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EAST OF SCOTLAND COLLEGE OF AGRICULTURE

Economics Department

PROFITABILITY OF FARMING IN SOUTH-EAST SCOTLAND 1967/8

Bulletin 92

July 1969

Acknowledgments

More than 200 farmers provided the information on which this report is based and thanks are due to them and in many cases, their accountants for the service which they render to the department and to the industry as a whole.

Several members of the department have been concerned in the collection, analysis and preparation of the data. A major part of the field work was undertaken by Messrs. W. B. Duthie and J. A. Maclennan with assistance from J. L. Anderson, M. I. Webster and P. C. Martin. Miss W. G. Gibson and the clerical staff were responsible for the analysis of the information. Messrs. Duthie, Maclennan and Anderson prepared the commentary on the group results.

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CONTENTS

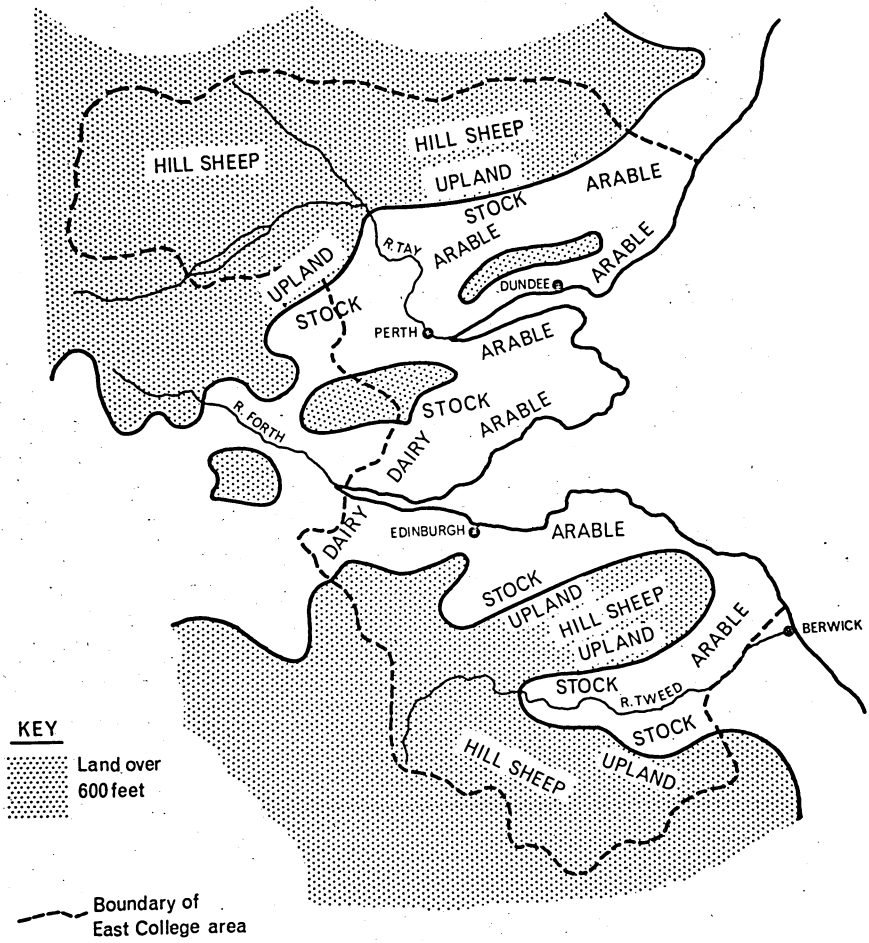
FOREWORD

In previous years, the financial results of the main types of farming in South East Scotland have been published in three separate reports. It is felt that by including all groups in a single publication, a better impression can be obtained of the overall profitability of farming in the area and, in addition, certain comparisons between the groups can be made.

Reports on farming profitability are of interest not only to the group of farmers who co-operated in the survey but also to many other people who, in one way or another, are concerned with the agricultural industry. Unfortunately, it is seldom possible to satisfy all the requirements of this varied readership whilst at the same time achieving a clear and concise presentation of the information. The term "profit" means different things to different people and misinterpretation is bound to occur unless accounting procedures and terminology are carefully defined. This however can make for very tedious reading. The compromise that is adopted in this and similar reports is to present the information in a standard form, relegating detailed discussion on terms and procedures to an appendix, with the hope that readers will check to see how the definitions used differ from their own concept of profit, output etc.

R. F. Lord
Head of Economics Department

TYPES OF FARMING IN SOUTH-EAST SCOTLAND



Introduction

The samples used in surveys of farming profitability are frequently criticised on the grounds that not only are they too small but also they are not representative of the area from which they are drawn. Seldom however is any definition of representativeness put forward. Obviously the sample should include the major types of farming in the area with small and large farms being represented. It might also be considered important to have a range of age and ability amongst the farmers, but this raises the problem of how the latter characteristic should be assessed. Co-operation in surveys is, in any case, on a voluntary basis and whilst some selection is possible, particularly as far as farming type is concerned, the occurrence of other factors is largely a matter of chance. Nevertheless, by directing attention to the results obtained by the same farmers over a number of years, a useful indication of trends in profitability can be obtained.

More than 200 farmers co-operate in the survey, but this report is based on 162 farms for which information is available for each of the three years 1965/6, 1966/7 and 1967/8.

They have been grouped into five main types of farming - Hill Sheep, Stock-Rearing, Stock-Raising and Feeding, Arable and Dairy - and a description of each precedes the detailed discussion of results. The farms in some groups such as Hill Sheep and Arable tend to be concentrated geographically, but the remainder are scattered throughout the area. Fig. 1 opposite shows that the east of the region is devoted mainly to arable farming with some dairying, whilst in the west, where much of the land is more than 600' above sea level, livestock rearing predominates.

Factors Influencing the Profitability of Farming

(a) Weather conditions

Inevitably the individual farmer regards climate as one of the main factors with which he has to contend. However, it is not easy to assess the effect that weather has on the overall profitability of different types of farming. Often severe weather at one stage of the season may be offset by more favourable conditions later on and, even where crop and livestock yields are reduced because of bad weather, there may be a compensating increase in prices. On arable farms, the weather risk has been reduced considerably in recent years by the introduction of large capacity machinery and, for the livestock farmer, similar benefits may be derived from the winter housing of stock. The management decision of how much to spend on bigger machines or new buildings as an insurance against weather does, of course, remain with us.

It is perhaps sufficient to say that according to the annual review of the weather published in the 'Scotsman', 1965 was notable for ' a very cool, wet summer - the rainiest since 1950', 1966 was a 'cold, windy, wet, dull year' whilst 1967, particularly for the east of Scotland, was a year of 'mainly dry and sunny weather'.

(b) Crop yields

In view of the importance of arable farming in south east Scotland, crop yields are obviously a significant factor determining overall profitability. Table I shows the average yields for Scotland in 1965, 1966 and 1967.

TABLE I : Average Yields per Acre - Scotland

	1965	1966	1967
Wheat	32.4 cwts	31.7 cwts	39.8 cwts
Barley	30.9 cwts	27.7 cwts	32.5 cwts
Oats	22.4 cwts	22.4 cwts	23.9 cwts
Potatoes	8.7 tons	8.8 tons	10.2 tons
Sugar beet	11.2 tons	11.1 tons	13.7 tons

Source - Scottish Agricultural Economics.

In 1967, yields for all crops were well above average and for cereals and potatoes were the highest yet recorded.

(c) Prices and costs

Attention is focussed on the level of prices and costs in the spring of each year when the Price Review negotiations take place.

The variation in the guaranteed price for certain commodities is shown in Table 2.

TABLE 2 : Guaranteed Prices 1965/6 - 1967/8

Commodity	1965/6	1966/7	1967/8
Barley (per cwt)	25s.4d.	25s.4d.	24s.9d.
Potatoes (per ton)	285s.	290s.	290s.
Fat cattle (per live cwt)	174s.	184s.	189s.
Fat sheep (per lb d.c.w.)	3s.2d.	3s.2¾d.	3s.3¾d.
Milk (average per gal)	3s.5.85d.	3s.6.35d.	3s.7.66d.

Source : Annual Review White Papers.

For the individual farmer, however, the price actually received depends on quality, time of marketing and the operation of the standard quantity arrangements. Moreover, for the farmer selling store livestock, prices are likely to be influenced to a greater extent by seasonal fluctuations in supply and demand.

As far as costs are concerned, it is not surprising that most publicity is given to increases in the minimum wage rates in view of the importance of labour in total farm expenditure. The average statutory minimum wages for certain categories of worker are shown in the following table:-

TABLE 3 : Statutory Minimum Wage Rates 1965/6 - 1967/8

	1965/6	1966/7	1967/8	Increase over 3 yrs
	Shs. per week			%
Shepherds	236/9d	249/9d	261/6d	10.4
Stockmen	231/9d	244/9d	256/6d	10.7
Tractormen	220/5d	232/3d	243/5d	10.4

Source : Scottish Agricultural Economics Nos. 18 and 19

These increases do not affect all farmers to the same extent. A farmer employing no labour may merely note that his own work is now more highly valued by the rest of the community. One currently paying his men above the minimum rates will have to decide whether to pay more than the recommended increase in order to maintain the differential.

Later discussion of the group results will show that, in practice, cost increases are offset to some extent by greater efficiency (i.e. using less of the input than previously) and by substituting one input for another (i.e. machinery instead of labour).

There is a danger that concentration on the absolute level of costs and prices will divert attention from the importance of the ratio between them. In the three year period, 1965-67 (inclusive) the price of milk rose proportionately more than the cost of dairy concentrates and hence the milk : feed price ratio moved in favour of the dairy farmer.

(d) Production grants

The level of the production grants is of particular concern to farmers in the hill and upland areas of south east Scotland. The main changes during the three years are shown in Table 4.

TABLE 4 : Production Grants 1965 - 1967

Subsidy	1965	1966	1967
Hill cow (per cow)	£13	£13	£14.5s.
Beef cow (per cow)	-	£6.10s.	£7.10s.
Hill sheep (per ewe)			
- self maintained flocks	18/-	19/-	21/-
Upland sheep (per ewe)	-	-	10/6d.*
Winter keep: per acre**	£2.10s-£5 +2/- per hill ewe	£2.10s-£5 + 2/- per hill ewe	£2.10s-£5 + 2/- per hill ewe
OR			
per head	-	-	£5 per hill cow + 3/6d per hill or Upland ewe
Calf rearing (per calf)			
- heifers	£8	£8	£9
- steers	£10.5s.	£10.5s.	£11.5s.

*On hill cow subsidy land, irrespective of breed or cross of sheep.

**Of eligible crops.

Source : Annual Review White Papers.

The upland farmer benefited from the introduction of the beef cow and more particularly the upland sheep subsidies during this period. For the hill farmer there were increases in the hill cow, hill sheep and calf rearing subsidies ranging from 10-15%.

The Types of Farming

Hill Sheep Farms

Hill farms deriving their income mainly from store sheep and wool, with some sales of cattle. Farms and in-bye land lie at an elevation of between 750 - 2000' and are all eligible for the hill cow and hill sheep subsidies.

Divided into two groups:-

(a) North of the Forth

Farms in Perth and Angus. Average size over 3,500 acres, with steep, rocky, heather clad hills. Pure bred Blackface sheep. Ewe hoggs away-wintered.

(b) South of the Forth

Farms mainly in Roxburgh, Peebles and Selkirk. Average size about 2,200 acres. Hills smoother and more grassy than in the North. Both Blackface and South Country Cheviot sheep bred pure. Ewe hoggs mostly wintered at home.

Stock-Rearing Farms

Upland farms deriving their income in varying proportions from the sale of store cattle, sheep and crops. Farms widely scattered on the slopes of the hill areas at an elevation of between 350-750'. A large proportion are eligible for the hill cow and hill sheep subsidies. Divided into two groups (a) North of the Forth and (b) South of the Forth. On the farms in the north which average 500 acres, cattle are more important than sheep whilst in the south, where the average farm size is over 900 acres, the position is reversed.

Stock-Raising and Feeding Farms

Lowland farms, averaging about 300 acres in size, scattered throughout the area. Income derived from the sale of cattle and sheep, (both store and fat) and crops, in approximately equal proportions.

Arable Farms

Lowland farms specialising in the production of cereals, potatoes and sugar beet but with a substantial income also from fat cattle. Located mainly in East Lothian, Fife and Angus with an average farm size of 300 acres.

Dairy Farms

Lowland farms having dairying as the major enterprise. Divided into two groups:-

(a) Dairy/Arable

Farms mainly over 300 acres in size more than half of which is cropped with cereals and potatoes. The addition of a substantial dairy enterprise results in a high level of output.

(b) Specialist Dairy

Small family farms averaging 65 acres mainly located in West Lothian and Peeblesshire, producing milk and store cattle.

The Layout of the Financial Results

For each type of farming, results are presented in the following order:-

A. Summary of the cropping and stocking, financial results and investment in tenants' capital for 1967/8.

B. The financial results per farm for the same farms, for the three years 1965/6, 1966/7 and 1967/8.

C. The financial results per 100 acres (or per 100 ewes in the case of the Hill Sheep farms) for the same farms, for the three years 1965/6, 1966/7 and 1967/8.

D. Commentary on the results.

Whilst the results in section B give a better idea of the level of output, costs and net farm income obtained on the average farm business in each group, comparison between groups or between an individual farm and the appropriate group is only possible if the results per 100 acres in section C are used.

Unfortunately the variation in the quality in land is so great in the Hill Sheep group that comparison on the 'per acre' basis would be meaningless. The alternative of 'per 100 ewes' is chosen as it is a measure of size that is more obvious to the farmer than per '£100 Capital'.

On the Stock-Rearing farms where the proportion of rough grazing to permanent and rotational grassland varies considerably from one farm to another, it has been necessary to base comparison on 'per 100 adjusted acres'. The process of adjustment is explained in the Appendix.

GROUP I

HILL SHEEP - NORTH OF FORTH

1. HILL SHEEP
(NORTH OF FORTH)

A. No. of farms 11

Summary of Cropping and Stocking 1967/8

Cropping	Acres per farm	%	Livestock	No. per farm
Tillage	30	1	Cows	37
Grassland	91	2	Other cattle	19
Rough grazing	3546	97	Ewes	862
Total	3667	100	Other sheep	249

Summary of Financial Results in 1967/8.

	Per farm £	Per 100 ewes £
Gross output	8369	1018
Costs	5810	707
NET FARM INCOME	2559	311
Less farmers' labour	740	90
Management & investment income	1819	221

Tenants' Capital Investment 1967/8

	Per farm £	Per 100 ewes £
Cattle	2637	321
Sheep	5642	686
Crops and produce	863	104
Machinery	1997	243
Total	11139	1354

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	1768	1782	2099
Sheep	5261	4372	5485
Pigs, poultry etc.	61	61	53
Total livestock	7090	6215	7637
Other	614	628	732
Gross output	7704	6843	8369
Costs			
(i) Variable:			
Purch.: feed	1440	1541	1584
" seed	94	94	127
Fertilisers	395	373	372
Other	396	488	436
	2325	2496	2519
(ii) Fixed:			
Labour	1201	1225	1259
Power costs	805	849	794
Rent and rates	536	526	523
Other	845	765	715
	3387	3365	3291
Total costs	5712	5861	5810
NET FARM INCOME	1992	982	2559
Less farmers' labour	664	711	740
Management & investment income	1328	271	1819

Average farm size = 3,667 acres

Carrying 862 ewes

HILL SHEEP
(NORTH OF FORTH)

C. Financial Results

	Per 100 ewes		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	224	223	255
Sheep	665	546	667
Pigs, poultry etc.	8	8	7
Total livestock	897	777	929
Other	78	78	89
Gross output	975	855	1018
Costs			
(i) Variable:			
Purch.: feed	182	192	192
" seed	12	12	16
Fertilisers	50	47	45
Other	50	61	53
	294	312	306
(ii) Fixed:			
Labour	152	153	153
Power costs	102	106	97
Rent and rates	68	66	64
Other	107	95	87
	429	420	401
Total costs	723	732	707
NET FARM INCOME	252	123	311
Less farmers' labour	84	89	90
Management & investment income	168	34	221

1. HILL SHEEP
(NORTH OF FORTH)

D. Commentary on Results

Compared with hill farms in other parts of Great Britain, these are large farms whether measured in terms of acreage, stock numbers or capital investment. Although sheep provide the main source of income, cattle are also important and this gives somewhat more flexibility than is normal on this type of farm.

Net farm income rose appreciably in 1967/8, from the very low level of the previous year and at £2,559, was more than 25% higher than in 1965/6.

Fluctuations in net farm income can be largely explained in terms of (a) lambing percentage, (b) proportion of lambs sold store and fat, and (c) market prices for livestock. These have varied in the last 3 years, as follows:-

		1965/6	1966/7	1967/8
Total number of lambs and ewes sold per farm*		634	588	662
% of lambs sold	- store	53	49	46
	- fat	47	51	54
		£	£	£
Market prices (per head)	- store lambs	4.2	3.95	4.25
	- fat " (incl. D.P.)	4.95	5.0	5.55
	- suckled calves	40.6	33.0	41.0
	- store cattle	56.2	53.4	46.8

*This gives a rough measure of lambing percentage, where flock size is fairly constant.

Total costs have not varied much in the last three years and, in relation to the number of sheep carried, have actually fallen slightly. Indeed there is a very limited scope on hill farms for reducing costs and improvement in farm income must come mainly from increased output.

GROUP 2

HILL SHEEP - SOUTH OF FORTH

2. HILL SHEEP
(SOUTH OF FORTH)

A. No. of farms 25

Summary of Cropping and Stocking 1967/8.

Cropping	Acres per farm	%	Livestock	No. per farm
Tillage	12	.5	Cows	29
Grassland	78	3.5	Other cattle	24
Rough grazing	2154	96	Ewes	1058
Total	2244	100.0	Other sheep	270

Summary of Financial Results in 1967/8

	Per farm	Per 100 ewes
	£	£
Gross output	7114	693
Costs	5450	531
NET FARM INCOME	1664	162
Less farmers' labour	340	33
Management & investment income	1324	129

Tenant's Capital Investment 1967/8

	Per farm	Per 100 ewes
	£	£
Cattle	2277	222
Sheep	8176	796
Crops and produce	229	22
Machinery	1471	143
Total	12153	1183

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	1401	1446	1342
Sheep	5052	4956	5284
Pigs, poultry etc.	52	41	39
Total livestock	6505	6443	6665
Other	426	423	449
Gross output	6931	6866	7114
Costs			
(i) Variable:			
Purch.: feed	812	807	885
" seed	43	49	56
Fertilisers	150	206	172
Other	284	304	347
	1289	1366	1460
(ii) Fixed:			
Labour	2193	2211	2155
Power costs	604	581	661
Rent and rates	577	587	590
Other	636	707	584
	4010	4086	3990
Total costs	5299	5452	5450
NET FARM INCOME	1632	1414	1664
Less farmers' labour	295	316	340
Management & investment income	1337	1098	1324

Average farm size = 2,244 acres

Carrying 1,058 ewes

2. HILL SHEEP
(SOUTH OF FORTH)

C. Financial Results

	Per 100 ewes		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	137	140	131
Sheep	493	482	514
Pigs, poultry etc.	5	4	4
Total livestock	635	626	649
Other	41	41	44
Gross output	676	667	693
Costs			
(i) Variable:			
Purch.: feed	79	78	86
" seed	4	5	5
Fertilisers	15	20	17
Other	28	30	34
	126	133	142
(ii) Fixed:			
Labour	214	215	210
Power costs	59	56	65
Rent and rates	56	57	57
Other	62	69	57
	391	397	389
Total costs	517	530	531
NET FARM INCOME	159	137	162
Less farmers' labour	29	31	33
Management & investment income	130	106	129

2. HILL SHEEP
(SOUTH OF FORTH)

D. Commentary on Results

Hill farms south of the Forth are smaller than those in the north but better quality grazing and the smaller size of the South Country Cheviot ewe, enables more sheep to be carried.

Net farm income is, on average, considerably lower than in the north but, as there are fewer working farmers, the charge for farmers' labour is less and over the three years, the average management and investment income is approximately the same.

Variation in the main factors influencing net farm income was, as follows:-

		1965/6	1966/7	1967/8
Lambing percentage		91%	83%	86%
% of lambs sold	- store	82	71	67
	- fat	18	29	33
		£	£	£
Market prices (per head)	- store lambs	3.8	3.45	3.6
	- fat " (incl.D.P.)	4.5	4.5	4.9
	- suckled calves	35.4	30.3	31.8
	- store cattle	52.0	51.8	57.5

Store lamb prices remain of critical importance, although a larger proportion of lambs are now being sold fat. Prices obtained are appreciably lower than in the north due to the predominance of the smaller South Country Cheviot Sheep.

There has been little variation in either fixed or variable costs during the three year period. In contrast to the farms in the north, feed costs are lower because ewe hoggs are mostly wintered at home, whilst labour costs are higher to compensate for the fact that there are fewer working farmers.

GROUP 3

STOCK-REARING - NORTH OF FORTH

3. STOCK-REARING
(NORTH OF FORTH)

A. No. of farms 12

Summary of Cropping and Stocking 1967/8

Cropping	Acres per farm	%	Livestock	No. per farm
Cereals	43	10	Cows	53
Other tillage	23	4	Other cattle	47
Grassland	154	32	Ewes	220
Rough grazing	253	54	Other sheep	56
Total	473	100		

Equivalent to 228 adjusted acres

Summary of Financial Results in 1967/8

	Per farm	Per 100 adj. acres
	£	£
Gross output	7577	3405
Costs	5658	2543
NET FARM INCOME	1919	862
Less farmers' labour	870	391
Management & investment income	1049	471

Tenant's Capital Investment 1967/8

	Per farm	Per 100 adj. acres
	£	£
Cattle	3891	1749
Sheep	1650	741
Crops and produce	1302	585
Machinery	2540	1141
Total	9383	4216

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	3390	3147	3507
Sheep	1825	1617	2009
Pigs, poultry etc.	181	113	110
Total livestock	5396	4877	5626
Crops	1674	1568	1660
Other	341	312	291
Gross output	7411	6757	7577
Costs			
(i) Variable:			
Purch.: feed	715	798	692
" seed	219	285	181
Fertilisers	626	730	670
Other	319	345	355
	1879	2158	1898
(ii) Fixed:			
Labour	1716	1595	1508
Power costs	978	1056	1062
Rent and rates	434	455	505
Other	763	733	685
	3891	3839	3760
Total costs	5770	5997	5658
NET FARM INCOME	1641	760	1919
Less farmers' labour	792	839	870
Management & investment income	849	-79	1049

Average farm size = 473 acres

228 adjusted acres

3. STOCK-REARING
(NORTH OF FORTH)

C. Financial Results

	Per 100 adj. acres		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	1446	1379	1576
Sheep	778	709	903
Pigs, poultry etc.	77	50	49
Total livestock	2301	2138	2528
Crops	714	687	746
Other	145	137	131
Gross output	3160	2962	3405
Costs			
(i) Variable:			
Purch.: feed	305	350	311
" seed	93	125	82
Fertilisers	267	320	301
Other	136	151	159
	801	946	853
(ii) Fixed:			
Labour	732	699	678
Power costs	417	463	478
Rent and rates	185	199	227
Other	325	322	307
	1659	1683	1690
Total costs	2460	2629	2543
NET FARM INCOME	700	333	862
Less farmers' labour	338	367	391
Management & investment income	362	-34	471

3. STOCK-REARING
(NORTH OF FORTH)

D. Commentary on Results

Being lower down the hills, these farms are able to grow a proportion of cereals and food crops and, this, together with substantial cattle enterprises, results in a gross output which is very similar to that obtained on the larger hill sheep farms.

The recovery of net farm income in 1967/8 from the low level of the previous year was due mainly to the marked improvement in store and fat lamb prices. At the same time, a greater proportion of lambs were sold fat.

		1965/6	1966/7	1967/8
Total number of lambs and ewes sold per farm*		359	322	344
% of lambs sold	- store	48	45	40
	- fat	52	55	60
		£	£	£
Market prices (per head)	- store lambs	5.9	5.45	5.85
	- fat " (incl.D.P.)	5.5	5.45	6.25
	- suckled calves	43.2	38.9	44.2
	- store cattle	56.7	56.1	57.6

*This gives a rough measure of lambing percentage, where flock size is fairly constant.

Costs have not varied to any marked extent, although there has been a steady decline in labour costs, even when the greater allowance for the farmers' manual work is taken into account.

GROUP 4

STOCK-REARING - SOUTH OF FORTH

4. STOCK-REARING
(SOUTH OF FORTH)

A.

No. of farms 17

Summary of Cropping and Stocking 1967/8

Cropping	Acres per farm	%	Livestock	No. per farm
Cereals	66.5	7.5	Cows	49
Other tillage	32	3.5	Other cattle	55
Grassland	274.5	30	Ewes	592
Rough grazing	541	59	Other sheep	151
Total	914.0	100.0		

Equivalent to 392 adjusted acres

Summary of Financial Results in 1967/8

	Per farm	Per 100 adj. acres
	£	£
Gross output	10500	2698
Costs	9737	2502
NET FARM INCOME	763	196
Less farmers' labour	547	141
Management & investment income	216	55

Tenant's Capital Investment 1967/8

	Per farm	Per 100 adj. acres
	£	£
Cattle	4042	1039
Sheep	5710	1467
Crops and produce	1791	460
Machinery	3460	889
Total	15003	3855

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	2732	2879	3354
Sheep	5099	4732	4947
Pigs, poultry etc.	116	94	84
Total livestock	7947	7705	8385
Crops	1464	1732	1720
Other	495	459	395
Gross output	9906	9896	10500
Costs			
(i) Variable:			
Purch.: feed	932	1046	1217
" seed	359	295	371
Fertilisers	745	739	821
Other	520	634	613
	2556	2714	3022
(ii) Fixed:			
Labour	3160	3140	3201
Power costs	1418	1553	1593
Rent and rates	674	714	701
Other	1019	1052	1220
	6271	6459	6715
Total costs	8827	9173	9737
NET FARM INCOME	1079	723	763
Less farmers' labour	503	538	547
Management & investment income	576	185	216

Average farm size = 914 acres

392 adjusted acres

4. STOCK-REARING
(SOUTH OF FORTH)

C. Financial Results

	Per 100 adj. acres		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	697	731	862
Sheep	1301	1201	1271
Pigs, poultry etc.	30	24	22
Total livestock	2028	1956	2155
Crops	373	440	442
Other	126	116	101
Gross output	2527	2512	2698
Costs			
(i) Variable:			
Purch.: feed	238	266	313
" seed	91	75	95
Fertilisers	190	187	211
Other	133	161	158
	652	689	777
(ii) Fixed:			
Labour	806	797	823
Power costs	362	395	409
Rent and rates	172	181	180
Other	260	267	313
	1600	1640	1725
Total costs	2252	2329	2502
NET FARM INCOME	275	183	196
Less farmers' labour	128	137	141
Management & investment income	147	46	55

4. STOCK-REARING
(SOUTH OF FORTH)

D. Commentary on Results

These farms are appreciably larger than the ones in the north area having not only 70% more land (in terms of the adjusted acreage) but also 60% more tenants' capital investment. In spite of this, the net farm income was significantly lower in two of the three years and deduction of the charge for farmers' labour resulted in a very small return for management and investment.

The main factors influencing cattle and sheep output were, as follows:-

		1965/6	1966/7	1967/8
Lambing percentage		132%	124%	129%
% of lambs sold	- store	66	58	51
	- fat	34	42	49
		£	£	£
Market prices (per head)	- store lambs	6.4	5.9	6.05
	- fat " (incl.D.P.)	6.3	6.3	6.5
	- suckled calves	45.3	38.4	41.9
	- store cattle	48.9	51.5	56.7

Small improvements in lambing percentage, proportion of lambs sold fat and all livestock prices led to an increase in gross output. In relation to the size of the farm however, output was about 25% lower than on farms in the north. Costs, which increased significantly in 1967/8, were very similar and consequently, an inadequate net farm income remained.

GROUP 5

STOCK-RAISING AND FEEDING

5. STOCK-RAISING AND FEEDING

A. No. of farms 19

Summary of Cropping and Stocking 1967/8

Cropping	Acres per farm	%	Livestock	No. per farm
Cereals	79	26	Cows	28
Other tillage	19	6	Other cattle	54
Grassland	159	52	Ewes	205
Rough grazing	50	16	Other sheep	52
Total	307	100		

Summary of Financial Results in 1967/8

	Per farm £	Per 100 acres £
Gross output	8601	2799
Costs	6907	2248
NET FARM INCOME	1694	551
Less farmers' labour	698	227
Management & investment income	996	324

Tenant's Capital Investment 1967/8

	Per farm £	Per 100 acres £
Cattle	3798	1236
Sheep	2210	719
Crops and produce	2088	680
Machinery	3655	1189
Total	11751	3824

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	2513	2759	3146
Sheep	3004	2490	2488
Pigs, poultry etc.	129	154	174
Total livestock	5646	5403	5808
Crops	2364	2447	2698
Other	146	166	95
Gross output	8156	8016	8601
Costs			
(i) Variable:			
Purch.: feed	1182	1106	949
" seed	380	317	303
Fertilisers	643	667	736
Other	393	356	388
	2598	2446	2376
(ii) Fixed:			
Labour	2077	1948	1883
Power costs	1244	1144	1234
Rent and rates	576	611	607
Other	642	766	807
	4539	4469	4531
Total costs	7137	6915	6907
NET FARM INCOME	1019	1101	1694
Less farmers' labour	551	678	698
Management & investment income	468	423	996

Average farm size = 307 acres

C. Financial Results

	Per 100 acres		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	816	897	1024
Sheep	976	810	809
Pigs, poultry etc.	42	50	57
Total livestock	1834	1757	1890
Crops	768	796	878
Other	48	54	31
Gross output	2650	2607	2799
Costs			
(i) Variable:			
Purch.: feed	384	360	309
" seed	124	103	99
Fertilisers	209	217	239
Other	127	127	141
	844	807	788
(ii) Fixed:			
Labour	675	622	598
Power costs	404	372	401
Rent and rates	187	199	198
Other	209	249	263
	1475	1442	1460
Total costs	2319	2249	2248
NET FARM INCOME	331	358	551
Less farmers' labour	179	221	227
Management & investment income	152	137	324

D. Commentary on Results

These are lowland farms, which compared with the Stock-Rearing farms, derive more of their income from crops and the sale of fatstock.

Net farm income rose by more than 50% in 1967/8 due to the fact that cattle and crop output increased whilst costs remained the same. Higher prices for fat cattle (1965/6 £81, 1966/7 £79 and 1967/8 £90 per head) and better yields of barley were largely responsible for the improvement.

Over the three years, labour costs have declined by nearly 10% whilst power costs are virtually unaltered. In view of the rise in wage rates, over the period, this represents a significant reduction in the amount of labour actually used.

GROUP 6

ARABLE

6. ARABLE

A. No. of farms 56

Summary of Cropping and Stocking 1967/8

Cropping	Acres per farm	%	Livestock	No. per farm
Wheat	24	8	Cows	11
Barley	106	35	Other cattle	57
Oats	17	6	Ewes	56
Potatoes	26	9	Other sheep	19
Sugar beet	8	2		
Other tillage	14	5		
Grassland	106	35		
Total	301	100		

Summary of Financial Results in 1967/8

	Per farm	Per 100 acres
	£	£
Gross output	17097	5686
Costs	12958	4309
NET FARM INCOME	4139	1377
Less farmers' labour	639	213
Management & investment income	3500	1164

Tenants' Capital Investment 1967/8

	Per farm	Per 100 acres
	£	£
Cattle	3954	1315
Sheep	767	255
Pigs and poultry	403	134
Crops and produce	4268	1420
Machinery	6222	2069
Total	15614	5193

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	2751	2826	3339
Sheep	1210	1087	926
Pigs, poultry etc.	978	897	999
Total livestock	4939	4810	5264
Cereals	4267	4894	5724
Potatoes	3219	4120	3995
Sugar beet	720	747	847
Other crops	798	749	1234
Total crops	9004	10510	11800
Other	82	75	33
Gross output	14025	15395	17097
Costs			
(i) Variable:			
Purch.: feed	1527	1452	1305
" seed	796	971	879
Fertilisers	1166	1265	1475
Other	687	649	742
	4176	4337	4401
(ii) Fixed:			
Labour	3824	3870	3888
Power costs	2085	2118	2136
Rent and rates	1017	1070	1141
Other	1283	1352	1392
	8209	8410	8557
Total costs	12385	12747	12958
NET FARM INCOME	1640	2648	4139
Less farmers' labour	599	634	639
Management & investment income	1041	2014	3500

Average farm size = 301 acres

6. ARABLE

C. Financial Results

	Per 100 acres		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	915	938	1110
Sheep	403	361	308
Pigs, poultry etc.	325	297	333
Total livestock	1643	1596	1751
Cereals	1419	1624	1903
Potatoes	1071	1368	1329
Sugar beet	239	248	282
Other crops	266	249	410
Total crops	2995	3489	3924
Other	27	25	11
Gross output	4665	5110	5686
Costs			
(i) Variable:			
Purch.: feed	508	482	434
" seed	265	322	292
Fertilisers	388	420	491
Other	228	216	246
	1389	1440	1463
(ii) Fixed:			
Labour	1272	1285	1294
Power costs	693	702	710
Rent and rates	338	355	379
Other	427	449	463
	2730	2791	2846
Total costs	4119	4231	4309
NET FARM INCOME	546	879	1377
Less farmers' labour	199	210	213
Management & investment income	347	669	1164

6. ARABLE

D. Commentary on Results

1967/8 saw a marked improvement in results on this large group of arable farms. Output from most enterprises was higher and with only a slight increase in costs, this resulted in a net farm income of nearly £14 per acre.

Higher crop yields were largely responsible for the improvement, although in the case of potatoes, these were offset by somewhat lower prices. On some farms in Perth and Angus, vegetables and fruit crops (shown in 'other crops' in the financial results) made a useful contribution to output. In 1967/8, yields were good and also, some fruit came into production for the first time.

Sheep numbers and output have declined steadily over the three year period and this trend is likely to continue as cropping becomes more intensive.

Total labour costs have remained unaltered despite wage increases but there is evidence of more casual and contract work as the number of regular workers declines. The overall effect of increased outputs and constant labour and power costs is shown below:-

	1965/6	1966/7	1967/8
Net output per £100 labour*	£265	£288	£329
Net output per £100 labour* and power	£180	£196	£224

*including farmers' labour

GROUP 7

DAIRY/ARABLE

7. DAIRY/ARABLE

A. No. of farms 8

Summary of Cropping and Stocking 1967/8

Cropping	Acres per farm	%	Livestock	No. per farm
Wheat	30	9	Cows	108
Barley	86	28	Other cattle	61
Potatoes	25	8	Ewes	9
Other tillage	35	11	Other sheep	11
Grassland	136	44		
Total	312	100		

Summary of Financial Results in 1967/8

	Per farm	Per 100 acres
	£	£
Gross output	27328	8764
Costs	22521	7222
NET FARM INCOME	4807	1542
Less farmers' labour	703	225
Management & investment income	4104	1317

Tenants' Capital Investment 1967/8

	Per farm	Per 100 acres
	£	£
Cattle	8192	2627
Sheep	282	90
Pigs and poultry	962	309
Crops and produce	4386	1407
Machinery	9723	3118
Total	23545	7551

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	2796	3193	2729
Sheep	565	512	427
Pigs	1959	2045	1793
Poultry and eggs	1512	1235	1266
Milk	11840	12476	12891
Total livestock	18672	19461	19106
Cereals	4150	3887	4446
Potatoes	3029	3294	3161
Other crops	460	704	593
Total crops	7639	7885	8200
Other	65	45	22
Gross output	26376	27391	27328
Costs			
(i) Variable:			
Purch.: feed	6192	5783	6328
" seed	861	1193	924
Fertilisers	1426	1314	1458
Other	743	842	1292
	9222	9132	10002
(ii) Fixed:			
Labour	6331	6121	5949
Power costs	3571	3743	3403
Rent and rates	1214	1264	1328
Other	1701	1932	1839
	12817	13060	12519
Total costs	22039	22192	22521
NET FARM INCOME	4337	5199	4807
Less farmers' labour	628	676	703
Management & investment income	3709	4523	4104

Average farm size = 312 acres

7. DAIRY/ARABLE

C. Financial Results

	Per 100 acres		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	899	1023	875
Sheep	182	164	137
Pigs	629	655	575
Poultry and eggs	486	396	406
Milk	3806	3997	4134
Total livestock	6002	6235	6127
Cereals	1334	1245	1426
Potatoes	973	1055	1014
Other crops	148	226	190
Total crops	2455	2526	2630
Other	21	15	7
Gross output	8478	8776	8764
Costs			
(i) Variable:			
Purch.: feed	1990	1853	2029
" seed	277	382	296
Fertilisers	458	421	468
Other	239	270	414
	2964	2926	3207
(ii) Fixed:			
Labour	2035	1961	1908
Power costs	1148	1199	1092
Rent and rates	390	405	426
Other	547	619	589
	4120	4184	4015
Total costs	7084	7110	7222
NET FARM INCOME	1394	1666	1542
Less farmers' labour	202	217	225
Management & investment income	1192	1449	1317

D. Commentary on Results

This is a small group of farms operated at a very high level of intensity. Although nearly 60% of the land is cropped, dairy herds of over 100 cows are also carried and it is not surprising that tenants' capital investment, at £75 per acre, is nearly 50% greater than on the arable farms.

Net farm income was in the region of £5000 in the two latter years and provided a satisfactory return to the farmer for his labour, management and investment.

Milk sales rose steadily over the period, accounting for nearly half of gross output in 1967/8. Output per cow is shown below. Considering the size of herd, this represents an extremely high standard of management.

		1965/6	1966/7	1967/8
Output per cow	£	159	163	167
" " "	gallons	966	976	978

There was evidence that the degree of specialisation was increasing and, during the three years, output from sheep, pigs and poultry decreased by over 13%. As on the arable farms crop output benefited in 1967/8 from higher yields obtained.

Considering the size of business, costs showed remarkably little fluctuation, with several small increases being offset by a 5% reduction in labour and power costs.

GROUP 8

SPECIALIST DAIRY

8. SPECIALIST DAIRY

A. No. of farms 14

Summary of Cropping and Stocking 1967/8

Cropping	Acres per farm	%	Livestock	No. per farm
Tillage	12	19	Cows	29
Grassland	53	81	Other cattle	20
Total	65	100		

Summary of Financial Results in 1967/8

	Per farm	Per 100 acres
	£	£
Gross output	4281	6618
Costs	3380	5225
NET FARM INCOME	901	1393
Less farmers' labour	872	1348
Management & investment income	29	45

Tenants' Capital Investment 1967/8

	Per farm	Per 100 acres
	£	£
Cattle	2242	3466
Other livestock	92	142
Crops and produce	399	617
Machinery	1500	2320
Total	4233	6545

B. Financial Results

	Per farm		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	769	632	788
Milk	2637	2780	3069
Other stock	290	242	143
Total livestock	3696	3654	4000
Crops etc.	309	347	281
Gross output	4005	4001	4281
Costs			
(i) Variable:			
Purch.: feed	1421	1396	1409
" seed	75	90	68
Fertilisers	214	243	264
Other	182	248	206
	1892	1977	1947
(ii) Fixed:			
Labour	410	439	371
Power costs	431	528	435
Rent and rates	151	161	177
Other	298	326	450
	1290	1454	1433
Total costs	3182	3431	3380
NET FARM INCOME	823	570	901
Less farmers' labour	800	839	872
Management & investment income	23	-269	29

Average farm size = 65 acres

8. SPECIALIST DAIRY

C. Financial Results

	Per 100 acres		
Gross output	1965/6	1966/7	1967/8
	£	£	£
Cattle	1226	995	1219
Milk	4204	4375	4745
Other	464	382	220
Total livestock	5894	5752	6184
Crops etc.	492	546	434
Gross output	6386	6298	6618
Costs			
(i) Variable:			
Purch.: feed	2265	2197	2178
" seed	120	142	105
Fertilisers	342	383	408
Other	290	389	319
	3017	3111	3010
(ii) Fixed:			
Labour	654	690	574
Power costs	686	832	673
Rent and rates	241	254	273
Other	476	513	695
	2057	2289	2215
Total costs	5074	5400	5225
NET FARM INCOME	1312	898	1393
Less farmers' labour	1275	1321	1348
Management & investment income	37	-423	45

8. SPECIALIST DAIRY

D. Commentary on Results

These are farms which are small in terms of acreage, capital invested and output. Although net farm income was at its highest in 1967/8, after making a reasonable allowance for the farmers' labour, there was virtually nothing remaining as a return for his management and investment.

Milk output rose steadily over the period due to higher prices and an improved performance per cow.

		1965/6	1966/7	1967/8
Output per cow	£	114	118	136
" " "	gallons	720	708	796

In the last two years, costs were relatively static and hence the farmer was provided with an additional income of over £6 per week.

SUMMARY

For most types of farming in south east Scotland, 1967/8 saw a marked improvement in profitability, particularly in comparison with the previous year. The financial results are summarised below:-

Net Farm Income

		1965/6 £	1966/7 £	1967/8 £
	Per 100 ewes			
1.	Hill Sheep (North of Forth)	252	123	311
2.	" " (South of Forth)	159	137	162
	Per 100 adjusted acres			
3.	Stock-Rearing (North of Forth)	700	333	862
4.	" " (South of Forth)	275	183	196
	Per 100 acres			
5.	Stock-Raising & Feeding	331	358	551
6.	Arable	546	879	1377
7.	Dairy/Arable	1394	1666	1542
8.	Specialist Dairy	1312	898	1393

On the livestock farms, improvement resulted from bigger lamb crops and higher prices for sheep and cattle. The arable farms benefited from record crop yields in 1967 and also higher prices for fat cattle.

Whilst better yields and higher prices were responsible for much of the improvement in net farm income, the outstanding feature of the results over the last three years has been the way in which farmers have managed to limit and, in some cases, even reduce total costs.

The table below shows the variation in total costs between 1965/6 and 1967/8, a period when wage rates and the price of fertiliser, fuel and machinery repair work increased by more than 10%.

Total Costs 1967/8 as a percentage of 1965/6

		1965/6	1967/8
1.	Hill Sheep (North of Forth)	100	102
2.	" " (South of Forth)	100	103
3.	Stock-Rearing (North of Forth)	100	98
4.	" " (South of Forth)	100	110
5.	Stock-Raising and Feeding	100	97
6.	Arable	100	104
7.	Dairy/Arable	100	98
8.	Specialist Dairy	100	106

Consequently, with rising output and only a small increase in total costs, some farm types have shown a significant increase in productivity.

In 1967/8 the management and investment income (i.e. the return to the farmer after charging for his manual labour) ranged from £29 per farm on the Specialist Dairy group to £4,104 on the Dairy/Arable group. Obviously, the former is a totally inadequate return for the farmers' management and the capital invested in the business. But is is less easy to say whether the latter figure represents a satisfactory income for someone operating an extremely intensive system of farming. The problem is one of assessing a fair reward for management of this calibre and also, placing a realistic value on the capital invested.

These are topics outside the scope of this report, which are currently receiving attention from agricultural economists.

APPENDIX

Accounting Methods and Terms

VALUATIONS in the farmers' accounts have been modified where necessary so as to give a more realistic picture of the investment in tenants' capital. For example:

(a) Breeding stock included on the Herd Basis have been given values more in line with their actual worth and growing crops have been given values which reflect the value of the inputs of labour, power, seed, manures etc.

(b) Mature crops, produce and stores have been assessed at values which reflect the appropriate market prices or costs.

(c) Implements and equipment have been depreciated at rates based on current Inland Revenue procedure.

OUTPUT of each class of livestock, crop or produce is calculated by subtracting any purchases from the sales. To this sum any increase in the valuations over the year is added, while any decrease is deducted. Any subsidies for stock and crops are added to their respective categories, e.g.:

Gross output of cattle = (sales + cattle subsidies + closing valuation) - (purchases + opening valuation).

COSTS - the items of expenditure have been split into two categories, "variable" and "fixed". The variable costs can be readily allocated to particular enterprises, varying in direct proportion to the scale of operation. The fixed costs cover the remaining expenditure. "Power" includes fuel and repairs which are not readily allocated in practice. Bank interest charges have been excluded.

Where grants or subsidies effectively reduce costs, these have been deducted.

LABOUR - a charge has been included for the labour of the farmer and his wife, based on the following rates if working full time:-

	1965/6	1966/7	1967/8
Farmer	£700	£750	£785
Wife	£450	£480	£480

NET OUTPUT is calculated by deducting the cost of purchased feed and seed from the total gross output. It is a better measure of the output from the farm than gross output.

NET FARM INCOME is the difference between gross output and costs, excluding bank interest charges.

MANAGEMENT AND INVESTMENT INCOME represents the reward to management and the return on tenants' capital invested in the farm, whether borrowed or not. It is calculated by deducting the value of the manual labour of farmer and wife from the net farm income.

TENANTS' CAPITAL as shown in the tables is the average of the opening and closing valuations.

ADJUSTED ACRES are used for the results of the Stock-Rearing farms in order that the figures can be readily compared with the results from the lowground farms. The "adjusted acres" are calculated by dividing the acreage of rough grazing by 8 and the permanent grass by 2.