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Cattle Institution
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NORTH OF SCOTLAND COLLEGE OF AGRICULTURE

AGRICULTURAL ECONOMICS DEPARTMENT

Miscellaneous Report No. 5

SUMMER GRAZING OF CATTLE 1948.

PILOT INVESTIGATION

by

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Aberdeen,
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SUMMER GRAZING OF CATTLE 1948.

During the summer of 1948, an investigation into the cost of keeping store and fat cattle on the grass was carried out. Records were obtained from a number of farmers, and were kept from the date the cattle were put to the grass and continued until the animals were brought inside for the winter, or sold off the farm. Some of the groups of cattle had already been costed during the winter of 1947-48*, and a cost for these groups covering the winter and summer is given at the end of this report.

9 groups of cattle were costed on the grass.

7 of these were put out from the court or byre;

1 was of cattle bought in the spring;

and 1 group was out-wintered during the day and brought inside at night.

All 7 groups carried through the winter were fed on turnips and straw.

2 groups also received hay and in 1 group sugar beet tops were fed.

172 cattle were costed.

The cattle were turned out to grass during the last two weeks of April and the first week of May, and in one case only were any concentrates fed at the beginning of the grazing period. In five groups, where the cattle were $2\frac{1}{2}$ - 3 years old, the animals were fattened on the grass, and graded off the farm by the end of August or beginning of September. The grazing period of the other four groups - store animals of 1-2 years old - extended to mid-October, at which date the animals were tied up inside. On one of these farms, however, the group was sold as store beasts at the end of August.

In every case, other stock were grazing with the cattle costed, necessitating a careful record of the number of grazing days of each type of animal. By use of the table shown below, the number of grazing days for each type of stock was converted to a common unit.

* Miscellaneous Report No. 3. Pilot Investigation - Winter Costs of Feeding Cattle. Economics Department, North of Scotland College of Agriculture.

LIVESTOCK UNIT TABLE

1 Livestock Unit	=	1 Working Horse
	=	2 Young Horse
	=	1 Cow or Bull
	=	2 Young Stock
	=	1 Store or Feeding Cattle
	=	7 Breeding Sheep
	=	14 Other Sheep

In calculating the cost on the individual farm, each field grazed was dealt with separately to ensure an accurate carry forward for residual manurial values. The average grazing cost structure per acre, for the farms is given below to indicate the factors involved.

AVERAGE GRAZING COST PER ACRE

	£. s. d.
Proportion of laying down charge	-.18. 7
Labour - Man, Horse, Tractor	-. -. 2
Manures - applied	1. -. 4
Contract Work	-. -. 3
Rent	1. -. 3
Overhead Costs	-. 9. 6
Cleaning Costs	-. 8.11
Manurial Residues B/F	3.19. 4
Gross Cost	7.17. 4
Less Manurial Residues c/f £2.10. 8	
Hay - 2/3rd cost removed -.13. 7	3. 4. 3
Net Cost per Acre	£4.13. 1

Where hay had been cut and the aftermath grazed, a proportion of the cost had been removed in the Hay. This was taken to be two-thirds of the cost-to-date i.e. two-thirds of the Gross Cost less Manurial Residues carried forward.

No deduction has been made in respect of a residual manurial value for the dung of the grazing animal.

The fields grazed were rotation leas of three or four years duration - except in one case, where a nine year old field and an area of rough grazing were used.

The grazing cost per farm and per Livestock Unit was calculated and hence that amount of grazing chargeable to the cattle group only. The cost of man-labour expended during the period, any miscellaneous expenditure incurred on the cattle, and a charge for overhead costs were added. The following table summarises the average cost per animal per week, together with the individual farm's cost.

TABLE I

Cost of Keeping Cattle - Summer

	Average Cost per Animal per week	Your Cost per Animal per week
Grazing Cost	4/1	
Labour - man	-/2½	
Miscellaneous (includes any supplementary feeding)	-/1½	
Overhead Costs	-/1	
Net Cost per Animal per week	4/6	

The average grazing period per animal was 21 weeks. Supplementary feeding at the start of the grazing period occurred on only one farm, and on the average amounted to a very small amount. For this reason, it has been included in the item - miscellaneous expenditure.

The range of cost was from 1/8 to 9/11½ per animal per week. The greatest charge in this type of costing lies in the cost of grazing, and the figure of 1/8 occurred on the farm where the animals grazed a nine year old lea and some rough grass. As the age of the grass increased manurial residues brought forward from previous years become progressively smaller, thus reducing the cost of grazing per acre. On the other farms, where the age of the grass used was more uniform and also the cost of grazing, it was found that the greatest grazing cost per animal per week occurred where the grass carried the lowest number of livestock units per acre. It might be

deduced from this statement that the grazing cost per animal can be reduced by stocking the grass more heavily and for a longer time. The cost can certainly be reduced by this method, but what of the condition of the grass and the well-being of the cattle? The optimum stock-carrying capacity of his grass must be for each individual farmer to decide. It is important, however, to note that the number of stock on the grass determines the amount of the grazing cost per animal.

The following Table further illustrates this point.

TABLE II

Relationship between Stock Carrying Capacity per Acre and Grazing Cost per Animal

	Average	Your Farm
Number of Livestock Unit Weeks per acre	21.97	
Number of Livestock Units carried per acre	.91	
Grazing Cost per Livestock Unit Week	4/1	

On the farms where the age of the grass was more comparable and therefore also the cost of grazing, the variations were considerable as the following figures indicate:-

	Livestock Unit Weeks per acre	Livestock Units grazed per acre	Grazing Cost per Livestock Unit Week
Highest Grazing Cost	11.36	.50	8/1½
Lowest Grazing Cost	33.03	1.29	3/-

One farm actually had a higher intensity of stocking and grazing, but due to a greater total cost of the grass the charge per livestock unit week was eleven pence in excess of the minimum.

In the nine groups, 172 cattle were involved. The following shows the stock movements:-

Number Graded	64
Number sold as store animals	19
Casualties	2
Carried over to winter 1948/49	87
	172

The analysis of the grading is as follows:-

Super Special	18
Special	33
A+	12
A-	1
Total	64

The standard of those animals graded was fairly high as can be seen by the grading. Four groups graded their cattle, one group was sold as stores, and two groups are carrying their animals over the winter of 1948/49. All these seven groups were costed through the winter of 1947/48 and the summer so that a cost per animal for the year can be found.

For the purpose of the following table, those four groups which graded their cattle have been classed as Feeders and the other three groups as Stores.

TABLE III

Cost of Keeping Cattle - Winter and Summer

	Stores		Feeders	
	Average Cost per animal	Your Cost per animal	Average Cost per animal	Your Cost Per animal
Winter	£6.18.11		£9. 9. 1	
Summer	3.19. 7		4. 6. 8	
Total Cost per Animal	£10.18. 6		£13.15. 9	

It will be seen that it is in the cost for the winter period that the greatest difference lies. The store animals were generally a year younger than those classed as Feeders and so the amount of home grown food used and consumed was much less. The variation in the summer cost is slight and due to individual differences in grazing cost structures. It is not possible to draw any definite conclusion from the above figures but they can be used by the farmer as a "working" basis for arriving at a price to be paid for cattle for fattening. For example, the average price received per animal of those graded off the grass was £50. 8. 7. If the cost for the year be deducted - £13.15.9 - the sum of £36.12.10 is got. Thus, this price would be the maximum which could be paid if the farmer was not to incur a loss.

While store cattle continue to fetch such prices as at present, it is clear that the profit per head, for the farmer engaged in fattening cattle, is very small. On the other hand it would appear that the keeping of young cattle over the winter and summer at a somewhat lower cost than for feeders, and selling them as store beasts off the grass, contains a greater return per head.

It is unfortunate that the sample recorded is so small, but it is hoped that in the investigation now being carried out more information on these points will be obtained.

ACKNOWLEDGMENT.

The Economics Department of the North of Scotland College of Agriculture is grateful to all the farmers who assisted by keeping records and hope that they will again co-operate in the investigation now in progress.

DJGH/DE