a view to comparing his own performance with that achieved by other producers.

This report presents the average or overall figures for the 1963 wheat crop based on data relating to 57 separate crops of which 35 were harvested by combine and 22 by binder. Separate figures are given for both groups. These average figures cover, in particular, a fairly wide range of costs which arise from differences in growing conditions and management. These differences in costs cannot be excluded from the overall picture but any extremely high or low figures would be out of place if the data is to be used for individual comparisons. Thus, in an attempt to meet the second objective, figures representing typical costs are given and the use of these figures for farm management purposes has been developed in Appendix II.

J. D. Nutt,  
Advisory Economist.

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## I INTRODUCTION

Compared with the previous year, the 1963 wheat crop showed a substantial fall in total returns. This was due almost entirely to lower yields following the indifferent weather during the growing and harvest periods. Costs have remained much as in the previous year.

Both costs and returns are discussed in the report. Combined and bindered crops have been treated separately throughout, as considerable differences exist between the two groups.

The use of overall average results for farm management purposes can be misleading as such results may be biased by "odd" figures at the extremes, particularly when the sample is relatively small. An attempt has been made to get round the problem by presenting "Typical Figures" arrived at by averaging the most common costs within the range for each item. In this way it has been possible to draw up a table which is presented in Appendix II and which incorporates the most common or "typical" figures for each item. For farm management purposes it is suggested that the figures available in Appendix II are a more useful guide to costs and can be used to draw up budgets for a wide range of different systems.

## II THE SAMPLE

The report is based on results obtained from 46 farms in the east of Scotland. Thirty five crops, covering 934 acres, were combine harvested and 22 crops, covering 301 acres, were harvested by binder. Three farms harvested crops by both methods. Some general information is given in Tables I and II, the three farms mentioned being common to both groups. An indication of type of farm involved is shown in Table III which gives the average cropping on the farms concerned.

TABLE I GENERAL INFORMATION ON THE SAMPLE

Item		Combine group			Binder group			
Cereal acreage		4834			2116			
Wheat acreage		1338			483			
Wheat acreage costed		934			301			
No. of crops		35			22			
No. of farms		30			19			
Average farm acreage		356			295			
County	Combine group				Binder group			
	No. of farms	Acres			No. of farms	Acres		
		Total costed	Aver. costed	Aver. per farm		Total costed	Aver. costed	Aver. per farm
East Lothian	3	89	29.7	335	-	-	-	-
Midlothian	6	145	24.2	273	2	16	8.0	120
West Lothian	1	7	7.0	93	1	17	17.0	273
Roxburgh	1	53	53.0	434	-	-	-	-
Berwick	1	24	24.0	393	-	-	-	-
Perth	7	274	39.1	373	11	189	17.2	289
Fife	8	224	28.0	445	2	20	10.0	590
Angus	3	118	39.3	313	3	59	19.7	259

TABLE II RANGE OF FARM SIZE

Acres	Under 100	100-200	201-300	301-400	401-500	Over 500
No. of cases:						
Combine group	1	3	6	9	6	5
Binder group	2	6	3	2	2	4

TABLE III AVERAGE CROPPING

Crop	Combine group		Binder group	
	Acres	%	Acres	%
Wheat	45	12.6	26	8.9
Barley	106	29.8	65	22.1
Oats	9	2.5	19	6.4
Potatoes	37	10.4	31	10.6
Sugar Beet	13	3.7	13	4.4
Turnips, swedes, mangolds	13	3.7	13	4.4
Kale, rape	3	0.8	1	0.3
Leys	100	28.1	87	29.4
Permanent grass	24	6.7	27	9.1
Other crops	6	1.7	13	4.4

Wheat requires good land and was usually grown on the better ground within the rotation. Potatoes were the most common preceding crop, as can be seen from the figures in Table IV.

TABLE IV CROPS PRECEDING WHEAT

Preceding Crop	Combine group				Binder group			
	Acres		%		Acres		%	
Potatoes	575		61.6		232		77.0	
Other roots	<u>12</u>		<u>1.3</u>		<u>16</u>		<u>5.3</u>	
Total roots		587		62.9		248		82.3
Wheat	126		13.4		23		7.7	
Barley	<u>46</u>		<u>4.9</u>		<u>12</u>		<u>4.0</u>	
Total cereals		172		18.3		35		11.7
Leys		130		13.9		18		6.0
Peas, fallow		45		4.9		-		-



### III COSTS OF PRODUCTION

#### Combine and Binder Groups

Tables V and VI summarise the costs of production per acre for combined and bindered crops. Where an item of cost was not common to all farms, the 'case' average is also given in order to give a fairer comparison, bearing in mind that averages are being used. Typical figures are indicated in the discussion on each item, and are summarised in Appendix II.

The costs have been split into two parts, namely 'Fixed' and 'Variable' costs. Fixed costs represent those costs which would have had to be met whether wheat was grown or not. The variable costs are those directly attributed to the wheat crop and would therefore represent 'costs saved' had wheat not been grown. The purpose of splitting costs in this manner is to enable the 'gross margin' to be calculated. By comparing the gross margins for various enterprises it is possible to assess the relative value of each; the higher the gross margin the greater the contribution it may make towards meeting fixed costs and providing profit. Gross margins are calculated by deducting the variable costs from the total returns.

TABLE V COSTS OF PRODUCTION - COMBINE GROUP

Item	Overall Average per acre		Case Av. per acre	No. of cases
	£ s. d.	£ s. d.	£ s. d.	
<u>Variable costs</u>				
Seed		4 13 10	As av.	
Manures - compound	2 9 10		2 18 2	30
nitrogen	1 13 6	4 3 4	1 19 1	30
Contract - spring	1 8		4 10	17
autumn	13 2		2 11 3	9
haulage	1 6	16 4	17 10	3
Fuel - tractor	7 10		As av.	
combine	1 9		1 10	32
drier	9 10	19 5	14 11	23
Casual labour		9	3 11	7
Misc. costs - spray	5 9		7 4	27
twine	8 11		10 5	29
sack hire	3 3	17 11	9 5	12
Total variable costs		11 11 7		
<u>Fixed costs</u>				
Rent		3 16 1	As av.	
Overheads		3 6 11	As av.	
Depreciation and repairs			As av.	
- tractor	1 - -		14 3	27
baler	11 -		2 8 3	34
combine	2 6 11	5 2 8	1 17 9	23
drier/storage	1 4 9			
Regular labour			As av.	
- cultivations	1 1 4	2 9 2	As av.	
harvest/barn	1 7 10			
Manurial residues (net)		2 11 7	As av.	
Total fixed costs		17 6 5		
Total costs		28 18 -		

TABLE VI COSTS OF PRODUCTION - BINDER GROUP

Item	Overall Average per acre		Case Av. per acre	No. of cases
	£ s. d.	£ s. d.	£ s. d.	
<u>Variable costs</u>				
Seed		5 2 3	As av.	
Manures - compound	3 2 3		3 5 2	21
nitrogen	1 6 9		1 14 7	17
lime	7 7	4 16 7	2 15 10	3
Contract - spring	4		4 -	2
threshing/drying	1 15 3		2 - 9	19
haulage	2 -	1 17 7	14 11	3
Fuel - tractor	10 5		As av.	
drier	7		6 -	1
mill	8	11 8	3 5	4
Casual labour				
- harvest	11 5		16 10	15
threshing	19 -	1 10 5	1 4 8	17
Misc. costs - spray	5 1		12 6	9
twine	16 3		As av.	
thatch	11 2		12 11	19
sack hire	1 -	1 13 6	7 4	3
Total variable costs		15 12 -		
<u>Fixed costs</u>				
Rent		3 5 8	As av.	
Overheads		5 19 8	As av.	
Depreciation and repairs				
- tractor	1 5 8		As av.	
binder	5 -		As av.	
mill etc.	6 -	1 16 8	1 13 2	4
Regular labour				
- cultivations	1 7 1		As av.	
harvest	3 10 2		As av.	
threshing	1 9 2	6 6 5	As av.	
Manurial residues (net)		3 - -	As av.	
Total fixed costs		20 8 5		
Total costs		36 - 5		

#### Analysis of Variable Costs

##### Seed

The average cost of seed was £4.13s.10d. per acre for combined crops and £5.2s.3d. per acre for bindered crops. The range in cost is shown in Table VII, which also shows the rates of application and the yields obtained at the various price ranges for seed. It would appear that there is little advantage in yield to be gained from the use of seed costing more than about £5 per acre.

TABLE VII COST OF SEED PER ACRE

Cost/acre	Under £3	£3-£4	£4-£5	£5-£6	£6-£7	Over £7
<u>Combine group</u>						
No. of crops	3	5	14	6	5	2
Av. yield (cwt)	31.9	27.8	32.2	33.0	25.9	31.7
Av. seed rate (cwt)	1.6	1.78	1.96	2.29	1.98	1.84
(Average cost per acre - £4.13s.10d.)						
<u>Binder group</u>						
No. of crops	-	4	10	3	2	3
Av. yield (cwt)	-	29.9	25.8	25.2	29.7	22.5
Av. seed rate (cwt)	-	2.1	2.0	1.75	1.8	2.1
(Average cost per acre - £5. 2s.3d.)						
All crops - Typical cost per acre, £4.10s.-d.						

The rates of seed sown are shown in Table VIII. As last year, more seed was sown in most cases than the recommended rate of three bushels per acre (1.66 cwt). It is possible that a slightly higher rate than that recommended could have been justified in a winter such as 1962-63 provided the cost remained around £4.10s. per acre but from the practical viewpoint the less seed one needs to put in the better. The typical rate of 2 cwt per acre should be more than adequate as indicated by the yields shown in the table.

TABLE VIII SEED RATES PER ACRE

Rate per acre (cwt)	1.5-1.8	1.81-2.1	2.11-2.4	Over 2.4
No. of crops (56)	13	32	9	2
Av. yield (cwt)	28.3	29.7	27.5	30
Average seed rate 1.98 cwt				
Typical seed rate 2.0 cwt				

#### Fertilisers

The costs and rates of application of fertiliser are shown in Tables IX and X. The general practice was to apply a dressing of a compound fertiliser to the seed-bed, followed by a top-dressing of nitrogen in the spring. In a few instances a further dressing of a compound was given instead of nitrogen. Six crops received part or all their nitrogen in

liquid form, which was put on by the supplying merchant. Possibly due to weather conditions there was surprisingly little difference in average yields following the quite wide ranges of fertiliser applied.

Approximately 60% of the combined group and over 80% of the bindered group followed potatoes or roots and should therefore have benefited from a useful manurial residue. As last year, many such crops were treated with a base dressing in the seed-bed, although this should not be necessary as the reserves are normally adequate for the establishment of a wheat crop. It is possible that a considerable saving could be made both in time and in fertiliser applied.

Six crops received no seed-bed fertiliser, two cases following after cereals and four after potatoes, peas or fallow. From the table it can be seen that yields did not suffer and were in fact slightly higher than the average.

Response to nitrogen has been less noticeable in general due to the lack of sun during the summer as much as anything. More farmers were of the opinion that the straw was there but, without the sun to fill the grain, yields failed to materialise. It is of interest that the six cases mentioned were among those to receive higher nitrogen applications than was the general rule.

There were 3 cases in the binder group where lime was applied at an average cost of £2.15s.10d. per acre.

TABLE IX COST PER ACRE OF FERTILISERS APPLIED  
(Average costs of actual applications)

1. Distribution of Costs						
Range	Nil	Under £1.10s.	£1.10s. — £2.10s.	£2.10s. — £3.10s.	£3.10s. — £4.10s.	Over £4.10s.
<u>Compounds</u>						
<u>Combine group</u>						
No. of cases	5	3	13	5	7	2
Yield (cwt)	33.5	27.6	31.2	32.8	27.4	29.0
<u>Binder group</u>						
No. of cases	1	1*	9	5	1	5
Yield (cwt)	31.9	21.9	27.2	23.5	29.4	26.9
<u>Nitrogen</u>						
<u>Combine group</u>						
No. of cases	5	4	20	6	—	—
Yield (cwt)	29.3	31.6	30.1	32.3	—	—
<u>Binder group</u>						
No. of cases	5	6	9	2	—	—
Yield (cwt)	26.9	24.0	26.0	33.6	—	—
2. Average and Typical Costs						
Item	Average cost per acre			Typical cost per acre		
	£ s. d.			£ s. d.		
<u>Compounds</u>						
Combine group	2 18 2			}	2 3 —	
Binder group	3 5 2					
<u>Nitrogen</u>						
Combine group	1 19 1			}	1 17 —	
Binder group	1 14 7					
<u>Lime</u>						
Binder group	2 15 10			2 15 —		

\* Phosphate only

TABLE X RATES OF FERTILISER APPLIED PER ACRE

1. Distribution of Rates						
Rate/acre (cwt)	Nil	Under 2	2.0-2.5	2.51-3.0	3.01-3.5	Over 3.5
<u>No. of cases:</u>						
<u>Compounds</u>						
Combine group	5	-	10	10	2	8
Binder group	1	1	10*	4	-	6
<u>Nitrogen</u>						
Combine group	5	3	12	6	3	6
Binder group	5	5	6	4	1	1

2. Average and Typical Rates		
Item	Average rate of application	Typical rate of application
<u>Compounds</u>		
Combine group	3.2 cwt	} 2.5 cwt
Binder group	3.6 "	
<u>Nitrogen</u>		
Combine group	2.9 "	} 2.0 "
Binder group	2.3 "	

\*Includes 1 case of phosphate only.

#### Contract Work

Contract work was not generally important where combined crops were concerned; bindered crops on the other hand were usually threshed on contract. Of the spring work, fertiliser spreading by the supplying merchant was the operation most frequently carried out on contract. There were six cases where sprayers were hired, the farmer providing the spray, the tractor etc. Autumn work included combining, drying and one case each of baling and driving-in of grain. The combining and drier work was carried out by neighbouring farmers in some instances, with the result that charges are possibly rather below normal contracting rates. The rates for drying shown in Table XI are somewhat vague and can only serve as a rough guide, as costs will vary according to the type of installation and the condition of the grain. Threshing charges varied quite widely, £12 a day being the most typical. This charge included two men with the mill. Haulage was a relatively small item and arose chiefly when grain was contract dried.



TABLE XI SUMMARY OF CONTRACT WORK

Item	Contract cost per acre			Typical cost per hour, day etc.
	Average	No. of cases	Typical	
	£ s. d.		£ s. d.	£ s. d.
Spreading fertiliser	5 -	10	6 -	- - -
Spraying	6 -	3	7 -	- - -
Hire of sprayer	10	6	As av.	- - -
Combine	2 6 8	4	2 7 -	3 - -/hr.
Driving-in grain	16 6	1	16 -	18 -/hr.
Baling	1 9 3	1	1 10 -	2 5 -/hr.
Drying	2 11 -	7	3 - -	2 - -/ton
Threshing	1 15 -	19	1 7 -	12 - -/day*
Haulage	16 6	6	15 -	- - -

\*Two men with mill.

#### Fuel Costs

Tractor fuel was charged at 1s.3d. per hour of tractor work. As might be expected, tractor work was rather greater for bindered crops. The drying cost covers a wide range depending on the type of installation and the moisture content of the grain. Only one bindered crop was dried on the farm, two others required some drying when delivered to the merchant, the remainder threshing out in good order without need of further attention. Fuel costs are summarised in Table XII.

TABLE XII FUEL COSTS

Item	Average cost per acre				Typical cost per acre	
	Combine group		Binder group		Combine group	Binder group
	Cost	No. of cases	Cost	No. of cases		
	s. d.		s. d.		s. d.	s. d.
Tractor	7 10	35	10 5	22	8 6	11 -
Combine	1 10	32	- -	-	1 6	- -
Drier and dresser	14 11	23	6 -	1	10 -	- -
Mill	- -	-	3 5	4	- -	3 6

#### Casual Labour

Casual labour employed for combined crops was negligible, while the binder group relied considerably on casual labour for both harvesting and threshing. The larger farms with more staff were better able to cope

than the smaller units with only two or three men. This resulted in a wide range of costs from under 10s. to over £2 per acre. Table XIII gives details of the costs of casual labour.

TABLE XIII CASUAL LABOUR COSTS

Item	Average cost per acre	No. of cases	Typical cost per acre
	£ s. d.		£ s. d.
Combine group	3 11	7	- - -
Binder group - harvest	16 10	15	7 -
threshing	1 4 8	17	1 11 -

#### Miscellaneous Costs

Miscellaneous costs included such items as spray, twine, thatch and sack hire. The spray most commonly used was M.C.P.A. applied at the rate of four pints per acre at a cost of 2s. a pint. Prices for twine varied considerably during the summer of 1963 (£7.10s. to over £9 per cwt) which, together with the variation in straw yield, produced a wide range of costs within the two groups. Thatch where used was charged at 10s. per cwt, this being the value placed on bunched, bindered straw. Sack hire usually ran out at a penny per sack per week for a  $1\frac{1}{2}$  cwt sack. This meant that 30 cwt of grain stored in sacks would cost 13s.4d. for eight weeks and £2.1s.8d. for 25 weeks.

TABLE XIV SUMMARY OF MISCELLANEOUS COSTS

Item	Average cost per acre	No. of cases	Typical cost per acre
	s. d.		s. d.
Spray - combine group	7 4	27	8 -
binder group	12 6	9	8 -
Twine - combine group	10 5	29	12 -
binder group*	16 3	22	14 -
Thatch	12 11	19	13 -
Sack hire - combine group	9 5	12	1d./sack/wk.
binder group	7 4	3	"

\*Includes bunching.

#### Summary of Variable Costs

The range of total variable costs for each group is shown in Table XV. The variation between the two groups is explained by greater expenditure on average on items such as seed, casual labour, contract work, twine and thatch by the binder group. It is of interest to note, however, that typical costs for similar items common to both groups are much the same. For example, seed and both compound and nitrogenous manures, although differing on average have remarkably close typical figures. Where the costs have been within a few pence of each other, both groups have been given the same figure. This is as might be expected, as there is no real reason why combined or bindered wheat should have different seed or manurial treatments.

The typical costs for each item have been tabulated in Appendix II as a guide for farm management purposes.

TABLE XV TOTAL VARIABLE COSTS PER ACRE

1. Distribution of Variable Costs				
Range	£5-£10	£10-£15	£15-£20	£20-£25
No. of cases:				
Combine group	13	19	3	-
Binder group	-	11	10	1
2. Average Variable Cost				
			£	s. d.
Combine group			11	11 7
Binder group			15	12 -

### Analysis of Fixed Costs

#### Rent

Rent varied considerably within both samples, being rather higher on average in the combined group. The range is shown in Table XVI. Where owner-occupied farms were concerned, a rent was agreed with the farmer based on similar farms in the district.

TABLE XVI RENT PER ACRE

(a) <u>Combine group</u>						
1. Distribution of Rents						
Range	Under £2	£2-£3	£3-£4	£4-£5	£5-£6	Over £6
No. of cases	1	10	6	8	4	1
2. Average and Typical Costs						
Average	£3. 16s. 1d.					
Typical	£3. -s.-d.					
(b) <u>Binder group</u>						
1. Distribution of Rents						
Range	Under £2	£2-£3	£3-£4	£4-£5	£5-£6	Over £6
No. of cases	3	7	5	1	3	-
2. Average and Typical Costs						
Average	£3. 5s. 8d.					
Typical	£3. -s.-d.					

#### Overheads

The range, average and typical figures for overheads are given in Table XVII. The figures for the binder group were substantially higher due to the heavier labour and tractor costs incurred.

TABLE XVII OVERHEADS PER ACRE

(a) <u>Combine group</u>					
1. Distribution of Overheads					
Range	Under £2.10s.	£2.10s.-£3	£3-£3.10s.	£3.10s.-£4	Over £4
No. of cases	2	8	11	10	4
2. Average and Typical Costs					
Average	£3. 6s.11d.				
Typical	£3. 6s. -d.				
(b) <u>Binder group</u>					
1. Distribution of Overheads					
Range	£4-£5	£5-£6	£6-£7	Over £7	
No. of cases	2	10	7	3	
2. Average and Typical Costs					
Average	£5.19s.8d.				
Typical	£5.10s.-d.				

#### Depreciation and Repairs

Depreciation and repairs were an important item where combined crops were concerned, bindered crops carrying only a small charge as little specialised machinery was necessary. The range of charges for balers, combines and drying and storage equipment is shown in Table XVIII. The typical figures have been related to the approximate capital investment over a given acreage for each item of specialised machinery. The figures for binders and mills are low as many were either quite old or bought second-hand at figures considerably below their original values.

TABLE XVIII DEPRECIATION AND REPAIR CHARGES PER ACRE

1. Distribution of Charges								
Baler	Range	Under 10s.	10s. -13s.	13s. -16s.	16s. -19s.	Over 19s.		
	No. of cases	5	9	4	8	1		
Combine	Range	Under £1. 10s.	£1. 10s. -£2	£2 -£2. 10s.	£2. 10s. -£3	£3 -£3. 10s.	Over £3. 10s.	
	No. of cases	6	6	8	4	4	6	
Drier* and Storage	Range	Under £1	£1 -£1. 10s.	£1. 10s. -£2	£2 -£2. 10s.	£2. 10s. -£3	Over £3	
	No. of cases	2	7	4	6	2	3	
Tractor	Range	Under 15s.	15s. -18s.	18s. -21s.	21s. -24s.	24s. -27s.	27s. -30s.	Over 30s.
	No. of cases: Combined group	5	6	10	8	5	-	1
	Binder group	-	2	1	4	6	5	4

2. Average and Typical Charges				
Item	Case average per acre	No. of cases	Typical charge per acre	Capital investment relating to typical charges
Baler	£ s. d. 14 3	27	£ s. d. 14 -	£650 over 185 acres @ 20%
Combine	2 8 3	34	2 4 -	£2200 over 200 acres @ 20%
Drier & storage*	1 19 6	24	2 3 - (Drier etc. £1. 10s.) (Buildings etc., 13s.)	£2000 drier and storage machinery over 200 acres @ 15% £2600 bins etc., & buildings over 200 acres @ 5%
<u>Tractor</u>				
Combine group	1 - -	35	As av.	-
Binder group	1 5 8	22	1 8 -	-
Binder	5 -	22	As av.	£62 over 50 acres @ 20%
Mill	12 11	4	12 -	£200 over 50 acres @ 15%

\*Includes one case from the binder group.



### Capital Investment

The combine group required considerable investment in specialised equipment. The range of investment per acre for the individual items is shown in Table XIX. Balers were frequently used for hay as well, the other items being specific to cereal production. Contract work and hay baling have been taken into account in the table. Drying and storage equipment are included as one figure, many systems involving drying and storage in the same bins.

Wide variations were found due largely to the acreage involved and to the use of new or second-hand machinery. Driers and storage equipment varied most of all, new buildings being required in some cases while ingenious adaptations saved costs in others.

At present-day prices, the cost of a continuous flow drier complete with delivery pit, pre-cleaner and elevators etc., might well be around £8 per ton dried for a plant handling 400 tons. This represents an investment of £3200. It is more difficult to give an indication of cost for storage equipment and buildings as conditions vary so much from farm to farm. The simplest system of storage might run out about £6 per ton stored, using farm labour and adapting existing premises, and rising to over £20 per per ton for more complex installations involving new buildings.

TABLE XIX CAPITAL INVESTMENT IN SPECIALISED MACHINERY  
PER ACRE OF CEREALS

1. Distribution of Investment								
Baler	Range	Under £3	£3- £4	£4- £5	Over £5			
	No. of cases	8	9	8	2			
Combine	Range	Under £9	£9- £12	£12- £15	£15- £18	Over £18		
	No. of cases	10	9	6	3	6		
Drier and Storage	Range	Under £10	£10- £15	£15- £20	£20- £25	£25- £30	£30- £35	Over £35
	No. of cases	5	3	5	3	1	2	5
2. Average Investment								
Combine Baler Drier & Storage*	£ s. d.							
	12 1 2							
	3 15 6							
Drier & Storage*	21 8 10							

\*Includes one case in binder group

### Regular Labour

The cost of regular labour varied considerably depending on the method of harvesting the crop, the differing amounts of casual labour involved

(binder group), the degree to which contract work was used and whether the straw was baled or left to be ploughed in. The typical figures shown in Table XX refer to the usual situation for the combine group of no contract work and baling the straw. The figures for the binder group assume that some casual labour has been employed for harvest and threshing operations.

TABLE XX REGULAR LABOUR COSTS PER ACRE

1. Distribution of Costs							
Cultivations:	Range	Under 15s.	15s. -20s.	20s. -25s.	25s. -30s.	30s. -35s.	Over 35s.
Combine group	No. of cases	1	13	13	6	2	-
Binder group	No. of cases	-	5	6	3	5	3
Harvest:	Range	Under 15s.	15s. -25s.	25s. -35s.	35s. -45s.	Over 45s.	
Combine group (incl. barn)	No. of cases	5	9	9	11	1	
Harvest:	Range	£2 -£2.10s.	£2.10s. -£3	£3 -£3.10s.	£3.10s. -£4	Over £4	
Binder group	No. of cases	1	6	5	6	4	
Threshing:	Range	Under 15s.	15s. -25s.	25s. -35s.	Over 35s.		
Binder group	No. of cases	5	6	6	5		
2. Average and Typical Costs							
Item		Average Cost			Typical Cost		
		£ s. d.			£ s. d.		
Combine group:							
Cultivations		1 1 4			1 - -		
Harvest & barn		1 7 10			1 15 -		
Binder group:							
Cultivations		1 7 1			1 - -		
Harvest		3 10 2			3 5 -		
Threshing		1 9 2			1 4 -		

Typical figures for labour and tractor hours are given in Appendix II. Conditions vary so widely from farm to farm according to soil type, gradients and equipment, not to mention weather difficulties, that the figures should be used as a guide only.

#### Summary of Fixed Costs

The range of fixed costs is shown in Table XXI. The difference is not so marked between the two groups as were the variable costs. The figures making up the totals are different in-so-far that the combine group had lower labour and overhead costs, while the binder group had considerably lower depreciation charges.

The typical figures are again tabulated in Appendix II.

TABLE XXI TOTAL FIXED COSTS PER ACRE

1. Distribution of Costs				
Range	£10-£15	£15-£20	£20-£25	£25-£30
No. of cases:				
Combine group	6	21	8	-
Binder group	-	13	7	2
2. Average Costs				
	£ s. d.			
Combine group	17 6 5			
Binder group	20 8 5			

Total Cost

The range of total costs is shown in Table XXII. The average figures for each group are shown also but no attempt has been made to give a typical figure, as the range covers all types of system encountered. A typical figure would be of no value when derived from so wide a basis.

TABLE XXII TOTAL COSTS PER ACRE

1. Distribution of Costs					
Range	£20-£25	£25-£30	£30-£35	£35-£40	Over £40
No. of cases:					
Combine group	6	13	12	4	-
Binder group	-	1	8	10	3
2. Average Costs					
	£ s. d.				
Combine group	28 18 -				
Binder group	36 - 5				

IV RETURNS

Combine and Binder Groups

The returns for the 1963 crop were considerably down on the results for the previous year, yields being substantially lower on average. Table XXIII shows the average returns, gross margin and profit per acre for each group. The returns for grain are net of moisture deductions which occurred in 9 cases among the combine group and in 4 cases in the binder group. Deductions ranged from 1s. to 5s. with an average of 2s.8d. per cwt for the combined crops, and an average of 1s. for the 4 cases in the binder group.

TABLE XXIII RETURNS PER ACRE

(a) <u>Combine group</u>				
Item	Average per acre		Case average per acre	
	£ s. d.	£ s. d.	£ s. d.	No. of cases
Grain - sold	31 13 9		As av.	
retained	<u>11 -</u>	32 4 9	2 2 9	9
Straw - sold	7 6		6 10 9	2
retained	<u>2 15 -</u>	3 2 6	3 8 9	28
Deficiency payment		8 - 9		
Total returns		43 8 -		
Gross Margin (Returns less variable costs)		31 16 5		
Profit (Gross margin less fixed costs)		14 10 -		
(b) <u>Binder group</u>				
Item	Average per acre		Case average per acre	
	£ s. d.	£ s. d.	£ s. d.	No. of cases
Grain - sold	28 18 6		As av.	
retained	<u>10 6</u>	29 9 -	1 5 7	9
Straw - sold	1 17 6		20 12 6	2 (part)
retained	<u>12 10 11</u>	14 8 5	As av.	
Deficiency payment		9 1 1		
Total returns		52 18 6		
Gross margin (Returns less variable costs)		37 6 6		
Profit (Gross margin less fixed costs)		16 18 1		

#### Yields

Yields are summarised in Table XXIV, quite wide ranges occurring both for individual varieties and for the groups as a whole. No indication can be given as to the best varieties because conditions were so extreme during the year under review. Cappelle remained the favourite, other varieties appearing in smaller numbers and therefore not justifying any firm conclusions as to performance. Overall average and typical yields are also given. All yields have been corrected to 16% moisture content.

TABLE XXIV YIELDS OF GRAIN AND STRAW PER ACRE

Variety	Combine group				Binder group		
	Grain		Straw		Grain cwt.	Straw cwt.	No. of cases
	cwt.	No. of cases	cwt.	No. of cases			
Cappelle	30.4	23	25.5	20	29.0	30	6
Flamingo	-	-	-	-	23.0	27	7
N 59	28.5	2	16.0	2	25.0	30	5
Champlein	27.0	1	15.0	1	30.0	18	1
Viking	26.7	1	15.0	1	-	-	-
Professeur Marchal	31.4	1	30.0	1	31.0	31	1
Prestige	-	-	-	-	40.6	35	1
Glasnevin Rosa	-	-	-	-	16.0	30	1
Vilmorin G	38.5	1	30.0	1	-	-	-
Elite Semple	28.0	1	15.0	1	-	-	-
Ayr Challenge	32.0	2	26.5	2	-	-	-
Hybrid 46	31.6	3	20.0	1	-	-	-
Av. yield	30.5	35	24.0	30	26.4	29	22
Typical yield	30.0	-	21.0	-	28.0	29	-
Range of yields							
Grain (cwt)	Under 15	15-20	20.1-25	25.1-30	30.1-35	Over 35	
No. of cases: Combine group	-	1	3	12	11	8	
Binder group	1	3	5	7	4	2	
Straw (cwt)	ploughed in	Under 20	20-25	25.1-30	30.1-35	Over 35	
No. of cases: Combine group	5	6	12	4	6	2	
Binder group	-	3	5	7	2	5	

#### Pattern of Sales

The pattern of sales is shown in Table XXV on a "per crop" basis. As a general rule the entire crop was sold off the farm at one time. Sales from the combine group were governed to a large extent by the presence or absence of drying and storage facilities. Those without sold in periods 1 and 2, those with drying and storage facilities holding on till later. Binded crops were generally threshed in slack periods during the winter and spring and sold immediately.



TABLE XXV PATTERN OF SALES

Deficiency payment period	Combine group		Binder group	
	No. of crops sold	% of sample	No. of crops sold	% of sample
1. (Jly. - Sept.)	2	5.7	1	4.5
2. (Oct. - Nov. )	11	31.3	2	9.0
3. (Dec. - Feb. )	4	11.4	5	22.8
4. (Mar. - Apr. )	1	2.9	4	18.2
5. (May - June )	9	25.7	9	41.0
Part crops sold during periods:				
1 and 2	1	2.9		
2 and 3	4	11.4		
4 and 5	1	2.9	1	4.5
2 and 4	1	2.9		
2, 4 and 5	1	2.9		

Influence of Sale Period on Returns from Grain

Wide differences in returns from grain were experienced in both groups. Variations in yield per acre were an important factor, but the prices paid to farmers during the winter and spring, together with the rising level of deficiency payment, contributed to higher levels of return as the sales period progressed. To show these effects to best advantage, the typical yields for both groups have been used to show the possible return per acre in any one period in 1963-64. Table XXVI summarises the situation.

TABLE XXVI INFLUENCE OF SALE PERIOD ON RETURNS FROM GRAIN

(Combine crops 30 cwt per acre. Binder crops 28 cwt per acre)

Deficiency payment		Typical sale price per cwt during period	Total return per acre	
Period	Rate per cwt		Combine group	Binder group
	s. d.	s. d.	£ s. d.	£ s. d.
1.	4 3	20 6	37 2 6	34 13 -
2.	3 7	20 4	35 17 6	33 9 8
3.	3 5½	23 -	39 13 9	37 - 10
4.	6 9½	23 -	44 13 9	41 14 2
5.	8 11½	20 8	44 8 9	41 9 6
Increase in value from period 1 to 5			7 6 3	6 16 6
2 to 4			8 16 3	8 4 6

Storage is simple as far as bindered crops are concerned the obvious time to sell being in periods 4 and 5 for the 1963 crop. Combined crops are faced with the problem of storage if the grain is to be sold during the later periods. Where these facilities are lacking sales are generally forced into periods 1 and 2. If the crop can be held satisfactorily till later periods a rise of around £7 to £8 per acre might be gained on the bases of 30 cwt of grain, as would have been the case in this particular year. This extra return should leave a reasonable balance after depreciation charges and fuel costs have been met, provided capital is available for the necessary equipment and buildings in the first instance. As discussed in the costs section, this can involve considerable outlay on long-term capital, which calls for careful thought prior to any such investment being made.

It is emphasised that Table XXVI relates to conditions prevailing during the 1963-64 crop year. It seems probable, however, that the present system of graduated deficiency payments will continue, including a cash incentive to farmers who are able to store their grain.

#### Straw

Straw was harvested in only 30 cases in the combine group; in the remaining 5 cases the straw was ploughed in. The value placed on baled combine straw was £3 per ton so that the loss in revenue was not in fact very important. Where little opportunity exists for a satisfactory sale or for home use, or when labour presents a problem, there is a reasonable case for ploughing in. The cost of baling and leading, using typical figures, runs out at £3.4s. per acre, which can only leave a small profit at best. The case average return from baled straw retained on the farm was £3.8s.9d. per acre.

Bunched, binder straw, on the other hand, was a valuable source of income and was in fact the item which justified the extra expense of harvesting by binder. The average value of bunched, binder straw as £14.8s.5d. per acre.

#### Summary of Returns, Gross Margins and Profits

The range in returns, gross margins and profits per acre are given in Table XXVII. The high figures shown for the binder group are due to the very considerable contribution made by the straw produced. Where losses have occurred, the cause has been the low yields obtained, rather than high costs of production. No attempt has been made to indicate a typical figure for either item, as too many factors are involved. Different systems and sale periods complicate the issue to the extent that any typical figure derived from the range table would be valueless. A much clearer idea of possible revenue for a given situation can be worked out from Table XXVI in conjunction with the data available in Appendix II.

TABLE XXVII RETURNS, GROSS MARGIN AND PROFIT PER ACRE

A. Returns

1. Distribution of Returns						
Range	£20-£30	£30-£40	£40-£50	£50-£60	£60-£70	Over £70
No. of cases:						
Combine group	2	10	14	9	-	-
Binder group	-	4	6	4	7	1
2. Average Return						
	£ s. d.					
Combine group	43 8 -					
Binder group	52 18 6					

B. Gross Margins

1. Distribution of Margins					
Range	Under £20	£20-£30	£30-£40	£40-£50	Over £50
No. of cases:					
Combine group	3	12	12	8	-
Binder group	1	6	6	5	4
2. Average Gross Margin					
	£ s. d.				
Combine group	31 16 5				
Binder group	37 6 6				

C. Profits

1. Distribution of Profits					
Range	Loss	£0-£10	£10-£20	£20-£30	£30-£40
No. of cases:					
Combine group	3	8	17	7	-
Binder group	1	6	6	6	3
2. Average Profit					
	£ s. d.				
Combine group	14 10 -				
Binder group	16 18 1				

### SUMMARY

1. The results for combined wheat are based on 35 crops covering 934 acres on 30 farms. Bindered crop results are based on data collected for 22 crops covering 301 acres on 19 farms.
2. Cappelle remained the most popular variety.
3. Variable costs for combined crops totaled £11.11s.7d. per acre on average. The average variable costs for bindered crops was £15.12s. per acre.
4. Fixed costs amounted to £17.6s.5d. per acre for the combine group and £20.8s.5d. per acre for the binder group.
5. Total costs ran out at £28.18s. and £36.-s.5d. per acre on average for combined and bindered crops respectively.
6. The average yield of grain per acre was 30.5 cwt for combined crops and 26.4 cwt for bindered crops.
7. Total returns for the combine group averaged £43.8s. and £52.18s.6d. for the binder group per acre.
8. Combined crops gave an average gross margin of £31.16s.5d. per acre and bindered crops an average of £37.6s.6d. per acre.
9. Combined crops received an average deficiency payment of £8.-s.9d. per acre and bindered crops an average of £9.1s.1d. per acre.
10. Straw contributed very considerably to the profitability of the bindered crops.
11. Most grain from the bindered crops was sold from February onwards. Timing of sales from the combine group was dependent on storage facilities; those without sold early, the remainder held till later.
12. Considerable capital outlay was required for combined crops, relatively little for bindered crops.
13. Labour was the important cost item affecting the bindered group.

### ACKNOWLEDGMENTS

Grateful acknowledgment is made to all the farmers who provided the data for this report, and to members of the Economics Department for their help from time to time, in particular to Mr. Martin who carried out the survey during the first year of the scheme.

APPENDIX I

COSTING METHOD

Straw

Most straw was retained on the farm and has been valued at £10 per ton for bunched binder straw, and £3 per ton for baled combined straw. Where light grain was retained for feeding, it has been valued at 20s. per cwt.

Seed

Purchased	at cost
Home grown	at market value plus cost of dressing

Manures applied

Artificial manures were charged at cost.

Fuel

As used by tractors, combines, balers, and for drying. From the standard charge of 4s.3d. per hour for wheeled tractors, 1s.3d. per hour was charged to fuel, the remainder appears as a fixed cost, and is made up of charges for depreciation, repairs, tax and insurance.

Casual Labour

At normal rates for casual labour.

Regular Labour

This was charged at hourly rates ruling on the farm, adjusted for paid holidays, perquisites, and the employers' contributions to insurance. Overtime was charged at the rates paid.

Tractor Work

Wheeled Tractors	4s.3d. per hour
Tracklaying Tractors	12s.-d. " "

Machinery Depreciation and Repairs

A cover charge of 20% is made on the capital cost of specialised machinery such as combines and balers. Drying and storage machinery is charged at 15%. For structures such as storage bins, pits, buildings and the cost of building alterations the charge is 5%.

Rent

Rent was charged at the average rental for arable land on the farm. In the cases of owner-occupied farms an estimated rent figure has been used.

Overheads

These have been charged as follows:-

Per £1 Labour	Per Tractor Hour	Per Acre
7s.	5s.9d.	13s.6d.



Manurial Residues

Residual values were brought and carried forward as follows:

Proportion chargeable to:-

	<u>1st crop</u>	<u>2nd crop</u>	<u>3rd crop</u>	<u>4th crop</u>
1. Dung	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$
2. Grassland Residues	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$
3. Compound Manures	$\frac{2}{3}$	$\frac{1}{6}$	$\frac{1}{6}$	-
4. Inorganic Nitrogenous Manures	1	-	-	-
5. Phosphates	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$
6. Potash	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{4}$	-
7. Lime	$\frac{1}{7}$ of net cost for 7 years			

<u>Length of Lea</u>			<u>Residual Value</u> <u>per Acre</u>	
Ploughed after			38s.	per acre
"	"	1 year	52s.	" "
"	"	2 years	60s.	" "
"	"	3 years	71s.	" "
"	"	4 years	80s.	" "
"	"	5 years	88s.	" "
"	"	6 years	88s.	" "
"	"	6 years+	88s.	" "

## APPENDIX II

### Farm Management Appendix

The typical figures mentioned in the report have been summarised in this section. Combine and binder costs are shown separately, the costs typical to the group as a whole being shown in one column, and those items which were not general appearing in another column.

By using the figures shown in Table A I it should be possible to work out a simple budget, choosing the figures appropriate to the farm under consideration. Returns have not been shown in this section but a fair guide is given in Table XXVI on page 18 in the report (relating to 1963-64). Straw has been valued at £3 per ton for baled combine straw, and £10 per ton for bunched, bindered straw for the purposes of this report. Typical yields of straw were 21 cwt per acre for combined crops and 29 cwt per acre for bindered crops.

The figures given for depreciation of specialised equipment relate to capital investments spread over stated acreages as shown in Table XVIII on page 12 in the report.

Where contract work is involved in a budget, certain deductions become necessary and are discussed on page v. Similar alterations apply where straw is to be ploughed in and these have also been included in Table A II.

A guide to labour and tractor requirements is given in Table A III, together with the approximate time of year for each operation. An indication of the number of men required for a given operation is also included.

The final tables in this section show examples of four different budgets, based on data given in Table A I including any deductions necessary according to the rates shown in Table A II. The data for grain returns has been taken from Table XXVI in the report.

TABLE A I TYPICAL COSTS PER ACRE  
Part 1 - Variable Costs

Item	Combine group		Binder group	
	Costs typical to group	Other Costs	Costs typical to group	Other Costs
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<u>Variable Costs</u>				
Seed	4 10 -	-	4 10 -	-
Manures -				
compounds	2 3 -		2 3 -	-
nitrogen	1 17 -		1 17 -	-
lime	-	-	-	2 15 -
Contract -				
fert. spread (1)	-	6 -	-	6 -
spraying (1) (2)	-	7 -	-	7 -
hire of sprayer	-	10	-	10
combine (1)	-	2 7 -	-	-
driving in (1)	-	16 -	-	-
baling (1) (3)	-	1 10 -	-	-
drying (1)	-	3 -	-	-
threshing	-	-	1 7 -	-
haulage	-	15 -	-	-
Fuel -				
tractor	8 6	-	11 -	-
combine	1 6	-	-	-
drier/dresser	10 -	-	-	-
mill	-	-	-	3 6
Casual labour -				
harvest	-	-	7 -	-
threshing	-	-	1 11 -	-
Miscellaneous costs -				
spray	8 -	-	-	8 -
twine	12 -	-	14 -	-
thatch	-	-	13 -	-
sack hire	-	1d./sack/ wk.	-	-
<u>Total variable costs</u>	10 10 -	-	13 13 -	-

(1) Where contract work involved, refer to Table A II (Page vi)

(2) Spray not included.

(3) Twine included.

TABLE A I TYPICAL COSTS PER ACRE  
Part 2 - Fixed Costs

Item	Combine group		Binder group	
	Costs typical to group	Other Costs	Costs typical to group	Other Costs
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<u>Fixed Costs</u>				
Rent	3 - -	-	3 - -	-
Overheads <sup>ø</sup>	3 6 -	-	5 10 -	-
Depreciation and repairs* -				
baler	14 -	-	-	-
combine	2 4 -	-	-	-
drier/storage	2 3 -	-	-	-
tractor <sup>ø</sup>	1 - -	-	1 8 -	-
binder	-	-	5 -	-
mill	-	-	-	12 -
Regular labour -				
cultivations <sup>ø</sup>	1 - -	-	1 - -	-
harvest <sup>ø</sup>	1 15 -	-	3 5 -	-
threshing	-	-	1 4 -	-
Manurial residues	3 - - <sup>I</sup>	1 5 - <sup>II</sup>	3 - - <sup>I</sup>	1 5 - <sup>II</sup>
<u>Total fixed costs</u>	18 2 -	-	18 12 -	-

\* The level of investment relating to these figures is given in Table XVIII on page 12 of the report.

<sup>ø</sup> Where contract work involved, refer to Table A II. (Page vi).

<sup>I</sup> After dunged potatoes.

<sup>II</sup> After cereals or leys.

#### Contract Work

The figures used in the combine section for labour, overheads, tractor depreciation and fuel, relate to the general situation where no contract work is undertaken, drying and storage equipment are present, and the straw is baled. Where contract work is involved in a budget, deductions need to be made to the figures shown for labour, overheads etc., in order to avoid double charging.

Table A II contains the necessary deductions relating to each item to be contracted. Figures are also included to cover the situation where the straw is to be ploughed in.

The corresponding figures for the binder group relate to the typical situation where casual labour is required at harvest and threshing periods, and where threshing on contract is the general rule. When there is no call

for casual labour, the figures for casual labour added to the regular labour charges will give a reasonable estimate of labour cost without affecting the overheads. If threshing can be done without resorting to a travelling mill, the labour and overhead charges will require to be increased by 9s. and 3s.6d. per acre respectively.

TABLE A II DEDUCTIONS FROM LABOUR, TRACTOR COSTS AND OVERHEADS  
PER ACRE WHERE CONTRACT WORK REPLACES FARM LABOUR  
AND EQUIPMENT

Operation	Man hrs. /ac.	Labour cost	Tractor hrs. /ac.	Tractor costs		Overheads		Total per acre
				depr.	fuel	labour	tractor	
		s. d.		s. d.	s. d.	s. d.	s. d.	s. d.
Combine	0.7	4 -	-	- -	- -	1 6	- -	5 6
Driving-in	0.7	4 -	0.7	2 -	1 -	1 6	4 -	12 6
Baler (1 man)	0.5	3 -	0.5	1 6	6	1 -	3 -	9 -
Drying	1.0	5 6	-	- -	- -	2 -	- -	7 6
Spraying	0.25	1 6	0.25	1 -	- -	6	1 6	4 6
Top-dress	0.4	2 -	0.4	1 -	6	1 -	2 -	6 6
Straw ploughed in. (incl. baling etc)	3.1	17 -	1.5	4 6	2 -	6 -	8 6	38 -

Example

Operation - Baling

<u>Changes to labour costs</u>	£. s. d.
Typical figure for labour (Table A I)	2 15 -
Deduct cost of labour for baling (Table A II)	3 -
Amended labour cost	2 12 -

<u>Changes to tractor costs</u>	
Depreciation	
Typical figure for depreciation (Table A I)	1 - -
Deduct cost of tractor depreciation (Table A II)	1 6
Amended tractor depreciation cost	18 6

Fuel	
Typical figure for fuel (Table A I)	8 6
Deduct cost of fuel for baling (Table A II)	6
Amended tractor fuel cost	8 -

<u>Changes to overheads</u>		£	s.	d.
(Calculation of overheads - ref. 'Costing Method')				
Typical figure for overheads (Table A I)			3	6 -
Deduct share of overheads due to labour		1s.-d.		
" " " " " " tractor		<u>3s.-d.</u>	4	-
Amended overhead charge			<u>3</u>	<u>2 -</u>

TABLE A III LABOUR AND TRACTOR HOURS

Operation	Time of year	Man hours per acre	Tractor hours per acre	Remarks
<u>All crops</u>				
Ploughing	Oct. - Nov.	2.3	2.3	mainly after potatoes
Seed-bed cultivations	"	0.7	0.7	-
Drilling	"	0.7 (1.3)*	0.7 (0.7)*	1 man 2 men
Harrow/roll	End of April	0.5	0.5	-
Top dress	"	0.4	0.4	spinner
Spray	May	0.25	0.25	-
Sub-total		4.85	4.85	-
<u>Combine crops</u>				
Combine	Mid September	0.7	-	10' cut £2400 approx. 34 cwt grain
Driving grain	"	0.7	0.7	-
Drying/dressing	"	1.3	-	-
Baling	Late Sept. - early Oct.	0.5 (1.1)*	0.5 (0.5)*	1 man 2 men 25 cwt straw
Leading and stacking bales	"	2.6	1.0	5 men 2 tractors
Total (Combine)		10.65	7.05	-
<u>Binder crops</u>				
Binder	Early September	2.2	1.1	2 men
Stooking	"	2.9	-	3 men
Leading	Late September	8.8	2.6	7 men 2 tractors
Thatching	October	2.0	-	3 men
Threshing	October - June	10.2	-	11 men (incl. workers with mill)
Total (Binder)		30.95	8.85	-

\*not included in totals.

TABLE A IV BUDGET EXAMPLES

1. Sold Period 4.  
No contract.  
Own baler, combine,  
drier and storage.  
Crop after dunged potatoes.

	£	s.	d.
<u>Variable costs</u>			
Seed	4	10	-
Manures	1	17	-*
Fuel	1	-	-
Misc. expenses	1	-	-
Total variable costs	8	7	-
<u>Fixed costs</u>			
Rent	3	-	-
Overheads	3	6	-
Depreciation and repairs	6	1	-
Regular labour	2	15	-
Manurial residues	3	-	-
Total fixed costs	18	2	-
<u>Total Costs</u>	26	9	-
<u>Returns</u>			
Grain (30 cwt)	34	10	-
Def. payment	10	3	9
Straw	3	3	-
Total Return	47	16	9
Gross Margin	39	9	9
Profit	21	7	9

2. Sold Period 2.  
Contract drying.  
Own combine, sack storage.  
Straw ploughed in.  
Crop after dunged potatoes.

	£	s.	d.
<u>Variable costs</u>			
Seed	4	10	-
Manures	1	17	-*
Fuel		8	-
Misc. expenses (spray)		8	-
Contract	3	-	-
Sack hire (10 wks)		16	8
Haulage		15	-
Total variable costs	11	14	8
<u>Fixed costs</u>			
Rent	3	-	-
Overheads	2	9	6
Depreciation and repairs	2	19	6
Regular labour	1	12	6
Manurial residues	3	-	-
Total fixed costs	13	1	6
<u>Total Costs</u>	24	16	2
<u>Returns</u>			
Grain (30 cwt)	30	10	-
Def. payment	5	7	6
Total Return	35	17	6
Gross Margin	24	2	10
Profit	11	1	4

Deductions made (c.f. Table A I)

	s.	d.	s.	d.
Overheads - tractor	8	6		
labour	8	-	16	6
Labour - drying	5	6		
balancing, etc.	17	-	22	6
Tractor - fuel			2	-
depreciation			4	6

\* Nitrogen only, as following potatoes.

TABLE A IV BUDGET EXAMPLES

3. Sold Period 3.  
Contract baling.  
Own combine, drier  
and storage.  
No spray.  
Following cereals.

	£	s.	d.
<u>Variable costs</u>			
Seed	4	10	-
Manures	4	-	-
Fuel		19	6
Contract	1	10	-
Misc. expenses	-	-	-
Total variable costs	10	19	6
<u>Fixed costs</u>			
Rent	3	-	-
Overheads	3	-	-
Depreciation and repairs	5	4	6
Regular labour	2	10	6
Manurial residues	1	5	-
Total fixed costs	15	-	-
<u>Total Costs</u>	25	19	6
<u>Returns</u>			
Grain (30 cwt)	34	10	-
Def. payment	5	3	9
Straw	3	3	-
Total Return	42	16	9
Gross Margin	31	17	3
Profit	16	17	3

Deductions made (c.f. Table A I)

	s.	d.	s.	d.
Overheads - spraying	2	-		
baling	4	-	6	-
Labour - spraying	1	6		
baling	3	-	4	6
Tractor - fuel				6
depreciation			2	6

4. Sold Period 5.  
Bindered crop.  
Following dunged potatoes.

	£	s.	d.
<u>Variable costs</u>			
Seed	4	10	-
Manures	1	17	-*
Contract (mill)	1	7	-
Fuel		11	-
Casual labour - harvest		7	-
threshing	1	11	-
Misc. expenses	1	7	-
Total variable costs	11	10	-
<u>Fixed costs</u>			
Rent	3	-	-
Overheads	5	10	-
Depreciation and repairs	1	13	-
Regular labour	5	9	-
Manurial residues	3	-	-
Total fixed costs	18	12	-
<u>Total Costs</u>	30	2	-
<u>Returns</u>			
Grain (28 cwt)	28	18	8
Def. payment	12	10	10
Straw	14	10	-
Total Return	55	19	6
Gross Margin	44	9	6
Profit	25	17	6

\* Nitrogen only, as following potatoes.



APPENDIX III

Standard Appendix

Combined Wheat				
Based on 35 records covering 934 acres on 30 farms.				
Summary of Average Costs per Acre				
Item of Cost				£ s. d.
	Hours			
	Men	Youths	Females	
Regular labour	9.45	0.32	0.21	2 9 2
Casual & gang labour	0.02	0.02	0.20	9
Power - tractor	6.2			1 7 10
horse	-			
machinery depreciation and repair allowance				6 - 4
contract services				16 4
other fuel				11 7
Materials - seed				4 13 10
fertilisers applied				4 3 4
sundries				17 11
Rent				3 16 1
Total direct costs				24 17 2
Share of general farm expenses				1 9 3
Adjustment for residual manurial residues				2 11 7
Gross cost				28 18 -
Credit value of straw				3 2 6
Net cost				25 15 6
Summary of Average Yields and Receipts				
	Quantity per acre cwt	Receipts per cwt £ s. d.		
Wheat used on farm	0.55	1 - -		
Wheat sold	30.0	1 1 2		
Average deficiency payment	£8. -s. 9d.			

Standard Appendix

<u>Bindered Wheat</u>				
Based on 22 records covering 301 acres on 19 farms.				
<u>Summary of Average Costs per Acre</u>				
Item of Cost				£ s. d.
	Hours			
	Men	Youths	Females	
Regular labour	23.12	1.02	0.45	6 6 5
Casual & gang labour	5.01	-	1.63	1 10 5
Power - tractor	8.26			1 16 1
horse	-			
machinery depreciation and repair allowance				2 19 10
contract services				1 17 7
other fuel				1 3
Materials - seed				5 2 3
fertilisers applied				4 16 7
sundries				1 13 6
Rent				3 5 8
Total direct costs				29 9 7
Share of general farm expenses				3 10 10
Adjustment for residual manurial values				3 - -
Gross cost				36 - 5
Credit value of straw				14 8 5
Net cost				21 12 -
<u>Summary of overage Yields and Receipts</u>				
	Quantity per acre cwt		Receipts per cwt £ s. d.	
Wheat used on farm	0.56		1 - -	
Wheat sold	25.84		1 2 4	
Average deficiency payment			£9. 1s. 1d.	

Standard Appendix

Summary of Average Quantities of Materials Used

<u>Combined Wheat</u>			
Material			Overall average per acre
Seed - Purchased			cwt 1.91
Home grown			0.11
			<u>2.02</u>
	Area dressed only		
	acres	cwt per acre	
Fertilisers and manures -			
F.Y.M.			-
Lime			-
Artificial : Straights -			
Nitrogenous			839 2.93 2.51
Potassic			-
Phosphatic			-
Compounds			737 3.18 2.73
<u>Bindered Wheat</u>			
Material			Overall average per acre
Seed - Purchased			cwt 1.99
Home grown			-
			<u>1.99</u>
	Area dressed only		
	acres	cwt per acre	
Fertilisers and manures -			
F.Y.M.			-
Lime			25 46 2.29
Artificial : Straights -			
Nitrogenous			214 2.32 1.80
Potassic			-
Phosphatic			7 2.00 0.09
Compounds			273 3.60 3.27



