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Farm management

UNIVERSITY OF NOTTINGHAM

Department of Agricultural Economics

DECEMBER 1969 THIRD EDITION (Revised)

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FARM PLANNING HANDBOOK 1969

H. W. T. KERR

Farm Planning Handbook

1969

by

H. W. T. KERR, M.A. (CANTAB.)

THIRD EDITION (REVISED)

UNIVERSITY OF NOTTINGHAM
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CONTENTS

		PAGE
The Gross Margin Method		3
Section 1.	General	5
2.	Labour and Machinery	10
3.	Capital	27
4.	Arable Crops	37
5.	Horticultural Crops	52
6.	Grazing Livestock	55
7.	Pigs and Poultry	75

A list of tables is to be found at the beginning of each section

FOREWORD TO THIRD EDITION

For this third edition of the Farm Planning Handbook the figures in all the tables have been revised and brought up-to-date. The information given in the supplements issued since the publication of the second edition has also been revised and included here. The general form of the booklet remains the same but more information on product prices has been inserted before the gross margin tables for each enterprise and a number of ready reckoners have been included afterwards.

The figures given in the tables should be viewed only as guides to the performance which might be expected under normal conditions. In applying them to particular farms they must be used with care and commonsense and adjusted according to circumstances. Guides to different levels of performance have not been shown because the reader should be able to make any necessary adjustments himself in the light of his own experience and situation. Where possible, however, figures have been given for different enterprise systems.

Information has been gleaned from a large number of sources and where possible these are acknowledged. Much general information has been obtained from "The Farm as a Business, Aids to Management" published by the Ministry of Agriculture, Fisheries and Food and the Farm Planning Handbooks published by Wye College and the University of Cambridge.

The author is indebted to the National Agricultural Advisory Service specialists at the East Midlands Regional Headquarters, Shardlow, who have given valuable assistance, and to other members of the Department, particularly Dr. E. B. Fekete, Mr. R. B. Jones, Mr. W. S. Senior, Mr. K. A. Ingersent and Mr. R. O. Wood. Thanks are also due to the office staff, particularly to Miss Sheila Broadberry who drafted many of the tables and Mr. S. Cramer who supervised the proof reading.

1969 REVISION

All the prices have been brought up to date in this revision of the third edition but no additional tables have been added. The author is indebted to Mr. S. Cramer who undertook the main work of revision.

THE GROSS MARGIN METHOD

The enterprise tables in this handbook are presented in gross margin form. The gross margin of an enterprise is the difference between the enterprise output and the variable costs incurred by it. Therefore for each enterprise:

OUTPUT MINUS VARIABLE COSTS = GROSS MARGIN

The variable costs can be defined as those costs which will alter if small changes are made in the size or method of operation of an enterprise. They can be allocated to individual enterprises without difficulty.

Crop variable costs including those for forage are:

- Seed (including home grown at market price)
- Fertilisers
- Sprays
- Miscellaneous costs directly attributable to the enterprise.

Livestock variable costs are:

- Concentrates (including home grown cereals and pulses at market price)
- Other purchased foods (e.g. hay)
- Vet. and medicines
- Miscellaneous costs attributable to the enterprise
- Variable forage costs allocated to the livestock category.

Both contract and casual labour charges are also variable costs but they are not generally included in the tables because of the wide variation in the use of contractors and casual labour from farm to farm. An indication of the likely cost which should be subtracted from the gross margin where appropriate is given in footnotes.

Net farm income is obtained by subtracting the fixed costs from the sum of the enterprise gross margins so that:

TOTAL GROSS MARGIN MINUS FIXED COSTS
= NET FARM INCOME

The fixed costs can be defined as those costs which either will not alter, or if they do, they will move in " steps " when changes are made in the size or method of operation of individual enterprises. These costs are not allocated to specific enterprises and comprise:

- Regular labour
- Machinery depreciation
- Machinery repairs
- Fuel and power
- Rent and rates
- Other repairs
- Contract work
- Casual labour
- Miscellaneous costs

} not attributable to specific enterprises

For comparative purposes the figures given in the handbook can be used as guides to the performance which might be expected under normal conditions. Where no information is available from the farmer's own records they may be used as a basis for budgeting changes in policy and the gross margins can be used as a shorthand method of dealing with part of the problem. In specific circumstances many of the costs described here as "fixed" may become "variable" and information is given in the handbook to help the reader make allowances for changes in these costs. The possible effect on the fixed costs of changes made in the enterprise gross margins must always be carefully considered.

A detailed description of the gross margin technique when used for both accounting and budgeting is given in "Farm Management Accounting" by H. W. T. Kerr, published by University of Nottingham, Department of Agricultural Economics.

SECTION 1

GENERAL

Table		Page
1.1	Gross Output, Gross Margin and Income. All Farms, East Midlands Farm Management Survey	6
1.2	Gross Output, Gross Margin and Income. Most Profitable Farms, East Midlands Farm Management Survey	7
1.3	Fixed Costs All Farms, East Midlands Farm Management Survey	8

GROSS OUTPUT, GROSS MARGIN AND INCOME

All Farms, East Midlands Farm Management Survey

3 Year Average (1966-67, 1967-68, 1968-69)

TABLE 1.1

£ per acre

Group	Size in acres	Total Gross Output	Total Variable Costs	Total Gross Margin	Total Fixed Costs	Net Farm Income	Farmer's and Wife's Labour	Management and Investment Income
Dairying								
0— 74¾ acres	53	90.2	43.2	47.0	26.7	20.3	17.0	3.3
75—149¾ „	100	86.1	37.8	48.3	29.1	19.2	9.1	10.1
150—299¾ „	195	50.5	21.9	28.6	19.8	8.8	3.9	4.9
Mixed (with milk)								
0— 74¾ acres	51	81.6	40.6	41.0	25.8	15.2	14.9	0.3
75—149¾ „	117	87.5	38.3	49.2	31.5	17.7	6.8	10.9
150—299¾ „	212	57.9	19.6	38.3	26.3	12.0	3.8	8.2
300 acres and over	502	59.5	19.6	39.9	29.6	10.3	1.3	9.0
Cash cropping								
0— 74¾ acres	54	58.6	20.0	38.6	20.3	18.3	15.5	2.8
75—149¾ „	108	52.5	19.3	33.2	22.0	11.2	7.6	3.6
150—299¾ „	225	48.0	13.6	34.4	23.5	10.9	3.1	7.8
300 acres and over	518	47.2	13.4	33.8	22.9	10.9	1.2	9.7
Mixed (without milk)								
0— 74¾ acres	50	94.3	46.3	48.0	27.7	20.3	18.8	1.5
75—149¾ „	103	67.2	30.5	36.7	22.4	14.3	8.3	6.0
150—299¾ „	207	53.8	22.3	31.5	23.0	8.5	3.3	5.2
300 acres and over	543	44.4	16.4	28.0	20.8	7.2	0.9	6.3
Livestock								
300 acres and over	419	29.6	11.5	18.1	13.6	4.5	1.2	3.3

For definitions of farm type groups see p. 9

GROSS OUTPUT, GROSS MARGIN AND INCOME

Most Profitable Farms, East Midlands Farm Management Survey
3 Year Average (1966-67, 1967-68, 1968-69)

TABLE 1.2

£ per acre

Group	Size in acres	Total Gross Output	Total Variable Costs	Total Gross Margin	Total Fixed Costs	Net Farm Income	Farmer's and Wife's Labour	Management and Investment Income
Dairying								
0— 74¾ acres	55	106.0	47.6	58.4	32.1	26.3	15.8	10.5
75—149¾ „	103	92.8	39.1	53.7	28.3	25.4	9.3	16.1
150—299¾ „	208	56.0	23.4	32.6	19.9	12.7	3.5	9.2
Mixed (with milk)								
0— 74¾ acres	54	102.8	49.3	53.5	30.8	22.7	16.5	6.2
75—149¾ „	118	120.6	56.3	64.3	37.4	26.9	7.0	19.9
150—299¾ „	213	69.6	25.2	44.4	29.0	15.4	3.7	11.7
300 acres and over	618	61.8	16.2	45.6	29.9	15.7	0.7	15.0
Cash cropping								
0— 74¾ acres	48	67.0	21.5	45.5	20.2	25.3	16.1	9.2
75—149¾ „	116	61.4	21.4	40.0	25.9	14.1	6.8	7.3
150—299¾ „	227	56.5	13.0	43.5	25.4	18.1	2.9	15.2
300 acres and over	557	57.5	14.3	43.2	24.8	18.4	1.0	17.4
Mixed (without milk)								
0— 74¾ acres	51	106.4	49.2	57.2	29.0	28.2	18.7	9.5
75—149¾ „	96	78.1	33.6	44.5	24.6	19.9	8.9	11.0
150—299¾ „	224	71.4	28.5	42.9	23.6	19.3	3.1	16.2
300 acres and over	511	49.6	16.8	32.8	19.9	12.9	0.6	12.3
Livestock								
300 acres and over	414	25.7	8.4	17.3	11.4	5.9	1.5	4.4

For definition of farm type groups and the most profitable farms see p. 9

FIXED COSTS

All Farms, East Midlands Farm Management Survey
1968-69

TABLE 1.3

£ per acre

Size Group	Regular Labour	Equipment Depreciation	Equipment Repairs	Fuel and Power	Rent and Rates	Other Repairs	Misc.	Total Excluding Farmer's and Wife's Labour	Farmer's and Wife's Labour	Total Including Farmer's and Wife's Labour
0— 74¾ acres	4.8	5.6	2.1	3.2	5.5	2.6	3.8	27.6	17.8	45.4
75—149¾ acres	8.1	4.6	2.9	2.8	5.9	2.6	3.6	30.5	8.4	38.9
150—299¾ acres	7.8	4.1	1.9	1.9	5.4	1.5	2.1	24.7	3.5	28.2
300 acres and over	8.5	3.4	2.2	1.8	5.9	1.2	1.9	24.9	1.1	26.0

NOTE.—Figures for type groups are not shown, since there is no consistent difference between them in the East Midlands Farm Management Survey sample.

DEFINITIONS OF FARM TYPE GROUPS AND MOST PROFITABLE FARMS

DAIRYING. Farms with less than 25 per cent of land under cash crops and with fourteen or more dairy cows (i.e. cows and heifers in milk and cows in calf) per 100 acres.

MIXED (WITH MILK). Farms with 25 per cent or more of land under cash crops and ten or more dairy cows per 100 acres.

CASH CROPPING. Farms with 50 per cent or more of land under cash crops, but excluding farms with more than one thousand poultry or sixty pigs per 100 acres or an equivalent combination of pigs or poultry.

MIXED (WITHOUT MILK). Farms with 25 per cent or more but less than 50 per cent of land under cash crops with no milk (or negligible quantities)—except that farms having more than 50 per cent of land under cash crops are included if they have more than one thousand poultry per 100 acres or more than sixty pigs per 100 acres or an equivalent combination of pigs and poultry.

LIVESTOCK. Farms with less than 25 per cent of land under cash crops and less than fourteen dairy cows per 100 acres.

THE MOST PROFITABLE FARMS. These figures refer to the six most profitable farms in each group comprising at least twelve farms. The six farms are those with the highest average Management and Investment Income per acre taken over the previous three years. In groups comprising less than twelve farms the most profitable half (in round numbers) is used for this purpose.

SECTION II

LABOUR AND MACHINERY

Table		Page
2.1	Minimum Rates of Pay.	11
2.2	Average Weekly Hours and Total Earnings of Hired Regular Whole Time Workers.	11
2.3	Annual Labour Requirements.	12
2.4	Annual Labour and Tractor Requirements. Horticultural Crops.	13
2.5	Size of Livestock Enterprises per Man Unit.	14
2.6	Annual Tractor Requirements.	15
2.7	Labour and Machinery Requirements for Various Operations.	18
2.8	Cost of General Machinery.	20
2.9	Crop Harvesting Systems.	21
2.10	Annual Cost of Spares and Repairs.	23
2.11	Typical Tractor and Combine Operating Costs.	24
2.12	Irrigation—Capital Cost.	25
2.13	Irrigation—Annual Costs.	26
2.14	Irrigation Requirement and Possible Extra Yield.	26

MINIMUM RATES OF PAY, ENGLAND AND WALES
(from 3rd February 1969)

TABLE 2.1

Age	Male Workers			Female Workers		
	Weekly Rate	Hourly Rate	Overtime Rate	Weekly Rate	Hourly Rate	Overtime Rate
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
20 years and over	248 0	5 8	8 5	186 0	4 3	6 4
19 „	211 0	4 10	7 2	181 0	4 2	6 2
18 „	180 0	4 1	6 2	173 6	4 0	5 11
17 „	154 0	3 6	5 3	146 6	3 4	5 0
16 „	131 6	3 0	4 6	121 6	2 9	4 2
15 „	114 0	2 7	3 11	101 6	2 4	3 6

AVERAGE WEEKLY HOURS AND TOTAL EARNINGS OF HIRED REGULAR WHOLE-TIME WORKERS, ENGLAND AND WALES
YEAR ENDED 31st DECEMBER 1968

TABLE 2.2

	Average Weekly Hours(1)	Average Total Weekly Earnings	Average per hour	Total Annual Wage
		£ s. d.	s. d.	£
General Farm Workers	48.1	14 17 11	6 2	775
Bailiffs and Foremen	47.6	18 16 5	7 11	979
Dairy Cowmen	55.0	19 0 6	6 11	989
Tractormen	50.0	15 19 8	6 5	831
Horticultural Workers	46.1	14 18 2	6 6	775
All Hired Men	49.1	15 18 7	6 6	828
Youths (under 20)	47.5	9 10 4	4 0	495
Women and Girls	43.9	10 3 1	4 8	528

(1) Hours actually worked plus statutory holidays only.

SOURCE: Ministry of Agriculture, Fisheries and Food.

ANNUAL LABOUR REQUIREMENTS FOR DIFFERENT CROP AND LIVESTOCK ENTERPRISES

TABLE 2.3 — Man Hours

Crops	Per Acre	Livestock	Per Head
ARABLE			
Cereals—combined	8	Dairy cows—cowshed	80
baling and carting straw	3	parlour	60
Sugar beet—mechanically harvested	76	Beef cows	22
completely mechanised	53	Cattle—2 years and over	20
Potatoes (including riddling)—hand harvested	116	1-2 years	20
mechanically harvested	89	0-1 years	32
Peas—harvested dry	24	Ewes	6
vining, static viner	40	Other sheep	2
mobile viner	10½	Pigs—sows	32
Field beans—combined	9	fattening pigs	8
Herbage seed—undersown	6	Poultry—layers	⅛
direct drilled in autumn	8	broilers	1/14
Oil seed rape	5		
Bare fallow	8		
FORAGE			
Kale—grazed	10		
Grass—ley establishment			
undersown	1		
direct sown	4		
hay	8		
silage, forage harvested	7		
grazing	2		

NOTE.—To obtain standard man days divide figures given above by eight. In determining the total annual farm requirements 15% is normally added for overheads.

ANNUAL LABOUR AND TRACTOR REQUIREMENTS
HORTICULTURAL CROPS

TABLE 2.4

	Man Hours per acre	Tractor Hours per acre
Brussels sprouts	232	21
Brussels sprouts (quick freezing)	170	27
Cabbage, spring (hearted)	184	33
Cabbage, autumn	108	37
Cabbage, winter	137	33
Savoy cabbage, winter (drilled)	138	20
Cauliflower, autumn	160	23
Cauliflower, winter	146	41
Beetroot (main crop)	202	27
Carrots (main crop)	167	46
Leeks (drilled)	642	25
Celery (main crop)	477	61
Broad beans (autumn)	243	18
Broad beans (spring)	130	16
Runner beans (pinched)	250	25
French beans, dwarf (processing)	35	42
Onions (dry bulb)	110	16

SIZE OF LIVESTOCK ENTERPRISES PER MAN UNIT

The following table indicates the peak number of animals that can be handled by a man, assuming that he will be prepared to work a 50 hour week and that relief will be available for days off, holidays, etc. The man's whole time may not be taken up by the enterprise throughout the year. For instance one man can cope with 400 ewes, but, although he will be fully occupied at the peak periods of lambing, dipping and shearing and will require some assistance at those times, he will not be fully employed for the rest of the year and can be called upon for other work.

The efficient use of labour in livestock enterprises will depend upon the facilities available, the output of the animals and the ability of the individual. It is, therefore, only possible to give very broad guides as to general performance. Furthermore, technical advances in the provision of equipment, buildings, etc., are so swift at present that the range of performance can be very wide.

SIZE OF LIVESTOCK ENTERPRISES PER MAN UNIT

TABLE 2.5

Type of Livestock	System	Numbers	Notes
Dairy Cows only	Yard and parlour Cowshed	60-100 cows 30- 40 cows	Depending on type of parlour and yield per cow.
Dairy Cows and Replacements	Yard and parlour Cowshed	45- 55 cows 20- 30 cows	Assuming a quarter of the herd is replaced per annum.
Beef Rearing	Single suckling Multiple suckling	80-100 cows 20- 30 cows	7-10 calves per lactation.
Beef Fattening	Strong stores in yards Mechanised barley beef Early weaned calves to fat at 18 months Spring born calves Autumn born calves	120-150 animals 600 animals 50-60 units 40-50 units	Traditional. 2 summers 1 winter } 1 unit=1 weaned 2 winters 1 summer } calf & yearling
Sheep	Lowland Hill	400-500 ewes and lambs 600 ewes and lambs	One skilled man required to assist for 4-6 weeks at lambing time. Up to three extra men for dipping and additional help at shearing.
Pigs Specialised Units	Sows and progeny to finish: Pork Bacon Heavy hogs Sows and progeny to weaning Fattening Pork Bacon Heavy	 30-40 sows 25-35 sows 27-37 sows 70-90 sows 1,000 pigs 700 pigs 700 pigs	 Assistance with odd jobs (e.g. castration) required. It is assumed that feeding is mechanised and that slatted floors are provided. Assistance would be required for food mixing and clearing the slurry tanks.
Poultry Specialised Units	Layers: Batteries Table Birds	 8,000 15,000-20,000	Assuming simple non-mechanical system. Higher numbers can be managed with fully automatic systems and assistance with egg collection.

ANNUAL TRACTOR REQUIREMENTS FOR DIFFERENT ENTERPRISES

TABLE 2.6

Cash Crops	Tractor Hours per Acre
Wheat — combine	6.5(1)
Barley — combine	5.5(1)
Oats — combine	5.5(1)
Sugar Beet — mech. harvest	29.0
Sugar Beet — complete mech.	32.0
Potatoes — hand harvest	25.0
Potatoes — mech. harvest	30.0
Peas — combined dry	11.0
Field beans — combined	7.0
Peas — picking	8.0
Peas — vining	10.5
Oil seed rape	4.0

Forage Crops	Tractor Hours per Acre
Mangolds	25.0
Bare fallow	8.0
Kale — grazed	9.0
Kale — carted	29.0
Establishment of leys — undersown	1.0
direct seed	4.0
Grass — hay	6.5
Grass — silage (forage harv.) 1st cut	6.5
(forage harv.) 2nd cut	4.5
(buckrake) 1st cut	9.5
(buckrake) 2nd cut	7.5
Grazing — temporary grass	2.0
permanent grass	1.5
Baling and carting straw	2.0

Livestock(2)	Tractor Hours per Head
Dairy cows	8.0
Cattle — 2 years and over	7.0
1-2 years	5.0
calves	3.0
Yarded bullocks	4.0
Ewes	1.5
Store sheep	1.0
Pigs — sows	2.5
porkers	0.25
baconers	0.5
heavy hog	0.5
Poultry — layers	0.05

(1) Excluding baling straw.

(2) The figures for livestock represent servicing with food and litter from store, clamp or field.

In determining total tractor requirements 15% is normally added to the above figures to cover overheads.

Tractor Capacity	
Required Capacity in Hours	Number of Tractors
Up to 800	1
801 — 2,000	2
2,001 — 3,200	3
3,201 — 4,400	4
4,401 — 5,600	5
5,601 — 6,800	6

SOURCE: *The Farm as a Business: Aids to Management*. Section 6. Labour and Machinery. H.M.S.O.

LABOUR AND MACHINERY REQUIREMENTS FOR VARIOUS OPERATIONS. TABLES 2.7 — 2.9

The information given in the following tables is intended for general labour and machinery budgeting on a Gang Work Day (GWD) basis.[1] It is intended only as a broad guide for checking information obtained in individual cases or where no actual information is available. One GWD is similar to one standard man day in consisting of eight hours. However, it is a measure of the time taken by the gang needed to carry out a particular job. Thus, if it took a gang of three men eight hours (i.e. 1 GWD) to complete a job, the work content would be 1 GWD on the GWD basis, but 3 man days on the Man Day basis. The following information is required for each activity in order to make up profiles:—

(1) Dates between which work is to be carried out.

(2) Crop acreage.

(3) Speed of work in acres per GWD.

(4) GWDs required; obtained by dividing (2) by (3).

(5) Days available to complete work; taken from scale given below within the limits stated under (1) above.

(6) Composition of gang; number of regulars and casuals.

(7) Number of gangs required to complete work within the limits set.

WORK DAYS AVAILABLE FOR EACH MONTH OF THE YEAR

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
14	17	20	22	24	25	24	24	22	19	16	15

SOURCE: WALLACE, D. B. and BURR, H. *Planning on the Farm*, University of Cambridge, Farm Economics Branch Report No. 60, 1963.

NOTE.—Allowance is made in these figures for weather, holidays, sickness, etc., balanced by reasonable overtime. They refer to East Anglia, and some adjustments may need to be made for different climatic conditions and variations in soil type.

[1] An explanation of the use of the G.W.D. method together with several examples is given in Analysing the Use of Labour and Machinery, KERR, H. W. T., *Farm Management Notes*, No. 35, University of Nottingham, Department of Agricultural Economics, 1966.

LABOUR AND MACHINERY REQUIREMENTS FOR VARIOUS OPERATIONS. TABLE 2.7

Column 1—Composition of gang

M=Number of workers in gang, including casuals.

T=Number of tractors required by gang.

In some cases part-time assistance may be required over and above the labour force shown in the table.

Column 2—Speed of working

Given in acres per GWD (8 hours). The figures for high output are 25% above and for low output are 50% below medium output.

Column 3—Implement

This column and columns 4, 5, 6 and 7 refer to the main implement required for the particular activity.

Column 4—Initial cost (before deduction of investment grant)

The cost of similar types of implement vary very greatly and these figures are only intended as a broad guide.

Columns 5 and 6—Depreciation and repairs

The information given in these columns is intended for general budgeting and would not necessarily be helpful for specific machinery problems. A straight line depreciation to write-off is suggested, allowing for both wear and tear and obsolescence. Annual maintenance and repair costs are shown as a percentage of initial cost assuming full use is made of the machine.

Variations in the cost of spares and repairs according to annual use can be calculated using the information given in Table 2.10.

Column 7—Potential acreage per season

A broad guide at medium output level to the potential maximum acreage which could be worked annually by each implement before another or larger implement would have to be purchased.

TABLE 2.7

LABOUR AND MACHINERY REQUIREMENTS FOR VARIOUS OPERATIONS

Activity	Gang		Speed of working—Acres per GWD			Implement	Typical initial cost of implement (1969)	Suggested depreciation rate (straight line)	Annual maintenance and repairs % of initial cost	Potential acreage per season
	M	T								
GENERAL			High	Med.	Low		£	Years	%	Acres
Ploughing	1	1	10	8	4	3-Furrow plough	150	7	15	250
	1	1	15	12	6	5-Furrow plough	300	7	15	360
	1	1	7½	6	3	Reversible plough 2-furrow	220	7	15	180
Rotovating	1	1	7½	6	3	Rotovator	275	5	15	150
Cultivating	1	1	25	20	10	Cultivator	150	7	15	200
Harrowing	1	1	32½	26	13	Harrows	45	7	15	350
Discing	1	1	20	16	8	Discs	165	7	10	300
Rolling	1	1	30	24	12	Rolls. Gang of 3	130	7	5	300
Fertiliser spreading	1	1	45	36	18	Distributor	180	5	10	400
	1	1	70	56	28	Spinner	85	5	10	500
Spraying, low volume	1	1	40	32	16	Sprayer	85	7	10	300
CEREALS										
Drilling	1	1	40	32	16	12′ Drill	220	7	10	400
	1	1	25	20	10	8′6″ Combine drill	320	5	10	300
Harvesting (including carting to store)	2-3	1-2	20	16	8	s-p 8′6″ Tanker combine harvester	2,100	7	8	300
	2-3	1-2	25	20	10	s-p 10′ Tanker combine harvester	3,300	7	8	400
	2-3	1-2	30	24	12	s-p 12′-14′ Tanker combine harvester	3,700	7	8	500
Baling straw	1	1	21¼	17	8½	Pick-up baler (power take-off)	715	5	8	300[1]
Carting bales	3	1	10	8	4	—	—	—	—	—
SUGAR BEET										
Drilling	1	1	13¼	11	5½	5-Row precision	220	5	8	200
Gapping and singling	1	—	⅓	¼	⅛	Hand	—	—	—	—
Second hoeing	1	—	⅔	½	¼	Hand	—	—	—	—
Tractor hoeing	1	1	15	12	6	4-Row mounted	120	7	15	100
	2	1	15	12	6	4-Row steerage	69	7	15	100
Mechanical thinning	1	1	12½	10	5	Down row thinner	120	7	8	80
Mechanical harvesting[2]	3-4	3-4	2½	2	1	Side elevator harvester—single row	595	5	10	80
(inc. carting to dump)	2-3	2-3	2½	2	1	Tanker harvester—single row	885	5	10	80
	9[3]	9	15	12	6	Multi row harvester	4,400	5	10	300
Loading	1	1	—	(25 tons per hour)	—	Cleaner - loader	275	5	10	—

[1] Hay and straw.

[2] For full details see Table 2.9.

[3] This requirement to produce maximum output can be reduced in several ways but only at the expense of speed of working.

TABLE 2.7 (continued) **LABOUR AND MACHINERY REQUIREMENTS (continued)**

Activity	Gang		Speed of working, acres per GWD			Implement	Typical initial cost of implement (1969)	Suggested depreciation rate (straight line)	Annual maintenance and repairs % of initial cost	Potential acreage per season
	M	T								
PEAS			High	Med.	Low		£	Years	%	Acres
Drilling	2	1	25	20	10	Drill	220	7	10	300
Cutting	1	1	25	20	10	Windrow 6′—8′	300	5	12	300
Picking up and loading	1	1	25	20	10	Elevator-loader	220	5	12	300
Mobile viner	1	1	7½	6	3	Mobile viner	8,500	5	15	250
GRASS CONSERVATION										
Mowing	1	1	12½	10	5	Mower 6′	132	5	12	200
	1	1	21	14	10½	Flail mower 6′	400	5	12	300
Swath turning (side raking)	1	1	50	40	20	Swath turner	160	7	8	800
Tedding	1	1	30	24	12	Tedder	250	7	8	600
Crimping	1	1	15	12	6	Crimper	275	7	8	400
Baling	1	1	15	12	6	Pick-up baler (power take-off)	715	5	8	300 (1)
Silage-making (2)	2	2	6	4¾	2⅓	Forage harvester 40″	360	5	8	110
	3	3	10½	8½	4¼	Forage harvester 60″	600	5	8	210
	4	4	12½	10	5	Forage harvester 60″	600	5	8	240
	4	4	12½	10	5	Forage harvester double-chop	800	5	8	240
POTATOES										
Planting	1	1	7½	6	3	2 Row auto	270	5	10	60
	1	1	15	12	6	4 Row auto	535	5	10	120
	3	1	5	4	2	2 Row hand fed	190	5	10	40
	5	1	11	7	3½	4 Row hand fed	300	5	10	70
Ridging and closing	1	1	7½	6	3	Ridger 3-row	55	7	10	—
Moulding up	1	1	12½	10	5	Ridger 3-row	55	7	10	—
Spraying medium volume	1	1	25	20	10	Sprayer	120	5	15	—
Harvesting (2) including	13	2	1⅔	1¼	⅔	Elevator digger	220	5	15	50
carting to store or	8-9	3	1¼	1	½	Harvester single row	1,260	5	15	50
clamp)	8-9	3	2	1½	¾	Harvester 2-row	2,330	5	15	60
Riddling	5-6	—	—	(2.8 tons per hour)	—	Riddle	200	5	15	—

(1) Hay and straw.

(2) For full details see Table 2.9.

COST OF GENERAL MACHINERY

TABLE 2.8

General Machinery	Typical initial cost of implement (1969)	Suggested depreciation rate (straight line)	Annual maintenance and repairs % of initial cost
	£	Years	%
Tractors—			
Small (26—40 h.p.)	770	5	5
Medium (41—60 h.p.)	880	5	5
Large (61—100 h.p.)	1,200	5	5
Very large (101 h.p.—)	3,300	5	5
Crawler (60—80 h.p.)	3,000	5	5
Trailer 2-wheel	180	10	5
Trailer 4-wheel	390	10	5
Bale sledge	40	10	5
Bale loader	90	5	5
Front-end loader	120	5	10
Dung spreader (flail)	360	5	15
Dung spreader	360	5	15
Sludge tank 500 gallons	500	5	10
Hedge cutter (rotary)	250	5	10
Hedge cutter (reciprocating)	200	5	15
Ditch cleaner (power arm)	377	5	10

Data for Tables 2.7 and 2.8 have been obtained from various sources including:

The Farm as a Business: Aids to Management. Section 6. Labour and Machinery. H.M.S.O.

Enterprise Cost Surveys on Wheat, Barley, Potatoes and Sugar Beet. University of Nottingham, Department of Agricultural Economics.

These figures have been compiled with the assistance of the National Agricultural Advisory Service East Midlands Regional Mechanisation Adviser.

TABLE 2.9

CROP HARVESTING SYSTEMS USING GANG LABOUR

Crop	Type of machine	Gang		Job
		Men	Tractors	
Cereals	Self-propelled tanker combine	1	—	Driving harvester.
		1-2	1-2	Carting with trailer, depending on distance to store. One man in addition may be required part-time at store depending on organisation.
Sugar Beet	Single-row elevator harvester	1	1	Drawing harvester.
		2-3	2-3	Carting with trailer; depending on distance to dump.
	Single-row tanker harvester	1	1	Drawing harvester.
		1-2	1-2	Carting with trailer; depending on distance to dump.
	Multi-row harvester	1	1	Topper.
		1	1	Lifter/windrower.
		1	1	Cleaner loader.
		4	4	Transporting to clamp.
		2	2	With foreloaders keeping clamp in shape.
		This maximum requirement can be reduced in several ways but at the expense of speed of working.		
	With any type of harvester, when a contractor is employed for transporting beet to the factory, one of the carting tractor drivers will also load. Where farm transport is used one man with tractor additional to the harvesting gang shown above will be employed loading and driving the load to the factory.			
Potatoes	Elevator digger	1	1	Drawing digger.
		2	2	Carting with trailer to store.
		1	—	At store.
		10+	—	Picking (casual women).
	Complete harvester	1	1	Drawing harvester.
		2	2	Carting with trailer to store.
		1	—	At store.
		4-5	—	Sorting on harvester (casual). If potatoes are bagged on harvester another man will be required on harvester but not at store.

CROP HARVESTING SYSTEMS USING GANG LABOUR (continued)

TABLE 2.9 (continued)

Crop	Type of machine	Gang		Job
		Men	Tractors	
Silage	40″ forage harvester. Direct cut, rear delivery			
		1	1	Drawing harvester and trailer, cutting and taking to silo in tandem and dumping.
		1	1	With buckrake at silo (part-time).
		The man drawing the forage harvester can buckrake onto silo either using a second tractor or unhitching the one tractor if a lower output is accepted.		
	40″ or 60″ forage harvester Direct cut			
		1	1	Drawing harvester.
		1	1	With buckrake at silo.
	Plus either for rear delivery	1	1	Ferrying two trailers from field to silo.
	or for side delivery	2-3	2-3	Each with trailer driving alongside harvester.
	40″ or 60″ forage harvester Wilting, picking up with forage harvester			
		1	1	Mowing. } The same man and tractor may be used for both
		1	1	Drawing harvester. } these operations.
		1	1	With buckrake at silo.
	Plus either for rear delivery	1	1	Ferrying two trailers from field to silo.
	or for side delivery	2-3	2-3	Each with trailer driving alongside harvester.

ANNUAL COST OF SPARES AND REPAIRS AS A PERCENTAGE OF PURCHASE PRICE AT VARIOUS LEVELS OF USE

TABLE 2.10

	Approximate Annual Use (hours)				Addition for each 100 hours
	500	750	1000	1500	
TRACTORS	% 5	% 6.7	% 8.0	% 10.5	% 0.5

	Approximate Annual Use (hours)				Addition for each 100 hours
	50	100	150	200	
HARVESTING MACHINERY	%	%	%	%	%
Combine harvesters, self-propelled and engine driven	1.5	2.5	3.5	4.5	2.0
Combine harvesters, p.t.o. driven metered-chop forage harvesters, pick-up balers, potato harvesters, sugar beet harvesters	3.0	5.0	6.0	7.0	2.0
Group 1 Ploughs, cultivators, toothed harrows, hoes, elevator potato diggers (normal soils)	4.5	8.0	11.0	14.0	6.0
Group 2 Rotary cultivators, mowers, binders, pea cutter-windrowers	4.0	7.0	9.5	12.0	5.0
Group 3 Disc harrows, fertiliser distributors, farmyard manure spreaders, combine drills, potato planters with fertiliser attachment, sprayers, hedge-cutting machines	3.0	5.5	7.5	9.5	4.0
Group 4 Swath turners, tedders, side-delivery rakes, unit drills, flail forage harvesters, semi-automatic potato planters and transplanters, down-the-row thinners	2.5	4.5	6.5	8.5	4.0
Group 5 Corn drills, milking machines, hydraulic loaders, simple potato planting attachments	2.0	4.0	5.5	7.0	3.0
Group 6 Grain driers, grain cleaners, rolls, hammer mills, feed mixers, threshers	1.5	2.0	2.5	3.0	0.5

SOURCE: *The Farm as a Business: Aids to Management.* Section 6. Labour and Machinery. H.M.S.O.

TYPICAL TRACTOR AND COMBINE HARVESTER OPERATING COSTS

TABLE 2.11

Item	Tractors								Combine Harvester		
	Wheeled						Crawlers				
	hp 35	hp 45	hp 55	hp 65	hp 90	hp 100	hp 50	hp 70	ft 8	ft 10	ft 12-14
	£								£		
INITIAL COSTS	750	840	1,000	1,200	2,600	3,300	2,500	3.100	2,100	3,240	3,900
ANNUAL COSTS											
Depreciation	105	118	140	168	364	462	350	434	294	454	546
Tax and insurance	10	10	10	10	15	15	15	15	10	10	10
Total	115	128	150	178	379	477	365	449	304	464	556
Repairs	52	58	70	82	180	214	161	221	55	83	101
Fuel, oil and lubricants	41	51	61	67	107	142	132	163	9	18	22
Total	93	109	131	149	287	356	293	384	64	101	123
TOTAL ANNUAL COSTS	208	237	281	327	666	833	658	833	368	565	679
	hrs								acres		
Annual use assumed	900	900	900	900	900	900	900	900	160	320	400
Unit cost of fuel and lubricants (shillings)	0.91	1.1	1.4	1.5	2.4	3.2	2.9	3.6	1.1	1.1	1.1

Variations in the cost of spares and repairs according to different annual use can be calculated using the information given in Table 2.10.

SOURCE: *The Farm as a Business: Aids to Management.* Section 6. Labour and Machinery. H.M.S.O.

IRRIGATION

Capital Cost

TABLE 2.12

Item	Description	Typical Cost
Source works (where required)	Bore holes: easy conditions	£3—£5 per foot
	difficult conditions	At least £10 per foot
	Reservoirs — unlined[1]	
	5 million gallon capacity	£1,500—£5,000
	1 million gallon capacity	£500—£1,500
	Average cost per million gallons	£750
Pumps	Tractor driven	£200
	Diesel units	£300—£1,000
	Electrically driven units (excluding power supply)	£250—£400
	Submerged pump (for bore holes)	£500—£1,500
Pipelines	Portable 3″	20s. per yard run
	4″	25s. „ „ „
	5″	30s. „ „ „
	6″	45s. „ „ „
	Permanent (including laying and hydrants, but before grant)	
	3″	20s. per yard run
	4″	24s. „ „ „
	5″	28s. „ „ „
	6″	32s. „ „ „
Sprinkler line	1 acre per setting (20—24 sprinklers)	£240
Rain guns[2]		£30—£125 each

[1] Lining reservoirs may double or treble the costs shown here.

[2] The cost of laterals with couplings and valves is the same as for pipeline.

NOTE.—Grants are available on *permanent* equipment of 45% for a private source and 30% if water is supplied from public main.
Horticultural growers may also qualify for a grant of 33⅓% on *portable* equipment.

Annual Costs

TABLE 2.13

Item	Mainly portable system. No source works	Mainly portable system with borehole or reservoir
	Shillings per acre inch	Shillings per acre inch
Depreciation and interest	10 — 50	49 — 69[1]
Labour	6 — 18	5 — 14
Pumping	4 — 17	3 — 8
Miscellaneous	2	2
Total annual costs	22 — 87	59 — 93

[1] Grant deducted.

Labour

Moving sprinkler lines for a unit covering less than two acres will not usually provide full-time employment for one man but it may be difficult to find worthwhile employment for him between moving the laterals. At least one man will be required full-time for units covering more than three acres.

Cost of Water

River Authorities: Interim charge ¼d. to 3d. per 1,000 gals.
Mains: 2s. 6d. to 3s. per 1,000 gals.

IRRIGATION REQUIREMENT AND POSSIBLE EXTRA YIELDS

Arable Crops

TABLE 2.14

Crop	Approximate irrigation requirement	Extra yield per acre
	Inches/acre	
Early Potatoes[1]	2 — 3	2 tons
Maincrop Potatoes	2½	3 tons
Sugar Beet[2]	2½	2 — 2½ tons
Peas	2	8 cwt.
Spring Corn	1	2½ cwt.

[1] Mid-June to mid-July lifting.

[2] Irrigate after plants meet in rows and before end of August; earlier irrigation may reduce yield, later irrigation sugar content.

Grassland

Grassland can benefit at least as much as the arable cash crops shown above. However, the additional growth must be efficiently utilised by the grazing animal. The probable return is therefore dependent on the standard of grassland and livestock management and is far more difficult to ascertain. Requirement varies from season to season, but will probably average about four inches over much of the East Midlands. Fertiliser applications must be increased if the full benefit from irrigation is to be obtained.

SECTION III

CAPITAL

Table		PAGE
3.1	Tenant's Capital Investment per Acre by Farm Type and Size.	28
3.2	Capital Cost of New Farm Buildings.	29
3.3	Investment Grants.	32
3.4	Present Value Table.	34
3.5	Annuity Table.	35
3.6	Amortization Table.	36

TENANT'S CAPITAL INVESTMENT PER ACRE, BY FARM TYPE AND SIZE

All Farms and Most Profitable Farms
East Midlands Farm Management Survey 1968-69

TABLE 3.1 £ per acre

Farm Type		Acreage Group			
		Below 75	75-149¾	150-299¾	300 and over
DAIRYING	All farms	89.5	101.0	54.5	*
	Most profitable farms	101.4	112.0	61.9	*
MIXED (with Milk)	All farms	62.6	86.2	64.1	58.9
	Most profitable farms	*	110.9	69.4	58.7
CASH CROPPING	All farms	43.1	39.0	47.3	43.5
	Most profitable farms	42.5	44.9	51.7	47.5
MIXED (without Milk)	All farms	80.9	61.4	62.7	48.0
	Most profitable farms	75.0	80.3	68.8	50.5
LIVESTOCK	All farms	*	*	*	45.9
	Most profitable farms	*	*	*	*

* Insufficient farms in these groups.

NOTES ON TABLE 3.1

1. Definitions of farm types and most profitable farms can be found on page 9.
2. Tenant's capital is the average of the opening and closing valuations which consist of: livestock valuation (at average market price); equipment valuation (written down values; diminishing balance at Inland Revenue rates); crops and tenantright; other items (stores, etc.).
3. Crops and tenantright valuations and other items represent "working capital", i.e. the money (or resources) required to keep the business running. However, their value will vary according to the date on which the valuation is taken, and this figure may not represent the average "working capital" needed through the year. The majority of farms included here end their account years from February to April.
4. The tenant's capital figure represents the investment in a going concern, not the capital required to start up a farm business.

CAPITAL COST OF NEW FARM BUILDINGS (1969)

NOTE: Prices in this table are intended to give some indication of the cost of providing new items of fixed equipment but they are not intended for use as a check on contractor's actual estimates or charges. These prices cannot take into account the many local variations which may occur in site conditions, availability of materials, labour costs, methods of construction and size of contract. Unit costs do not include cost of drainage disposal or any work outside the building. Measurements given are internal.

All dimensions are based on information given in Ministry of Agriculture leaflets *"Fixed Equipment of the Farm"*, H.M.S.O.

TABLE 3.2

Building	Type			Cost per sq. ft.	Typical Cost per Unit
Milking Parlours		(stalls)	sq. ft.		
Complete with fittings, but excluding milking equipment and drainage and all outside work.	Abreast	4	280	45/8	£639
		6	400	45/8	£913
	Tandem	3	350	70/-	£1,225
		6	410	70/-	£1,435
	Chute	4	200	56/9	£567
		6	280	56/9	£794
	Herringbone	8	350	45/8	£799
		10	400	45/8	£913
		16	550	45/8	£1,256
		20	650	45/8	£1,484
Cow Houses	Single range with feeding passage			37/-	£118 per cow
	Double range with feeding passage			36/-	£106 per cow
Cattle Yards	Fully covered and enclosed(1): with concrete frame			27/-	—
Complete with fittings and hard-core floor	with steel or timber frame			25/-	—
	Fully covered and enclosed(1): with concrete frame			24/-	—
	with steel or timber frame			22/-	—
	Fully covered yard at 75 sq. ft. per cow			—	£83—£103
Loose Boxes	Ranges of two or more — 160 sq. ft. per box			40/-	£320
Bull Boxes and Runs	Box with fittings		225 sq. ft.	52/-	£585
	Run		360 sq. ft.	22/-	£396
Calf Houses	Box 12′×14′ — two pens with access passage and insulated floor		170 sq. ft.	40/-	£340

TABLE 3.2 (continued) CAPITAL COST OF NEW FARM BUILDINGS (continued)

Building	Type	Cost per sq. ft.	Typical Cost per Unit
Piggeries with reasonable degree of insulation and natural ventilation	Fully enclosed Scandinavian(2)	36/-	£25 per pig
	Enclosed bed and feeding passage:		
	Bed including feeding passage	32/-	—
	Yard Open	9/-	£23 per pig
	Covered	18/-	£27 per pig
	Farrowing pens fully enclosed	42/-	£165
	Well insulated ark	—	£77—£88
Poultry Houses *excluding* deep channel and internal fittings	Low eaves, brick or concrete blocks	22/-	£3 11s. per bird
	Prefabricated timber with flat finish floor	—	approx. 24/- per bird
Dutch Barns	Steel or concrete frame — maximum span 48'(3)	10/-	—
	Individual bays — 15'×30' — 16' to eaves(3)	7/6	£170 per bay
	Lean-to on main structure — 20' span	8/-	£120 per bay
	Cladding to sides — Corrugated steel sheeting 15'×16'	2/8	£32 per bay
	Cladding to ends — Corrugated steel sheeting 30'×15'	2/8	£60 per end
Fertilizer and Food Storage	Totally enclosed	35/-	—
Potato Stores	Curved-roofed hut, 30' span including tubular frame	—	£4—£6 per ton
	Brick-built	—	£7—£9 per ton
Implement Sheds	Fully enclosed: corrugated steel or asbestos sheeting; concrete floors; and doors. Bay 30'×15'	28/-	£630 per bay
	Open front; no doors. Bay 30'×15'	18/-	£405 per bay
Drainage *including* cost of excavation	Cess Pit — capacity 1,000 gals. Maximum depth 6'		£133 (2/8 per gal.)
	Cess Pit — capacity 5,000 gals. Maximum depth 6'		£375 (1/6 per gal.)
	4" drains. Rainwater, pitch fibre (unsuitable for animal effluent)		20/- per yard
	4" drains. Foul. Salt glazed.		23/- per yard
	6" drains. Foul. Salt glazed.		25/- per yard
Concreting on hardcore *excluding* cost of excavation and hardcore	4" Builder's Price		15/- per sq. yd.
	6" " "		20/- per sq. yd.
	4" Ready Mix(4) — using own labour		9/4 per sq. yd.
	6" " " " " "		18/10 per sq. yd.
Slatted Floors	Reinforced concrete excluding tank and supports Cattle		7/11—10/- per sq. ft.
	Reinforced concrete excluding tank and supports Pigs		7/11—10/- per sq. ft.
Electricity	Lighting and power points in wiring systems excluding fittings		£5 4s.—£6 12s. per point
	Short lengths overhead service wire		15/- per yard run

TABLE 3.2 (continued)

per ton stored

Grain Storage	Size range	Storage(5)	Drying(5)	Handling	Total(6)
	tons/unit	£	£	£	£
On floor, in situ drying and storage	100 — 1,000	7 — 5	4 — 2	2 — 1	13 — 8
Continuous drying, floor storage	100 — 400	7 — 5	7 — 4	3 — 3	17 — 12
Indoor ventilated bins, in situ drying and storage	40 — 100	11 — 7	5 — 4	3 — 2	19 — 13
Continuous drying, indoor bin storage	40 — 100	11 — 7	9 — 4	3 — 2	23 — 13
Outdoor ventilated bins, in situ drying and storage	50 — 800	9 — 7	5 — 4	3 — 2	17 — 13
Continuous drying, outdoor bin storage	40 — 600	11 — 6	9 — 4	4 — 2	24 — 12
Moist grain silos; metal or concrete	30 — 700	9 — 4	—	2 — 1	11 — 5
Moist grain silos; plastic with framed support.	25 — 40	6	—	—	6(7)

(1) Roof standard 22½° pitch. Add up to 10% for lower pitches.
(2) For fixed fittings: price may be reduced by about 10% using semi-permanent fittings.
(3) With standard foundations, rainwater fittings and apex sheeting, but excluding cladding.
(4) 4:2:1 mix. Normal 2″ slump. Not less than 2½ cu. yds.
(5) Including cost of building where required.
(6) Cost of optional extras such as cleaners, elevators, dust extractors not included.
(7) Including cost of unloading auger.

General Sources: Agricultural Land Service, East Midlands Region.
N.A.A.S. Regional Mechanization Adviser, East Midlands Region.

INVESTMENT GRANTS

TABLE 3.3

Type of Investment	Grants for Investment from 1st Jan., 1969	Method of Payment
Tractors and self-propelled harvesters for which £5 excise licence is obtained	Grant: 10% of cost	Tractors: In two instalments, 12 and 24 months after the first licence is obtained. Harvesters: One payment 18 months after the first licence.
Fixed equipment, machinery, plant and improvements not qualifying for any other grant	Grant: 10% of cost	In one payment following the presentation of receipted vouchers or other evidence of completion.
Investments qualifying for Farm Improvement Scheme or Horticultural Improvement Scheme grants	Grant: 5% of cost in addition to basic grants of 25% for F.I.S. and 33% for H.I.S.	In one payment following the presentation of receipted vouchers or other evidence of completion.
Field machinery for which no excise licence is required, and all secondhand machinery	No grant payable but 30% of the cost may be claimed as an initial allowance against tax	

Depreciation Allowances

In all the above cases where investment grants are paid, the grant is deducted from the purchase cost before depreciation is calculated. For machinery on which no investment grant is payable, the initial allowance is taken into account in the written down value of the machine. This results in no saving in total tax liability but in less tax being paid in the first year of ownership at the expense of higher tax payments in later years.

ASSESSMENT OF CAPITAL INVESTMENT

Payback period and rate of return are the simplest methods of assessing the advisability of making a particular capital investment. In many cases, these simple methods will suffice. However, where the influence of time is important, for instance, when comparing investment in projects with different lengths of life, different cash flow patterns and different starting dates or when assessing those with cash flow patterns which are difficult to average, it may be advisable to use the more complicated discounting or compounding methods. These methods are fully described in "Methods of Appraising New Capital Investment in Agriculture"; H. W. T. Kerr, University of Nottingham, Dept. of Agricultural Economics, F.R. 161, September, 1966.

Table 3.4 gives the factors for computing the present value of a sum receivable 1-15 years ahead at varying rates of interest. For example, the present value of £300 five years hence discounted at 7% is £300 × 0.713 = £213.9. The discount factor of 0.713 is to be found in the year five row under the 7% column in Table 3.4.

Table 3.5 gives the factors for computing the present value of an annuity over a period of 1-15 years. The present value of an annuity of £300 for five years (£300 × 5 = £1,500) discounted at 7% is £300 × 4.10 = £1,230. The discount factor of 4.10 is to be found in the year five row and the 7% column in Table 3.5.

It may sometimes be preferable to compound to obtain a terminal value rather than discount to find the present value of a sum of cash flows, e.g. when assessing investment in land likely to appreciate in value over a period. The compounding factors can be obtained by taking the reciprocals of those given in Table 3.4.

The factors given in Table 3.6 can be used to calculate the average annual charge for repayment and interest on a loan for various repayment periods and rates of interest on the outstanding loan.

Thus the annual charge for a loan of £1,000 repayable over eight years at 9% is

$$1{,}000 \times 0.181 = £181.$$

This annual charge can be included in a budget as the cost of obtaining a loan for a particular project.

Alternatively the table can be used to find the break-even annual margin (before charging depreciation) required to make a particular investment worthwhile.

Suppose an investment is only considered worthwhile if it provides a minimum return of 15% over an eight year period, then the annual margin must be greater than:—

$$1{,}000 \times 0.223 = £223.$$

PRESENT VALUE TABLE

DISCOUNT FACTORS
FOR COMPUTING THE PRESENT VALUE OF A FUTURE SUM RECEIVABLE
n YEARS LATER, GIVEN r THE DISCOUNT RATE OF INTEREST

TABLE 3.4

Years (*n*)	Percentage (r)										
	1	4	5	6	7	8	9	10	11	12	13
1	0.990	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885
2	0.980	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783
3	0.971	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693
4	0.961	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613
5	0.951	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543
6	0.942	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480
7	0.933	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425
8	0.923	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376
9	0.914	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333
10	0.905	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295
11	0.896	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261
12	0.887	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231
13	0.879	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204
14	0.870	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181
15	0.861	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160

Years (*n*)	Percentage (r)										
	14	15	16	17	18	19	20	25	30	35	40
1	0.877	0.870	0.862	0.855	0.847	0.840	0.833	0.800	0.769	0.741	0.714
2	0.769	0.756	0.743	0.731	0.718	0.706	0.694	0.640	0.592	0.549	0.510
3	0.675	0.658	0.641	0.624	0.609	0.593	0.579	0.512	0.455	0.406	0.364
4	0.592	0.572	0.552	0.534	0.516	0.499	0.482	0.410	0.350	0.301	0.260
5	0.519	0.497	0.476	0.456	0.437	0.419	0.402	0.328	0.269	0.223	0.186
6	0.456	0.432	0.410	0.390	0.370	0.352	0.335	0.262	0.207	0.165	0.133
7	0.400	0.376	0.354	0.333	0.314	0.296	0.279	0.210	0.159	0.122	0.095
8	0.351	0.327	0.305	0.285	0.266	0.249	0.233	0.168	0.123	0.091	0.068
9	0.308	0.284	0.263	0.243	0.225	0.209	0.194	0.134	0.094	0.067	0.048
10	0.270	0.247	0.227	0.208	0.191	0.176	0.162	0.107	0.073	0.050	0.035
11	0.237	0.215	0.195	0.178	0.162	0.148	0.135	0.086	0.056	0.037	0.025
12	0.208	0.187	0.168	0.152	0.137	0.124	0.112	0.069	0.043	0.027	0.018
13	0.182	0.163	0.145	0.130	0.116	0.104	0.093	0.055	0.033	0.020	0.013
14	0.160	0.141	0.125	0.111	0.099	0.088	0.078	0.044	0.025	0.015	0.009
15	0.140	0.123	0.108	0.095	0.084	0.074	0.065	0.035	0.020	0.011	0.006

ANNUITY TABLE

DISCOUNT FACTORS
FOR COMPUTING THE PRESENT VALUE OF A FUTURE ANNUITY RECEIVABLE IN YEARS 1 TO n INCLUSIVE, GIVEN r THE DISCOUNT RATE OF INTEREST

TABLE 3.5

Years (*n*)	Percentage (r)											
	1	2	3	4	5	6	7	8	9	10	11	12
1	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.93	0.92	0.91	0.90	0.89
2	1.97	1.94	1.91	1.89	1.86	1.83	1.81	1.78	1.76	1.74	1.71	1.69
3	2.94	2.88	2.83	2.78	2.72	2.67	2.62	2.58	2.53	2.49	2.44	2.40
4	3.90	3.81	3.72	3.63	3.55	3.47	3.39	3.31	3.24	3.17	3.10	3.04
5	4.85	4.71	4.58	4.45	4.33	4.21	4.10	3.99	3.89	3.79	3.70	3.60
6	5.80	5.60	5.42	5.24	5.08	4.92	4.77	4.62	4.49	4.36	4.23	4.11
7	6.73	6.47	6.23	6.00	5.79	5.58	5.39	5.21	5.03	4.87	4.71	4.56
8	7.65	7.33	7.02	6.73	6.46	6.21	5.97	5.75	5.53	5.33	5.15	4.97
9	8.57	8.16	7.79	7.44	7.11	6.80	6.52	6.25	6.00	5.76	5.54	5.33
10	9.47	8.98	8.53	8.11	7.72	7.36	7.02	6.71	6.42	6.14	5.89	5.65
11	10.37	9.79	9.25	8.76	8.31	7.89	7.50	7.14	6.81	6.50	6.21	5.94
12	11.26	10.58	9.95	9.39	8.86	8.38	7.94	7.54	7.16	6.81	6.49	6.19
13	12.13	11.35	10.64	9.99	9.39	8.85	8.36	7.90	7.49	7.10	6.75	6.42
14	13.00	12.11	11.30	10.56	9.90	9.29	8.75	8.24	7.79	7.37	6.98	6.63
15	13.87	12.85	11.94	11.12	10.38	9.71	9.11	8.56	8.06	7.61	7.19	6.81

Years (*n*)	Percentage (r)											
	13	14	15	16	17	18	19	20	25	30	35	40
1	0.88	0.88	0.87	0.86	0.85	0.85	0.84	0.83	0.80	0.77	0.74	0.71
2	1.67	1.65	1.63	1.61	1.59	1.57	1.55	1.53	1.44	1.36	1.29	1.22
3	2.36	2.32	2.28	2.25	2.21	2.17	2.14	2.11	1.95	1.82	1.70	1.59
4	2.97	2.91	2.85	2.80	2.74	2.69	2.64	2.59	2.36	2.17	2.00	1.85
5	3.52	3.43	3.35	3.27	3.20	3.13	3.06	2.99	2.69	2.44	2.22	2.04
6	4.00	3.89	3.78	3.68	3.59	3.50	3.41	3.33	2.95	2.64	2.39	2.17
7	4.42	4.29	4.16	4.04	3.92	3.81	3.71	3.60	3.16	2.80	2.51	2.26
8	4.80	4.64	4.49	4.34	4.21	4.08	3.95	3.84	3.33	2.92	2.60	2.33
9	5.13	4.95	4.77	4.61	4.45	4.30	4.16	4.03	3.46	3.02	2.67	2.38
10	5.43	5.22	5.02	4.83	4.66	4.49	4.34	4.19	3.57	3.09	2.72	2.41
11	5.69	5.45	5.23	5.03	4.84	4.66	4.49	4.33	3.66	3.15	2.75	2.44
12	5.92	5.66	5.42	5.20	4.99	4.79	4.61	4.44	3.73	3.19	2.78	2.46
13	6.12	5.84	5.58	5.34	5.12	4.91	4.71	4.53	3.78	3.22	2.80	2.47
14	6.30	6.00	5.72	5.47	5.23	5.01	4.80	4.61	3.82	3.25	2.81	2.48
15	6.46	6.14	5.85	5.58	5.32	5.09	4.88	4.68	3.86	3.27	2.83	2.48

AMORTIZATION TABLE

FACTORS FOR COMPUTING THE ANNUAL CHARGE FOR A LOAN OVER A PERIOD OF n YEARS AT A COMPOUND INTEREST RATE OF r ON THE OUTSTANDING LOAN.

TABLE 3.6

Years (n)	Percentage (r)										
	1	2	3	4	5	6	7	8	9	10	11
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110
2	.507	.515	.523	.530	.538	.545	.553	.561	.568	.576	.584
3	.340	.347	.354	.360	.367	.374	.381	.388	.395	.402	.409
4	.256	.263	.269	.275	.282	.289	.295	.302	.309	.315	.322
5	.206	.212	.218	.225	.231	.237	.244	.250	.257	.264	.271
6	.173	.179	.185	.191	.197	.203	.210	.216	.223	.230	.236
7	.149	.155	.161	.167	.173	.179	.186	.192	.199	.205	.212
8	.131	.137	.142	.149	.155	.161	.167	.174	.181	.187	.194
9	.117	.123	.128	.134	.141	.147	.153	.160	.167	.174	.181
10	.106	.111	.117	.123	.130	.136	.143	.149	.156	.163	.170
12	.089	.095	.100	.107	.113	.119	.126	.133	.140	.147	.154
15	.072	.078	.084	.090	.096	.103	.110	.117	.124	.131	.139
20	.055	.061	.067	.074	.080	.087	.095	.102	.110	.117	.126
30	.039	.045	.051	.058	.065	.073	.081	.089	.097	.106	.115
40	.031	.037	.043	.051	.058	.067	.075	.084	.093	.102	.112

Years (n)	Percentage (r)										
	12	13	14	15	16	17	18	19	20	25	30
1	1.120	1.130	1.140	1.150	1.160	1.170	1.180	1.190	1.200	1.250	1.300
2	.592	.599	.607	.615	.623	.631	.639	.647	.655	.694	.735
3	.416	.424	.431	.438	.445	.453	.460	.467	.475	.512	.551
4	.329	.336	.343	.350	.357	.365	.372	.379	.386	.423	.462
5	.277	.284	.291	.298	.305	.313	.320	.327	.334	.372	.411
6	.243	.250	.257	.264	.271	.279	.286	.293	.301	.339	.378
7	.219	.226	.233	.240	.248	.255	.262	.270	.277	.316	.357
8	.201	.208	.216	.223	.230	.238	.245	.253	.261	.300	.342
9	.188	.195	.202	.210	.217	.225	.232	.240	.248	.289	.331
10	.177	.184	.192	.199	.207	.215	.223	.230	.239	.280	.323
12	.161	.169	.177	.184	.192	.200	.209	.217	.225	.268	.313
15	.147	.155	.163	.171	.179	.188	.196	.205	.214	.259	.306
20	.134	.142	.151	.160	.168	.178	.187	.196	.205	.253	.302
30	.124	.133	.143	.152	.161	.172	.181	.191	.201	.2503	.3001
40	.121	.131	.141	.151	.160	.170	.180	.190	.200	.2500	.3000

SECTION IV

ARABLE CROPS

Table		PAGE
	Note on Fertilizer Prices and Analyses used in Tables.	38
4.1	Cereals—Guaranteed Price, Standard Quantity, Target Indicator Price.	39
4.2	Cereals—Incentives to Orderly Marketing.	39
4.3	Cereals—Gross Margins.	40
4.4	Potatoes—Gross Margins.	42
4.5	Potatoes—Output per acre at Differing Yield and Price Per ton.	44
4.6	Sugar Beet—Guaranteed Price and Acreage Quota.	44
4.7	Sugar Beet—Gross Margin.	45
4.8	Sugar Beet—Output at Differing Yield and Sugar Percentage	46
4.9	Peas—Gross Margins.	47
4.10	Field Beans—Gross Margins.	48
4.11	Oil Seed Rape—Gross Margins.	49
4.12	Herbage Seed—Yield per acre and Growers' Prices.	50
4.13	Herbage Seed—Variable Costs.	51

NOTE ON FERTILIZER PRICES AND ANALYSES USED IN TABLES

Fertilizer prices vary widely and farmers can often buy below the published prices. There is also a wide choice of fertilizers with different analyses. In the crop enterprise tables, fertilizers with the following analyses have been used as indicated at the prices shown below.

Fertiliser Analysis			*Price per cwt. (net)*
N	P	K	Shillings
10	20	20	29
20	10	10	28
15	10	10	24
15	15	15	30
13	13	20	31
0	20	20	24
21	0	0	16
	Kainit		9

GUARANTEED PRICE, STANDARD QUANTITY, TARGET INDICATOR PRICE 1968 and 1969

TABLE 4.1

	Guaranteed Price per cwt.		Standard Quantity (Million Tons)		Target Indicator Price per cwt.(1)	
	1968	1969	1968	1969	1968	1969
Wheat	27s. 5d.	29s. 0d.	—(2)	—	21s. 6d.	21s. 8d.
Barley	25s. 2d.	26s. 0d.	8.60	—(3)	20s. 8d.	20s. 10d.
Oats	27s. 10d.	27s. 10d.	—	—	—	—
Rye	21s. 7d.	21s. 7d.	—	—	—	—

Notes: (1) These prices are related to the proposed minimum import prices allowing for handling differentials, quality differences etc.

(2) Abolished from the beginning of the 1968/69 cereal year.

(3) Abolished from the beginning of the 1969/70 cereal year.

INCENTIVES TO ORDERLY MARKETING

Seasonal scale for wheat, 1969 crop.

TABLE 4.2

Period	Seasonal scale(1)	
	Steps per cwt.	Cumulative per cwt.
	s. d.	s. d.
July to September	—	—
October	1 4	1 4
November	5	1 9
December	5	2 2
January	5	2 7
February	5	3 0
March	5	3 5
April	4	3 9
May and June	3	4 0

Barley incentive scheme, 1969 crop.

Period	Rate of deduction or premium per cwt.(1)	
		s. d.
July, August, September	deduction	6
October	,,	3
November & December	addition	3
January	,,	4½
February	,,	6
March	,,	7½
April	,,	9
May & June	,,	10½

Note: (1) Subject to Home Grown Cereals Authority levy.

TABLE 4.3

CEREALS — GROSS MARGINS

	Winter Wheat	Spring Wheat	Winter Barley	Spring Barley	Winter Oats	Spring Oats
Yield per acre (cwts.)	35	30	35	30	33	28
Market price per cwt.	23s. 0d.	23s. 0d.	21s. 4d.	22s. 4d.	21s. 2d.	21s. 2d.
Deficiency payment	6s. 0d. per cwt.	6s. 0d. per cwt.	£5.5 per acre	£5.5 per acre	£10 per acre	£10 per acre
Seed rate (cwts.)	1½	1½	1¼	1¼	1½	1½
Fertiliser per acre	2 cwts. 10.20.20. 4 cwts. 21N	3 cwts. 20.10.10.	2 cwts. 10.20.20. 2½ cwts. 21N	3 cwts. 20.10.10.	2 cwts. 10.20.20. 2½ cwts. 21N	3 cwts. 15.10.10.
Sprays, weed control	CMPP	MCPA	CMPP	MCPA	CMPP	MCPA
	£ per acre					
GROSS OUTPUT	50.7	43.5	42.8	39.0	44.9	39.7
Variable costs:						
Seed	4.0	4.5	4.0	3.0	4.5	4.0
Fertilisers	6.1	4.2	4.9	4.2	4.9	3.6
Sprays	1.0	0.5	1.0	0.5	1.0	0.5
Total	11.1	9.2	9.9	7.7	10.4	8.1
GROSS MARGIN	39.6	34.3	32.9	31.3	34.5	31.6

NOTES ON TABLE 4.3

Output. Price per cwt. is average through season. Wheat deficiency payment on tonnage basis. Barley and oat deficiency payments on acreage basis.

STRAW. No allowance is made for straw. A guide to ratio of weight of grain to straw is given below.

	Grain		*Straw*
Winter wheat ...	1.0	:	1.1
Spring wheat ...	1.0	:	0.8
Spring barley ...	1.0	:	0.7
Spring oats	1.0	:	1.0-1.5 (depending on variety)

The ratio is not necessarily constant as grain yield rises. If straw is sold, output should be increased accordingly (£2-£6 per ton ex field). Variable cost of £0.4 per ton should be added if straw is baled.

Variable Costs.

CONTRACT WORK. If a contractor is employed the following charges should be added to the costs so reducing the gross margin.

Spraying £0.8 per acre (materials included in table)

Drilling £1.5 per acre (seed included in table)

Combining £4.5-£5.5 per acre (according to acreage harvested)

Drying £2.5-£3.5 per ton (according to moisture content: reducing to 15%)

Baling 10d. per bale (including twine)

Storage 4s. per ton per month.

Variable cost of drying using own drier (cost of fuel)

Continuous driers, 6% extraction 4s. per ton.

Electrically heated driers 5s. 6d. per ton.

For capital costs, see Table 3.2.

POTATOES

GROSS MARGINS

TABLE 4.4

	Earlies		Maincrop	
	First	Second(1)	Majestic	King Edward
Yield per acre (tons)	—	8	10.5	9.5
Price per ton	—	£16 10s.	£15 2s. 6d.	£17 10s.
Seed rate per acre (cwts.)	35	30	22	22
Fertilizer per acre	9 cwts. 15.15.15	10 cwts. 13.13.20	12 cwts. 13.13.20	12 cwts. 13.13.20
Sprays	—	haulm destruction(2)	blight x2 haulm destruction	blight x4 haulm destruction
	£ per acre			
GROSS OUTPUT	150.0	132.0	158.8	166.2
Variable costs:				
Seed	49.0	42.0	31.0	33.0
Fertilisers	13.5	15.5	15.5	15.5
Sprays	2.5	2.5	4.0	5.7
Miscellaneous	3.0	6.0	6.0	6.0
Total	68.0	66.0	56.5	60.2
GROSS MARGIN	82.0	66.0	102.3	106.0

Notes: (1) Often grown to spread harvest and keep gang working throughout the season.
(2) Mechanical haulm destructors are often used on earlies.

NOTES ON TABLE 4.4

Output. For ready reckoner of output at different yields and prices see Table 4.5.

Price per ton of main crop potatoes—minimum Potato Marketing Board price of £15 2s. 6d. in 1969.

Average yield and price of earlies fluctuates according to the time of lifting. In early June two to four tons per acre can be expected while in early July the average is seven tons. Prices range from £70-£80 per ton in June falling to £20 per ton in July.

Variable Costs.

Seed.—Earlies: price per ton, for once grown seed.
2nd Earlies and Maincrop: price allows for a proportion of once grown seed.

Miscellaneous. P.M.B. levy, sacks, etc.

Levy is £3 per acre plus £25 per acre for potatoes grown in excess of quota.

Casual Labour. If casual labour is employed the following charges should be added to the costs so reducing gross margin.

Planting	£3 per acre
Picking behind spinner or digger	£18 per acre
Picking on harvester	£6 per acre
Riddling	25/- per ton

Chitting. Annual cost. Glasshouse £5 per ton
Adapted building £3.5 per ton.
Likely response. Earlies—Early lifting and therefore higher prices.
Maincrop—Two tons per acre additional yield for blight susceptible varieties. One ton + per acre for others.

Irrigation. See Tables 2.12, 2.13 and 2.14.

POTATOES

OUTPUT PER ACRE AT DIFFERING YIELD AND PRICE PER TON

TABLE 4.5

Yield (tons per acre)	Price per ton (£)					
	10	12	14	16	18	20
	£ per acre					
6	60	72	84	96	108	120
7	70	84	98	112	126	140
8	80	96	112	128	144	160
9	90	108	126	144	162	180
10	100	120	140	160	180	200
11	110	132	154	176	198	220
12	120	144	168	192	216	240
13	130	156	182	208	234	260
14	140	168	196	224	252	280
15	150	180	210	240	270	300
16	160	192	224	256	288	320
17	170	204	238	272	306	340
18	180	216	252	288	324	360

The guaranteed price for main crop potatoes for the 1969 harvest is £15 2s. 6d. per ton.

SUGAR BEET

GUARANTEED PRICE AND ACREAGE QUOTA
1968 and 1969

TABLE 4.6

Price per ton		G.B. Acreage Quota	
1968	1969	1968	1969
136s. 6d.	136s. 6d.	443,000	443,000

At 16% sugar content; with 10s. 0d. per ton plus or minus for each 1% by which sugar content varies from 16%.

GROSS MARGIN

TABLE 4.7

Yield per acre at 16% sugar	14.0 tons
Price per ton	136s. 6d.
Seed rate per acre lbs. (rubbed and graded)	7
Fertilizer per acre	6 cwts. 20.10.10 5 cwts. kainit
Sprays	weed control aphis (2 applications)
GROSS OUTPUT	£ per acre 95.6
Variable costs:	
Seed	2.1
Fertilisers	10.7
Sprays	5.0
Total	17.8
GROSS MARGIN	77.8

NOTES ON TABLE 4.7

Output. For ready reckoner of output at different yields and sugar content see Table 4.8.

Variable Costs.

Gapping and Singling. If casual labour is employed for these operations the following charges should be added to the costs:

Natural seed ..... £17 per acre

Precision drilled ..... £16 per acre

These figures are liable to wide variation.

Contract Work. If a contractor is employed similar adjustments should be made as follows:

Mechanical harvesting: £15 per acre (no carting).

Haulage. 9d. to 11d. per ton mile of dirty beet.

Hire of cleaner loader. At least one shilling per ton.

Irrigation. See Tables 2.12, 2.13 and 2.14.

OUTPUT AT DIFFERING YIELD AND SUGAR PERCENTAGE AT 1969 BASIC PRICE PER TON (136s. 6d.)

TABLE 4.8

Sugar Content (per cent)	Yield (tons per acre)						
	10	11	12	13	14	15	16
	£ per ton						
14.5	60.8	66.9	72.9	79.0	85.1	91.2	97.2
15.0	63.3	69.6	75.9	82.2	88.6	94.9	101.2
15.5	65.8	72.4	78.9	85.5	92.1	98.6	105.2
16.0	68.3	75.1	81.9	88.7	95.6	102.4	109.2
16.5	70.8	77.9	84.9	92.0	99.1	106.2	113.2
17.0	73.3	80.6	87.9	95.2	102.6	109.9	117.2
17.5	75.8	83.4	90.9	98.5	106.1	113.7	121.2
18.0	78.3	86.1	93.9	101.7	109.6	117.4	125.2

Note: Calculated at 1969 price of 136s. 6d. per ton at 16% sugar content with ten shilling per ton plus or minus for each one per cent by which sugar content varies from 16%.

PEAS

GROSS MARGINS

TABLE 4.9

	Vining Peas	Dried Peas
Yield per acre (tons)	1.8	1.3
Price per ton £	46	45
Seed rate per acre (cwts.)	1½ — 3 depending on sowing date and variety	1¼ — 2
Fertilizer per acre	1½ cwts. 0.20.20	1½ cwts. 0.20.20
Sprays	weed control insecticide (weevil/moth)	weed control insecticide (weevil/moth)
	- - - - - - - - - - £ per acre - - - - - - - - - -	
GROSS OUTPUT	82.8	58.5
Variable costs:		
Seed	14.0	10.5
Fertilizer	1.8	1.8
Sprays	3.8	3.8[1]
Total	19.6	16.1[2]
GROSS MARGIN	63.2	42.4

Notes: [1] When a dessicant is used spray costs will be increased by about £3 per acre.

[2] Where tripods are used for harvesting dried peas a charge must be included for casual labour for building them.

FIELD BEANS

GROSS MARGINS

TABLE 4.10

	Winter	Spring
Yield per acre (cwts.)	30	25
Market price per cwt. s.	25	25
Acreage payment £	5	5
Seed rate per acre (cwts.)	2	1¾
Fertilizers per acre	2 cwts. 0.20.20.	2 cwts. 0.20.20.
Sprays, weed control	simazine	simazine
insecticide	—	black fly
	- - - - - - - - - - £ per acre - - - - - - - - - -	
GROSS OUTPUT	42.5	36.3
Variable costs:		
Seed	6.0	5.3
Fertilizers	2.4	2.4
Sprays	3.4	4.7
Total	11.8	12.4
GROSS MARGIN	30.7	23.9

Output. The yield of winter beans is shown as five cwts. per acre higher than spring beans but yield of both crops may vary widely. This assumes a full crop where there is no exceptional damage from frost and birds and, in particular, no severe attack of chocolate spot. Because of these factors the winter bean crop is riskier than the spring crop.

An acreage payment of £5 per acre has applied from the 1968 harvest.

OIL SEED RAPE

GROSS MARGINS

TABLE 4.11

	Winter	Spring
Yield per acre (cwts.)	20	16
Market price per cwt. s.	40	38
Seed rate per acre (lbs.)	6	6
Fertilizer per acre	2 cwts. 10.20.20. 4 cwts. 21N	3 cwts. 20.10.10. 2 cwts. 21N
Sprays, insecticide	pollen beetle/seed weevil	pollen beetle/seed weevil
	- - - - - - - - - - £ per acre - - - - - - - - - -	
GROSS OUTPUT	40.0	30.4
Variable Costs:		
Seed	1.8	2.1
Fertilizers	8.3	7.4
Sprays	1.2	2.3
Total	11.3	11.8
GROSS MARGIN	28.7	18.6

Output. A contract made between the N.F.U., the Board of Trade and buyers of British rape seed for 1969 guarantees a minimum ex farm price of £41 per ton with 40% oil content and payment is based on oil and moisture content. Winter varieties outyield spring varieties and have a slightly higher oil content.

Yield Range Winter 17-25 cwts. per acre
Spring 13-20 cwts. per acre

It is usually necessary to windrow the winter variety and there would consequently be an additional capital cost of a windrower and pick-up attachment for the combine.

YIELD PER ACRE AND GROWERS' PRICES

TABLE 4.12

Variety		Average Yield[1] 1961-66		Estimated[2] Growers Price	Output at[3] Average Yield
		cwts. per acre clean seed		per lb.	£ per acre
		Average	Above Average	s. d.	
Italian Ryegrass	S 22	6.6	9.0	1 4	49.3[4]
Perennial Ryegrass	S 23	4.5	7.0	2 4	58.7
	S 24	6.7	9.0	1 3	46.9
	S321	8.8	11.0	1 2	57.5
Cocksfoot	S143	4.4	6.0	1 11	47.2
Timothy	S 48	2.4	4.0	4 1	54.8
	S 51	3.0	5.5	3 4	56.0
Meadow Fescue	S215	3.8	5.0	1 6	31.9
Red Clover	S123	1.5	3.0	4 5	37.1
White Clover[5]	S100	0.6	2.0	5 11	19.9
	S184	0.6	1.5	8 5	28.3

SOURCE: Lincolnshire Seed Growers' Association.

Notes: [1] Average yield of grasses — Lincolnshire Seed Growers' Association.
Average yield of clovers — National averages.

[2] Estimated prices for British Certified seed reaching agreed purity and germination standards after cleaning and drying to comply with contract.

[3] Output has been calculated allowing for cleaning charges at the following rates:

Ryegrass and Meadow fescue
2d. per lb. over 75% under 85% purity.
Cocksfoot 2d. per lb. over 70% under 80% purity.
Timothy 1½d. per lb. over 80% under 98% purity.
Red and White Clover
1½d. per lb. under 98%.

Charges are varied according to purity ranging from 2½d. to ¾d. per lb. of uncleaned seed.

No allowance has been made for straw. Average price per ton £3 - £4. Yields: Ryegrass, Timothy, Meadow Fescue - 2 tons per acre, Cocksfoot - 3 tons.

[4] Italian Ryegrass is frequently grazed prior to shutting up for seed and where this is the practice an allowance can be added to the output.

[5] Yields are dependent on weather conditions and are consequently extremely variable.

VARIABLE COSTS PER ACRE

TABLE 4.13 £ per acre

	Italian ryegrass	Perennial ryegrass	Cocksfoot	Timothy	Meadow fescue	White clover	Red clover
Variable costs							
Seed	3.0	2.0	1.5	1.0	1.5	2.0	4.0
Fertilizer	7.5	6.5	7.0	5.5	5.5	2.0	2.0
Sprays	0.8	0.8	0.8	0.8	0.8	1.5	1.5
TOTAL	11.3	9.3	9.3	7.3	7.8	5.5	7.5

NOTES ON TABLE 4.13

The following costs may also be incurred and should be added to the total where appropriate.

(i) Drying: Fuel costs of from £0.5 to £2.0 per acre, dependent on moisture content, to dry to acceptable level of 13.5% to 14.0%.

(ii) Certification charges.

(a) Crop inspection charges:
Bred varieties. Main crop 5s. per acre (minimum 20s.)
Companion crop 1s. 6d. per acre (minimum 6s.)
Local variety 4s. per acre (minimum 16s.)

(b) A seed levy is payable at the rate of 2s. 6d. per cwt. on both British Certified and Variety Approved Seed and is borne equally by merchant and grower (i.e. 1s. 3d. per cwt. is payable by grower).

(c) Publicity fund administered by British Seed Council receives a further 1% of the value of the crop after all other deductions have been made.

(d) Many growers are members of a local seed growers organisation and membership costs vary considerably.

Total certification charges are likely to range from £0.5 to £3.0 per acre.

SECTION V

HORTICULTURAL CROPS

Table		Page
5.1	Brassicas—Gross Margins	53
5.2	Roots and Other Vegetables—Gross Margins	54

GROSS MARGINS

TABLE 5.1

	Brussels Sprouts	Brussels Sprouts (Contract Freezing)	Cabbage Autumn and Winter	Savoy Cabbage Winter (Drilled)	Cauliflower Autumn	Cauliflower Winter
Yield (tons)	4.0	3.0	6.5	8.0	7.1	7.6
Price per ton £	41.0	48.3	15.7	11.2	19.4	19.2
	£ per acre					
GROSS OUTPUT	164.0	144.9	102.0	89.6	137.7	146.0
Variable costs:						
Seed	2.5	12.0	1.9	5.0	5.0	1.9
Fertilizers, compost materials	17.5	17.5	10.3	11.4	13.0	13.2
Sprays, chemicals	9.2	10.6	2.1	3.7	1.2	3.2
Casual labour	40.0(1)	—(3)	3.9	—	—	22.0(7)
Miscellaneous	—	9.0(4)	2.7	—	—	—
Packing materials etc.	8.0(2)	—	13.6(5)	16.8(5)	28.7(6)	10.1(8)
Total	77.2	49.1	34.5	36.9	47.9	50.4
GROSS MARGIN	86.8	95.8	67.5	52.7	89.8	95.6

Notes: (1) Calculated at 2s. 6d. per net.
(2) Nets at 6d. each.
(3) Deleafing-cutting etc. if done by casual labour would cost about £25 per acre, thus reducing the gross margin.
(4) Stalk and sprouts to processing plant.
(5) Bags (40 lb.) at 9d. each.
(6) Crates (35 lb.) at 1s. 3d. each.
(7) Carting, grading and packing 9d. per crate.
(8) Crates (35 lb.) hire charge 5d. each.

GROSS MARGINS

TABLE 5.2

	Beetroot (main crop)	Carrots (main crop)	Leeks (drilled)	Celery (main crop)	Onions (dry bulb)
Yield (tons)	10.7	15.0	9.0	15.4	14.0
Price per ton (£)	11.0	10.0	34.0	15.0	10.4
	- - - - - - - - -		£ per acre	- - - - - - - -	
GROSS OUTPUT	117.7	150.0	306.0	231.0	145.6
Variable costs:					
Seed	7.5	2.5	8.0	22.0[3]	8.0
Fertilisers	12.7	12.0	77.2	44.4	7.6
Sprays	5.2	5.6	2.4	4.0	8.4
Casual labour	14.9	—	85.8	30.8	14.0
Packing materials	16.0[1]	22.5[1]	33.6[2]	38.2[4]	21.0[1]
Total	56.3	42.6	207.0	139.4	59.0
GROSS MARGIN	61.4	107.4	99.0	91.6	86.6

Notes: [1] Bags (56 lb.) at 9d. each.
[2] Boxes (30 lb.) at 1s. 0d. each.
[3] Purchased plants
[4] Boxes (18's) at 9d. each.

SECTION VI

GRAZING LIVESTOCK

Table		Page
6.1	Forage Crops—Roots: Variable Costs per Acre	56
6.2	Forage Crops—Grass: Variable Costs per Acre	56
6.3	Livestock Unit Ratios	57
6.4	Milk Production—Annual Average Price, Guaranteed Price and Standard Quantity.	58
6.5	Milk Production—Wholesale Producers' Monthly Basic Price 1967—East Midlands Region	58
6.6	Milk Production—Quality Payments	59
6.7	Milk Production—Average Price of Dairy Cows and Down-Calving Heifers, England and Wales	59
6.8	Milk Production—Gross Margins	60
6.9	Milk Production—Gross Margins: Intensive Systems	61
6.10	Milk Production—Annual Milk Sales per Cow at Differing Yields and Prices per Gallon	62
6.11	Milk Production—Dairy Herd Replacements	63
6.12	Early Weaning and Rearing of Calves	64
6.13	Beef—Single Suckling	65
6.14	Beef—Guaranteed Price for Fat Cattle	66
6.15	Beef—Seasonal Standard Prices, Certifications, Market Prices and Total Returns	66
6.16	Beef—Fattening	67
6.17	Beef—Returns per Animal at Differing Prices per Live cwt. and Live Weights	68
6.18	Beef—Store Cattle: Average Monthly Prices for First Quality Stores	69
6.19	Beef—Grants	70
6.20	Sheep—Guaranteed Price for Fat Sheep and Lambs	70
6.21	Sheep—Seasonal Standard Prices with Certifications, Market Prices and Total Returns	71
6.22	Sheep—Guaranteed Price of Wool	71
6.23	Sheep—Fat Lamb Production	72
6.24	Sheep—Winter Fattening of Hoggs	73
6.25	Sheep—Returns per Animal at Differing Prices and Weights	74
6.26	Sheep—Returns per Animal at Differing Prices per lb. of Washed Wool and Weights of Wool Clip	74
6.27	Sheep—Grants	74

FORAGE CROPS

ROOTS

VARIABLE COSTS PER ACRE

TABLE 6.1

	Mangolds	Kale
	£ per acre	
Variable costs:		
Seeds	1.2	1.0
Fertilizers	10.1	7.3
Sprays	1.2	—
TOTAL	12.5	8.3

GRASS

VARIABLE COSTS PER ACRE

TABLE 6.2

	Mixed systems (1)	Dairy herds only	Beef and sheep only
	£ per acre		
Variable costs:			
Seeds	0.6	1.2	0.9
Fertilizers	2.2	6.9	2.8
Miscellaneous	1.0	1.0	0.3
TOTAL	3.8	9.1	4.0
Associated stocking rate (Acres per livestock unit)	1.5	1.2	1.5

Notes: (1) Mixed systems include dairying with any combination of beef and/or sheep.

SOURCE: *Farming in the East Midlands.* 1967-68 University of Nottingham Department of Agricultural Economics. 1969.

LIVESTOCK UNIT RATIOS

RATIOS FOR CONVERTING NUMBERS OF ANIMALS INTO LIVESTOCK UNITS

TABLE 6.3

Type of Animal	Recommended Livestock Units
Dairy cows[1]	1.00
Beef cows	0.75
Other cattle — over 2 years	0.75
— 1-2 years and intensive beef	0.60
— under one year	0.30
Ewes (lowland) — with lambs	0.25
Other sheep over 6 months — hoggets	0.05
— gimmers and wethers	0.10
Rams	0.20
Sows (including litters to weaning)	0.50
Boars	0.40
Pigs fattened (per pig fattened during the year)	0.10
(per pig on the farm at any one time)	0.20
Poultry — over 6 months	0.02
— under 6 months excluding broilers	0.005
— broilers	0.002

Note: [1] For every 100 gallons above or below 800 per annum add or subtract 0.10 Livestock Units.

SOURCE: *Terms and Procedures Used in Farm and Horticultural Management*, Ministry of Agriculture, Fisheries and Food, H.M.S.O., 1966.

NOTES ON TABLE 6.3

1. A Livestock Unit is defined in terms of feed requirements measured in starch equivalents. One unit is considered to be a dairy cow yielding 800 gallons of milk per annum and requiring 39 cwts. of starch equivalent. Other livestock are related to this standard according to their starch equivalent requirements. A Livestock Unit is distinct from a Grazing Unit which measures the starch equivalents derived from grazing by different classes of livestock.
2. Because of the range in breed and type of animal within any one category (e.g. Friesian and Jersey dairy cows) the results obtained from the use of these figures must be interpreted with care.
3. To calculate the total Livestock Units on a farm the appropriate Livestock Units should be multiplied by the monthly average livestock numbers.

ANNUAL AVERAGE PRICE PAID TO WHOLESALE PRODUCERS, GUARANTEED PRICE AND STANDARD QUANTITY

TABLE 6.4

		1967-68	1968-69	1969-70
Annual average price paid to wholesale producers[1]	d. per gal.	39.96	40.13	n.a.
Guaranteed price	d. per gal.	43.66	44.86	45.26
Standard quantity, England and Wales	Million gals.	1,853.8	1,846.1	1,826.0[2]

n.a. not available.

[1] Before deducting standard transport charges.

[2] Provisional figure.

WHOLESALE PRODUCERS' MONTHLY BASIC PRICES 1969

(For milk of 12.0% but less than 12.1% total solids with s.n.f. over 8.4%)

EAST MIDLAND REGION

TABLE 6.5

Pence per gallon

January	February	March	April	May	June
43.57	42.49	43.48	38.32	29.50	29.08
July	August	September	October	November	December
32.87	38.04	40.75	41.84	41.23	n.a.

n.a. not available.

QUALITY PAYMENTS

TABLE 6.6

Payment class code	Annual average total solids per cent	Price differential (pence per gallon)
UN	Unclassified	+1.07
29	14.50 and over	+7.5
28	14.40 and less than 14.50	+7.2
27	14.30 „ „ „ 14.40	+6.9
26	14.20 „ „ „ 14.30	+6.6
25	14.10 „ „ „ 14.20	+6.3
24	14.00 „ „ „ 14.10	+6.0
23	13.90 „ „ „ 14.00	+5.7
22	13.80 „ „ „ 13.90	+5.4
21	13.70 „ „ „ 13.80	+5.1
20	13.60 „ „ „ 13.70	+4.8
19	13.50 „ „ „ 13.60	+4.5
18	13.40 „ „ „ 13.50	+4.2
17	13.30 „ „ „ 13.40	+3.9
16	13.20 „ „ „ 13.30	+3.6
15	13.10 „ „ „ 13.20	+3.3
14	13.00 „ „ „ 13.10	+3.0
13	12.90 „ „ „ 13.00	+2.7
12	12.80 „ „ „ 12.90	+2.4
11	12.70 „ „ „ 12.80	+2.1
10	12.60 „ „ „ 12.70	+1.8
9	12.50 „ „ „ 12.60	+1.5
8	12.40 „ „ „ 12.50	+1.2
7	12.30 „ „ „ 12.40	+0.9
6	12.20 „ „ „ 12.30	+0.6
5	12.10 „ „ „ 12.20	+0.3
4	12.00 „ „ „ 12.10	Basic Price
3	11.90 „ „ „ 12.00	−0.8
2	11.80 „ „ „ 11.90	−1.6
1	Less than 11.80	−2.4

Note: The price payable for supplies having an annual average total solids of 12.00% or more, but having an annual average solids-not-fat of 8.40% or less will be reduced by one class.

AVERAGE PRICE OF 1st QUALITY DAIRY COWS AND DOWN-CALVING HEIFERS
ENGLAND and WALES 1968

TABLE 6.7

£ per animal

Shorthorn		Friesian		Ayrshire		Channel Islands	
Cows	Down calvers	Cows	Down calvers	Cows	Down calvers	Cows	Down calvers
88	89	117	112	92	87	77	72

GROSS MARGINS FOR FRIESIAN AND CHANNEL ISLANDS COWS

TABLE 6.8

		Friesian	Channel Islands
Yield per cow	gals.	890	680
Average milk price per gallon	d.	39	47
Concentrates per cow	cwts.	23.0	23.0
Concentrates per gallon	lbs.	2.9	3.8
Forage acres per cow	acres	1.7	1.5
Output:		£ per cow	£ per cow
Milk sales		144.5	133.2
Value of calf		14.0	4.4
		158.5	137.6
Less cow depreciation		9.0	5.0
GROSS OUTPUT		149.5	132.6
Variable costs:			
Concentrates		36.8[1]	37.9[2]
Vet and medicines		1.6	2.0
Miscellaneous[3]		5.0	5.0
Total		43.4	44.9
GROSS MARGIN:			
With forage costs **not** deducted		106.1	87.7
Forage costs		7.2	6.0
With forage costs deducted		98.9	81.7
GROSS MARGIN per forage acre		£ per acre 58.2	£ per acre 54.5

Notes: [1] At £32 per ton allowing for a proportion of cereals fed.

[2] At £33 per ton allowing for a proportion of cereals fed.

[3] Includes charges for artificial insemination and National Milk Recording Scheme.

For ready reckoner of annual milk sales at varying yields and price per gallon see Table 6.10.

GROSS MARGINS : INTENSIVE SYSTEMS

TABLE 6.9

		More intensive use of grass	High stocking rate buying in bulk food
Yield per cow	gal.	980	980
Average milk price per gal.	d.	39	39
Concentrates per cow	cwts.	17.5	32.0
Concentrates per gallon	lbs.	2.0	3.7
Forage acres per cow	acres	1.4	0.8
Output:		£ per cow	£ per cow
Milk sales		159.3	159.3
Value of calf		14.0	14.0
		173.3	173.3
Less cow depreciation		9.0	9.0
GROSS OUTPUT		164.3	164.3
Variable costs:			
Concentrates		28.0(1)	57.6(2)
Hay		—	10.0
Vet and medicines		1.6	1.6
Miscellaneous(3)		5.0	5.0
Total		34.6	74.2
GROSS MARGIN:			
With forage costs **not** deducted		129.7	90.1
Forage costs		12.0	8.0
With forage costs deducted		117.7	82.1
GROSS MARGIN per forage acre		£ per acre 84.1	£ per acre 102.2

Notes: (1) At £32 per ton allowing for a proportion of cereals fed.

(2) At £36 per ton.

(3) Includes charges for artificial insemination and National Milk Recording Scheme.

Both these systems require a high standard of efficiency.

For ready reckoner of annual milk sales at varying yields and price per gallon see Table 6.10.

ANNUAL MILK SALES PER COW AT DIFFERING YIELDS AND PRICES PER GALLON

TABLE 6.10

£ per cow

Annual average price per gallon (pence)	Annual milk yield (gallons per cow)									
	650	700	750	800	850	900	950	1,000	1,050	1,100
36	98	105	113	120	128	135	143	150	158	165
37	100	108	116	123	131	139	146	154	162	170
38	103	111	119	127	135	142	150	158	166	174
39	106	114	122	130	138	146	154	163	171	179
40	108	117	125	133	142	150	158	167	175	183
41	111	120	128	137	145	154	162	171	179	188
42	114	123	131	140	149	158	166	175	184	193

CHANNEL ISLANDS MILK

The annual average premium on Channel Islands milk is likely to be between 7d. and 10d. per gallon above the basic price in 1969-70. The following additions should be made to the figures given above at corresponding yields.

Premium per gallon	Yield per cow (gallons)				
	650	700	750	800	850
	Additional revenue per cow (£)				
7d.	19	20	22	23	25
8d.	22	23	25	27	28
9d.	24	26	28	30	32
10d.	27	29	31	33	35

DAIRY HERD REPLACEMENTS (FRIESIAN)

TABLE 6.11

Forage acres (birth to calving)	2.0
Age at calving	$2\frac{1}{2}$-3 years
	£ per down-calving heifer
Output:	
Value of heifer	110.0
Less value of calf	18.0
GROSS OUTPUT	92.0
Variable costs:	
Milk substitute	1.9
Calf nuts	5.0
Concentrates(1)	22.9
Vet and medicines	1.9
Miscellaneous	2.0
Total	33.7
GROSS MARGIN:	
With forage costs **not** deducted	58.3
Forage costs	12.0
With forage costs deducted	46.3
	£ per acre
GROSS MARGIN per forage acre	23.2

Note: (1) Includes steaming up.

VARIABLE COSTS OF EARLY WEANING AND REARING CALVES TO 6 MONTHS (INDOORS)

TABLE 6.12	£ per animal
To 12 weeks:	
Milk substitute for 5 weeks (30 lb. @ 1s. 3d. per lb.)	1.9
Early weaner ration (2¾ cwts. @ £36 per ton)	5.0
Total to 12 weeks	6.9
12 weeks to 6 months:	
Concentrates (4 cwts. @ £32 per ton)	6.4
TOTAL 0 - 6 months	13.3

Note: For spring born calves turned out early to grass the more expensive part of the concentrate ration is gradually removed at ten weeks and the intake restricted to 3 lb. per head per day. Whether concentrates are fed or not after twelve weeks will depend on future plans for the animal (proposed bulling age of dairy heifers or finishing calendar for beef cattle).

SINGLE SUCKLING
LOWLAND FARMS

TABLE 6.13

	October/November calving	February/March calving
Calving rate	96%	96%
Calf mortality	2%	2%
Average weight of weaned calf	6 cwt.	4½ cwt.
Forage acres per cow	1.8	1.8
Output:	£ per cow	£ per cow
Value of weaned calf	60.0	45.0
Calf subsidy(1)	9.7	9.7
	69.7	54.7
Less purchased calves	0.4	0.4
Cow depreciation	4.1 } 4.5	4.1 } 4.5
GROSS OUTPUT(2)	65.2	50.2
Variable costs:		
Concentrates cows	5.0	2.6
calves	3.2	0.3
Vet and medicine	1.5	1.0
Miscellaneous	0.8	0.5
Total	10.5	4.4
GROSS MARGIN:		
With forage costs **not** deducted	54.7	45.8
Forage costs	8.7	8.0
With forage costs deducted	46.0	37.8
	£ per acre	£ per acre
GROSS MARGIN per forage acre	25.6	21.0

Notes: (1) Assuming 50% steers at £11 5s. and 50% heifers at £9 and allowing for 96% calving rate.

(2) Gross Output does not include the beef cow subsidy.

GUARANTEED PRICE FOR FAT CATTLE

TABLE 6.14

	1968-69	1969-70
Guaranteed price per live cwt.	200s. 0d.	215s. 0d.

SEASONAL STANDARD PRICES 1968-69 AND 1969-70 WITH CERTIFICATIONS, MARKET PRICES AND TOTAL RETURNS FOR 1968-69 ONLY

TABLE 6.15

Month	1968-69				1969-70
	Certifications	Seasonal standard price	Average market price	Total return	Seasonal standard price(1)
	Thousand head	per live cwt.	per live cwt.	per live cwt.	per live cwt.
		s. d.	s. d.	s. d.	s. d.
April	54.7	209 8	197 10	215 3	225 2
May	52.7	210 3	206 3	218 4	225 5
June	46.0	208 9	201 7	215 11	223 8
July	51.0	201 11	190 5	207 7	216 6
August	54.2	193 0	177 7	197 5	208 6
September	58.2	186 10	174 9	192 4	202 2
October	57.4	186 0	171 1	190 7	201 6
November	57.2	189 6	175 0	194 3	204 8
December	46.0	196 1	191 4	203 10	212 4
January	49.4	201 7	199 8	210 1	217 11
February	49.8	206 8	201 11	214 7	222 2
March	46.2	208 7	201 9	215 0	224 2

(1) If the market price falls short of the standard price by less than 21s. 0d. per live cwt. a scaled supplement is paid provided the average market price and rate of guarantee do not exceed the standard price by more than 7s. 0d. per live cwt. If the difference is more than 27s. 0d. a scaled abatement is made subject to the limitation that the average return does not fall below the standard price by more than 12s. 6d. per live cwt. For full details see *"Fatstock Guarantee Scheme 1969-70"*. Ministry of Agriculture, Fisheries and Food. H.M.S.O., 1969.

SOURCE: Ministry of Agriculture, Fisheries and Food, Fatstock Marketing Division

BEEF FATTENING

GROSS MARGINS

A Winter fattening of October/November born weaned suckler calves for sale at 18 months old.
B Winter fattening of February/March born weaned suckler calves for sale at 12-14 months old.
C Rearing and fattening autumn born Friesian steers for sale at 18 months old.
D Rearing and fattening winter born Friesian steers for sale at 14-16 months old.
E Barley beef steers.

TABLE 6.16

	A		B		C	D	E
	Steers	Heifers	Steers	Heifers			
Weight at sale	9 cwt.	7½ cwt.	8 cwt.	7 cwt.	9¼ cwt.	8 cwt.	500 lbs. d.w
Price per cwt. (including deficiency payment)	£11.0	£10.5	£11.0	£10.5	£11.0	11.0	3s. 7d. per lb.
Forage acres	0.5	0.5	0.5	0.5	1.0	0.6	—
Weight at purchase	6¼ cwt.	5½ cwt.	4¾ cwt.	4¼ cwt.	—	—	—
Calf mortality	—	—	—	—	5%	5%	5%
Output:	£ per animal						
Sale price (including deficiency payment)	99.0	78.8	88.0	73.5	101.8	88.0	89.6
Calf subsidy					11.3	11.3	11.3
Less purchase price	65.0	55.0	50.0	40.0	20.0	20.0	20.0
GROSS OUTPUT (feeder's margin)	34.0	23.8	38.0	33.5	93.1	79.3	80.9
Variable costs:							
Concentrates	13.3	9.1	21.1	18.0	37.3	40.0	57.0
Miscellaneous	1.5	1.5	1.5	1.5	3.0	2.0	2.5
Total	14.8	10.6	22.6	19.5	40.3	42.0	59.5
GROSS MARGIN							
With forage costs **not** deducted	19.2	13.2	15.4	14.0	52.8	37.3	21.4
Forage costs	2.1	2.1	2.1	2.1	8.0	7.0	—
With forage costs deducted	17.1	11.1	13.3	11.9	44.8	30.3	—
	£ per acre						
GROSS MARGIN per forage acre	34.2	22.2	26.6	23.8	44.8	50.5	—

NOTES ON TABLE 6.16

The majority of animals fattened are steers. Where both heifers and steers are fattened on the same farm they are normally kept in separate batches and treated differently.

No charge has been made for bedding. If straw or other materials are purchased their cost must be included so reducing the gross margin.

BEEF

RETURNS PER ANIMAL AT DIFFERING PRICES PER LIVE CWT. AND LIVE WEIGHTS

TABLE 6.17

£ per animal

Price per live cwt.	Live weight (cwts.)						
	7	8	9	10	11	12	13
Shillings							
185	65	74	83	93	102	111	120
190	67	76	86	95	105	114	124
195	68	78	88	98	107	117	127
200	70	80	90	100	110	120	130
205	72	82	92	103	113	123	133
210	74	84	95	105	116	126	137
215	75	86	97	108	118	129	140
220	77	88	99	110	121	132	143
225	79	90	101	113	124	135	146
230	81	92	104	115	127	138	150
235	82	94	106	118	129	141	153

BEEF

STORE CATTLE

AVERAGE MONTHLY PRICE FOR FIRST QUALITY STORES 1968

TABLE 6.18

£ per animal

Period	Beef breeds						Beef dairy crosses					
	Yearlings		18 months		2 years		Yearlings		18 months		2 years	
	S	H	S	H	S	H	S	H	S	H	S	H
January	62	61	72	70	91	81	52	49	66	61	84	77
February	61	55	69	64	84	79	50	48	70	67	88	81
March	64	61	75	71	94	85	54	52	71	68	91	84
April	64	58	75	70	92	83	56	54	73	71	91	83
May	64	60	75	70	90	85	56	55	73	70	88	82
June	63	60	75	71	91	86	55	53	72	68	89	83
July	65	60	74	70	92	85	55	54	73	67	87	82
August	64	57	73	69	94	82	53	51	71	66	85	80
September	61	55	70	67	90	85	53	51	69	65	83	81
October	62	53	71	67	91	81	53	51	70	65	82	79
November	60	57	73	68	95	83	53	51	70	66	83	79
December	63	58	74	69	86	85	54	51	69	65	84	82

S=Steers. H=Heifers.

SOURCE: Ministry of Agriculture, Fisheries and Food, Fatstock Marketing Division.

BEEF

GRANTS (1969-70)

Table 6.19

Hill cow subsidy £17 5s. 0d. per eligible hill cow at a stocking rate of not higher than one cow per four acres of eligible land.

Winter keep scheme £5 supplement per hill cow.

Beef cow subsidy £10 per head for herds kept primarily for breeding calves for beef. Payment is limited to a maximum stocking rate of one cow per two acres of forage crops and grass used for the beef herd. The subsidy is not payable if a cow qualifies for the hill cow subsidy.

Calf subsidy Steers £11 5s. 0d.
Heifers £9 0s. 0d.
(Including heifers of dairy breeds with acceptable carcases.)

SHEEP

GUARANTEED PRICE FOR FAT SHEEP AND LAMBS

TABLE 6.20

	1968-69	1969-70
Guaranteed price per lb. estimated dressed carcase weight	3s. 6.25d.	3s. 7.75d.

SEASONAL STANDARD PRICES 1968-69 AND 1969-70 WITH CERTIFICATIONS, MARKET PRICES AND TOTAL RETURNS FOR 1968-69 ONLY

TABLE 6.21

Month	1968-69				1969-70
	Certifications	Seasonal standard price	Average market price	Total returns	Seasonal standard price (1)
	Thousand head	per lb. d.c.w.	per lb. d.c.w.	per lb. d.c.w.	per lb. d.c.w.
		Pence	Pence	Pence	Pence
April	128.9	47.31	40.36	46.67	48.69
May	148.5	44.85	41.47	44.98	46.38
June	178.8	42.51	39.38	42.72	43.90
July	219.9	41.28	37.64	41.42	42.69
August	255.8	40.06	34.82	39.93	41.56
September	300.8	40.00	35.37	39.95	41.50
October	300.8	40.00	36.52	40.18	41.56
November	292.7	40.78	38.69	41.40	42.56
December	215.4	42.52	41.21	43.44	44.10
January	201.0	43.34	42.97	44.46	45.06
February	142.1	44.82	46.91	46.91	46.38
March	101.7	47.26	48.84	48.97	48.81

d.c.w. = Dressed carcase weight.

(1) If the difference between average market price and standard price is less than 2¼d. a scaled supplement is paid provided the average market price and rate of guarantee do not exceed standard price by more than ¾d. per lb. estimated d.c.w. If the difference between average market price and standard price is more than 3¾d. a scaled abatement is made subject to limitation that average return does not fall below the standard price by more than 4d. per lb. estimated d.c.w. For full details see *"Fatstock Guarantee Scheme"* 1969-70. Ministry of Agriculture, Fisheries and Food. H.M.S.O., 1969.

SOURCE: Ministry of Agriculture, Fisheries and Food, Fatstock Marketing Division.

GUARANTEED PRICE OF WOOL

TABLE 6.22 per lb.

	1968-69	1969-70
	s. d.	s. d.
Guaranteed price	4 5.25	4 5.25

NOTE: Wool graded according to quality, type, washed or unwashed.

FAT LAMB PRODUCTION

TABLE 6.23

		Entirely on grass			Flocks using folded crops for winter keep
		Low stocking rate	Medium stocking high concentrates	High stocking rate(2)	
Lambs reared per ewe		1.45	1.45	1.40	1.40
Lamb price per head	£	7.25	7.25	7.25	7.25
Ewe replacement rate	%	18	18	25	22
Replacement price per ewe	£	10.0	10.0	10.0	11.0
Cull price per ewe(1)	£	4.0	4.0	4.0	5.8
Concentrates per ewe	cwt.	1.1	1.8	2.0	0.6
Grass acres per ewe		0.67	0.33	0.20	0.30
Fodder crop acres per ewe		—	—	—	0.08
Ewes per forage acre		1.5	3.0	5.0	2.6
Output:		- - - - - - - - - £ per ewe - - - - - - - - -			
Sales		10.50	10.50	10.20	10.20
Wool		1.35	1.35	1.50	1.90
Culls		0.72	0.72	1.00	1.28
		12.57	12.57	12.70	13.38
Less purchases		1.80	1.80	2.50	2.20
GROSS OUTPUT		10.77	10.77	10.20	11.18
Variable costs:					
Concentrates		1.56	2.60	2.81	0.83
Vet and medicine		0.45	0.45	0.45	0.35
Miscellaneous		0.05	0.05	0.05	0.05
Total		2.06	3.10	3.31	1.23
GROSS MARGIN:					
With forage costs **not** deducted		8.71	7.67	6.89	9.95
Variable forage costs		1.00	1.00	1.00	1.30
With forage costs deducted		7.71	6.67	5.89	8.65
		- - - - - - - - - £ per acre - - - - - - - - -			
GROSS MARGIN per forage acre		11.60	20.01	29.45	22.49

Notes: (1) Cull price per ewe adjusted to allow for deaths.

(2) Assuming flock can be in-wintered.

WINTER FATTENING OF HOGGS

TABLE 6.24

		Fattening Hoggs
Concentrates per hogg	cwts.	0.45
Fodder crop acres per hogg		0.10
Hoggs per forage acre		10
Average fattening period	wks.	19
Estimated dressed carcase weight	lbs.	55
Output:		£ per hogg
Sales		10.0
Less purchases		6.5
GROSS OUTPUT		3.5
Variable costs:		
Concentrates		0.60
Total		0.60
GROSS MARGIN:		
With forage costs **not** deducted		2.9
Forage costs		0.4
With forage costs deducted		2.5
GROSS MARGIN per forage acre		£ per acre 25

RETURNS PER ANIMAL AT DIFFERING PRICES AND WEIGHTS

TABLE 6.25 £ per animal

Price per lb d.c.w.	lbs. d.c.w.						
	20	30	35	40	45	50	60
Pence							
30	2.5	3.8	4.4	5.0	5.6	6.3	7.5
35	2.9	4.4	5.1	5.8	6.6	7.3	8.7
36	3.0	4.5	5.3	6.0	6.8	7.5	9.0
37	3.1	4.6	5.4	6.2	6.9	7.7	9.3
38	3.2	4.7	5.5	6.3	7.1	7.9	9.5
39	3.3	4.9	5.7	6.5	7.3	8.1	9.8
40	3.3	5.0	5.8	6.7	7.5	8.3	10.0
41	3.4	5.1	6.0	6.8	7.7	8.5	10.2
42	3.5	5.3	6.1	7.0	7.9	8.8	10.5
43	3.6	5.4	6.3	7.2	8.1	9.0	10.8
44	3.7	5.5	6.4	7.3	8.2	9.2	11.0
45	3.8	5.6	6.6	7.5	8.4	9.4	11.3
50	4.2	6.2	7.3	8.3	9.4	10.4	12.5
55	4.6	6.9	8.0	9.2	10.3	11.5	13.8

d.c.w. dressed carcase weight.

RETURNS PER ANIMAL AT DIFFERING PRICES PER LB. OF WASHED WOOL AND WEIGHTS OF WOOL CLIP

TABLE 6.26 £ per animal

Price per lb. washed wool	Weight of Clip (lbs.)							
	4	5	6	7	8	9	10	11
shillings								
3	0.6	0.8	0.9	1.1	1.2	1.4	1.5	1.7
4	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2
5	1.0	1.3	1.5	1.8	2.0	2.3	2.5	2.8
6	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3

GRANTS (1969-70)

Table 6.27

Hill sheep subsidy The basic rate is 10s. 6d. per ewe irrespective of breed. A supplementary rate of 10s. 6d. per head is payable in addition to the basic rate, on ewes of specified hardy breeds and crosses. These rates are paid on the basis of two and a half ewes to the acre.

Winter keep subsidy 3s. 6d. supplement per ewe eligible for either subsidy.

SECTION VII

PIGS AND POULTRY

Table		Page
7.1	Pigs—Rearing	76
7.2	Pigs—Basic Guaranteed Price for Fat Pigs	76
7.3	Pigs—Flexible Guarantee Scale	77
7.4	Pigs—Fattening	77
7.5	Pigs—Returns per Pig at Differing Prices and Dead-weights	78
7.6	Poultry-Egg Production — Guaranteed Price to B.E.M.B.	79
7.7	Poultry-Egg Production	80
7.8	Poultry-Egg Production—Returns at Differing Production per Bird and Price per Dozen.	80
7.9	Poultry-Table Birds	81

PIGS

REARING

TABLE 7.1

Number of pigs weaned per sow per year	16
Output:	£ per sow per year
Sale of weaners at £6 each	96.0
Less boar and sow replacement	8.0
GROSS OUTPUT	88.0
Variable costs:	
Feed to sow (including boar's share 28 cwt. at £35 per ton)[1]	49.0
Creep feed: 4 cwt. at £46 per ton	9.2
Miscellaneous	4.0
Total	62.2
GROSS MARGIN per sow per year	25.8

[1] Where a home mixed ration is used a saving of £4 per ton may be expected in the cost of meal. This would increase the gross margin by £5 6s.

BASIC GUARANTEED PRICE FOR FAT PIGS

TABLE 7.2

1968-69	1969-70
47s. 2d. related to a compound feed price of 34s. 11d. per cwt.	48s. 5d. related to a compound feed price of 37s. 0d. per cwt.

The guaranteed price is subject to weekly adjustment to take account of changes in the price of the ration. These changes are expressed in terms of an index on which 37s. 0d. represents 1,000 points. If, in respect of a period of twelve weeks, ended two weeks before the beginning of any guarantee week, the average price of ration is greater or less than 1,000 points, the guaranteed price in respect of that guarantee week will be adjusted on the following basis. For every movement of nine points from 1,000 points the guaranteed price will be adjusted by 3d. per score deadweight.

NOTE: Quality premiums have been discontinued from 27th March, 1967.

FLEXIBLE GUARANTEE SCALE 1969-70

TABLE 7.3

Forecast level of certifications (millions)	Adjustment to basic guarantee
12.0 or more but less than 12.3	+ 2s. 9d.
12.3 „ „ 12.6	+ 1s. 9d.
12.6 „ „ 12.9	+ 9d.
12.9 „ „ 14.3	Basic guaranteed price
14.3 „ „ 14.6	— 9d.
14.6 „ „ 14.9	— 1s. 9d.
14.9 „ „ 15.2	— 2s. 9d.

Further adjustment of 1s. 0d. for each complete 0.3 million or part thereof by which the forecast annual level of certifications falls below 12.0 millions or exceeds 15.2 millions.

FATTENING

TABLE 7.4

	Pork Pigs	Cutters	Bacon Pigs	Heavy Pigs
Liveweight at slaughter lbs	140	185	205	260
Deadweight lbs	106	135	151	204
Price per score deadweight s.	50	46	47	40
Food conversion	3.4	3.5	3.7	4.1
Food per pig cwts	3.2	4.6	5.5	8.1
Food cost per cwt. s.	31.5	30.1	29.3	27.1
Period of fattening weeks	15	18	20	23
Output:	- - - - - - - - - - £ per animal - - - - - - - - - -			
Sales	13.2	15.5	17.8	20.4
Less value of weaners	6.0	6.0	6.0	6.0
GROSS OUTPUT	7.2	9.5	11.8	14.4
Variable costs:				
Concentrates	5.0	6.9	8.1	11.0
Miscellaneous	0.4	0.5	0.6	0.6
Total	5.4	7.4	8.7	11.6
GROSS MARGIN per head	1.8	2.1	3.1	2.8

PRIMARY SOURCE: Ridgeon, R. F. *Cambridge Pig Management Scheme*, Farm Ecomonics Branch, Department of Land Economy, University of Cambridge, 1968.

RETURNS PER PIG AT DIFFERING PRICES PER SCORE AND DEADWEIGHTS

TABLE 7.5 £ per pig

Price per score d.c.w.	Weight per pig (score d.c.w.)							
	3	4	5	6	7	8	9	10
Shillings								
39	5.9	7.8	9.8	11.7	13.7	15.6	17.6	19.5
40	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
41	6.2	8.2	10.3	12.3	14.4	16.4	18.5	20.5
42	6.3	8.4	10.5	12.6	14.7	16.8	18.9	21.0
43	6.5	8.6	10.8	12.9	15.1	17.2	19.4	21.5
44	6.6	8.8	11.0	13.2	15.4	17.6	19.8	22.0
45	6.8	9.0	11.3	13.5	15.8	18.0	20.3	22.5
46	6.9	9.2	11.5	13.8	16.1	18.4	20.7	23.0
47	7.1	9.4	11.8	14.1	16.5	18.8	21.2	23.5
48	7.2	9.6	12.0	14.4	16.8	19.2	21.6	24.0
49	7.4	9.8	12.3	14.7	17.2	19.6	22.1	24.5
50	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0
51	7.7	10.2	12.8	15.3	17.9	20.4	23.0	25.5
52	7.8	10.4	13.0	15.6	18.2	20.8	23.4	26.0

d.c.w=Dressed carcase weight.

EGG PRODUCTION

GUARANTEED PRICE TO BRITISH EGG MARKETING BOARD

TABLE 7.6

1968-69	1969-70
3s. 6.26d. per dozen related to a feed price of 35s. 3d. per cwt.	3s. 6.07d. Feed price calculation discontinued

Standard Quantity. Introduced for 1969/70 at 651 million dozen eggs.

EGG PRODUCTION

TABLE 7.7

Production: Eggs per bird	228
	£ per 100 birds
Output:	
Sales (at 2s. 7d. per dozen)(1)	245
Cull birds	15
	260
Less purchase of day old chicks	20
GROSS OUTPUT	240
Variable costs:	
Foods: rearing compounds	34
laying compounds(2)	161
Miscellaneous	11
Total	206
GROSS MARGIN(3)	34

NOTES (1) Average, including ten per cent second quality and extra small.
(2) 100 lbs. per bird at £36 per ton.
(3) Rearing and laying combined.

EGG PRODUCTION

RETURNS PER 100 BIRDS AT DIFFERING PRODUCTION PER BIRD AND PRICE PER DOZEN

TABLE 7.8 £ per 100 birds

Eggs per bird	Price per dozen						
	2s. 6d.	2s. 7d.	2s. 8d.	2s. 9d.	2s. 10d.	2s. 11d.	3s. 0d.
160	167	172	178	183	189	194	200
180	188	194	200	206	213	219	225
200	208	215	222	229	236	243	250
220	229	237	244	252	260	267	275
240	250	258	267	275	283	292	300
260	271	280	289	298	307	316	325
280	292	301	311	321	331	340	350
300	312	323	333	344	354	365	375

TABLE BIRDS

TABLE 7.9 £ per 100 birds

	Broilers	Capons	Turkeys
Output:			
Sales[1]	27.5	112.5	225.0
Less purchases	7.0	7.0	40.0
GROSS OUTPUT	20.5	105.5	185.0
Variable costs:			
Concentrates[2]	16.9	60.3	109.2
Miscellaneous	1.7	2.1	30.0
Total	18.6	62.4	139.2
GROSS MARGIN	1.9	43.1	45.8

NOTES (1) Broilers: Sold at 3.8 lb. liveweight.
Capons: Sold at 9 lb. liveweight.
Turkeys: Sold at 12 lb. deadweight

(2) Broilers: 9 lb. per bird.
Capons: 40 lb. per bird.
Turkeys: 60 lb. per bird.

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