Cattle - Cost of production O.S.

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Costs of Fattening Cattle in Yards Winter 1950/51

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Acknowledgement

The Department is very grateful to the farmers whose co-operation has made this report possible. It is earnestly hoped that they and others will continue to provide the information so essential to our work of analysis and research.

T.W.G.

Costs of Fattening Cattle in Yards, Winter 1950-51

This report deals with the costs of fattening cattle during the winter of 1950-51, on sixteen Shropshire farms, and is a continuation of the work undertaken in 1949-50.

It was remarked last year in the course of some general observations on the yard feeding of cattle that certain farmers expressed "occasional misgivings" as to whether this traditional method of maintaining soil fertility should be continued. Four of the farmers who co-operated in 1949/50 gave practical expression to their misgivings in the winter of 1950/51 by adopting alternative practices. On three of the farms the modification of policy has been one of emphasis in so far as the treading of straw has been continued: two farmers have kept store cattle in their yards, and a third has used milking cows. On the fourth farm the break with tradition has been of a more radical nature. Here, the straw from all grain crops has been ploughed in, together with suitable dressings of fertilisers to assist in decomposition. In the place of cattle fattening on this farm, an already considerable pig enterprise has been built up to a strength of 40 breeding sows; the bedding straw for the pigs is all purchased. It is also interesting to note that the whole of this farm is now devoted to tillage crops and that grass has been eliminated from the rotation.

Largely as a result of the changes described above, information relating to the costs of fattening cattle for beef in yards during the winter of 1950/51 has been obtained from only sixteen farms. Fourteen of these farms were also covered by the report for 1949/50. The number of cattle costed for 1950/51 is, however, somewhat larger, at 1350, than for the preceding winter and averages approximately eighty-four beasts per farm.

These sixteen farms average some 300 acres in extent and are primarily concerned with the production of crops for sale, the chief of which - in order of financial importance - are potatoes, sugar beet, barley, and wheat. They do, however, also grow fodder crops for use by livestock on the farm. These home-grown foods indeed, supply the bulk of the ration and account for the greater part of the fodder cost of cattle fattening on the farms concerned. All such home-grown foods have been charged at cost of production. It should be noted, however, that the costs of production attributed to home-grown foods in this

report are obtained from the Milk Costs Investigation, and that they probably err on the high side - for these larger arable farms should have advantages over dairy farms of greater mechanisation and superior technical skill in crop production. A statement of the costs used is given in Appendix I.

The average quantity of each kind of food consumed and the total feeding cost per animal is given for each farm in Appendix II, whilst Appendix III itemises the average costs and returns of fattening. In Appendix IV the average daily rations per beast are given for each farm. The farms are arranged in the same order, of diminishing profit per beast, in all three Appendices.

Costs of Store Cattle

It is the general practice of farmers who fatten cattle during the winter to buy bunches of stores in October, November, and December for immediate entry to the yard; this is true of most of the 1,350 animals involved in this enquiry, of which approximately 30 per cent were imported Irish cattle. Some of the cattle, however, had been bought before October 1950 but these, together with any home-reared animals, were revalued at current market prices when they were put into the yards.

Table I

Numbers, Weights, and Prices of four Types of Store Animals on entering the Yards

Type of Animal	Number	Estimated Liveweight per Animal	Price per animal(a)			Price per live cwt.		
		cwts	£	s	d	£	s	d
Steers	804	10.10	50	19	10	5	0	11
Heifers	433	8.72	42	18	11	4	18	6
Cow Heifers	105	8.78	44	14	11	5	1	11
Cows	8	9.00	40	8	11	5	1	1

(a) Price on farm, including transport if any.

The weight attributed to a store beast on entering the yard is an estimate made by the farmer. Since, however, it is part of his stock-in-trade to make

reasonably good estimates of liveweights, it has been assumed that they may be relied on. Weights, as such, do not enter into the recorded expenses of fattening; but liveweight gains do provide a measure of the relative efficiency of the fattening enterprise (Appendix III). The numbers of the different classes of animals, their estimated weights, and their average cost are summarised in Table I.

Grading Returns

A substantially greater proportion of the fat cattle were graded special or super-special in 1950/51 than in the previous year; the respective proportions being 78 per cent of the steers, against 61 per cent in 1949/50 and 72 per cent of the heifers, against 52 per cent in 1949/50. The proportions placed in each grade, treating steers, and heifers and cow heifers separately, are shown in Table II.

Table II

Grading Standards of the 781 Steers and 524 Heifers sold Fat

Grading Standard	Steers	Heifers (a)
	per cent	per cent
Super Special	54	37
Special	24	35
A+	15	19
A	4	7
A-	2	2
B+	1	0
B	0	0
Total	100	100

(a) Heifers and Cow-Heifers together.

Disposals and Returns

All but a negligible proportion of the cattle were graded. The numbers of each class of animal sold, together with average liveweights and average prices, are shown in Table III.

Table III

Disposal of Yarded Cattle, showing Weights and Prices of Graded Animals

Disposal Group	Number	Average net Liveweight per Animal	Average price obtained per Animal	Average price per net live cwt.
		cwt	£ s d	£ s d
Graded:				
Steers	781	12.00	75 14 11	6 6 3
Heifers	419	9.86	61 6 1	6 4 4
Cow-Heifers	105	10.30	65 18 0	6 8 0
Cows	12	11.42	43 11 6	3 16 4
Retained:	21		51 6 8	
Casualties	7		53 10 3	
Deaths	5			
Calf born in yard	1		19 2 6	

Yard Feeding Costs

The average costs per beast of all the main items of expenditure are given in Table IV. It should be noted that these averages are obtained by calculating the average cost per beast on each farm and then taking the average of these sixteen farm figures. This method gives equal importance to each farm.

A little over two-thirds of the total cost is accounted for by the charge for the store animal going into the yard; rather less than one-third of the total covers the expenses involved whilst the animals are in the yard. Of the actual yarding cost, all but a relatively insignificant proportion relates to foods (81 per cent) and manual labour (13 per cent).

Table IV

Average Costs, Returns and Profits per Beast, of Cattle Fattening on Sixteen Shropshire Farms, 1950-51

COSTS	£ s d	£ s d
Total Foods (a)	17 17 3	
Less Manurial Residues	16 5	
Net Foods		17 0 10
Manual Labour	2 12 11	
Horse and tractor	6 9	
Total Labour		2 19 8
Miscellaneous		3 1
Overheads		15 11
Losses of Cattle		2 6
Total Yarding Cost		21 2 0
Store Cost		47 12 10
TOTAL COSTS		68 14 10
RETURN		69 14 5
PROFIT		19 7

(a) See Appendix II for details of the foods used.

General Observations

The liveweight gains averaged 223 lbs per beast, or 1.6 lbs per day, for the period of fattening in the yards. These figures are a little less than those for the preceding year despite the fact that the cattle were retained in the yards for an average period of 141 days in 1950/51, compared with 132 days in 1949/50. It could be said that the somewhat smaller average increase in liveweight resulted from the greater average weight of the cattle at the time of entering the yards. On the other hand the larger proportion of heifers in 1950/51 must have reduced the figure for overall average liveweight increase since they made (as they did last year) the smallest gain of all the types of animal yarded.

Feeding, in terms of the physical quantities consumed, was well managed,

for there appears to be a relationship between the total starch equivalent of the foods consumed and the liveweight gains. Moreover, with one or two exceptions, the starch equivalent fed conformed closely to the theoretical requirements as given in the Ministry of Agriculture Bulletin No.48, "Rations for Livestock".

Despite the smaller increase in liveweight this year, the loss of almost £3 per beast recorded in 1949/50 has been converted into an average profit of nearly £1. The more favourable result arises from the increased returns. Table II showed that a larger proportion of the animals attained a high grading standard than in the previous year. A more substantial increment, however, was obtained from the raising of the controlled price by an average of 12/6d per live hundredweight from 2nd April 1951. Two-thirds of the cattle were sold after this date and whilst some would ordinarily only have been ready for market in April, others were certainly held over to reap the benefit of the higher prices.

The outlook for the winter fattening of cattle in yards must remain a matter for speculation. Clearly, a larger profit than the 19/7d per beast recorded this year is necessary to justify, as an economic proposition, the expenditure of nearly £70 per animal fattened. Against this, however, must be set the rising costs of fertilisers and the need to maintain fertility on arable farms. Straw treading in yards by fattening cattle is a traditional method of providing farmyard manure on arable farms: changing circumstances may make this a profitable enterprise once more. One alternative practice, noted earlier in this report, is the yarding of dairy cattle. On another farm, in order to maintain fertility and reduce the need for bullock dung, longer leys have been substituted for the one-year leys customary in the area. To compensate for the loss of income from the usual cash crops thus displaced, these leys are used for grass seed production. Such adaptability and willingness to experiment are the signs of vitality one expects to find in progressive industries.

APPENDIX I

Home-Grown Foods

The following charges, based on the 'Provincial' Average production costs for 1950, have been made for home-grown foods.

	Per Ton £	s	d
Meadow Hay	6	5	6
Seeds Hay	5	9	2
Oats: Grain	13	5	0
Straw	3	1	8
Mixed Corn: Grain	11	8	5
Straw	2	11	8
Mangolds	1	12	7
Swedes	2	16	7
Kale	1	0	5

Grazing - 6d per beast per day

Other Home-Grown foods have been charged as follows:-

	Per Ton £	s	d
Beet Tops	1	17	10
Potatoes	4	0	0

No charge is included for litter straw

Purchased Foods - Charged at cost on Farm

Labour - Manual - Stockmen charged at the actual rates paid on the co-operating farms. Other labour was charged at 2/6d per hour for ordinary time in the case of males of 21 years and over, and other categories and overtime work have been charged at the appropriate rates.

Horse - Charged at 1/3d per hour.

Miscellaneous - This charge includes transport to the grading centre, veterinary costs and all other incidentals.

Overheads - Charged at 6/- per £1 spent on direct manual labour.

Manurial Residues - Charged in accordance with the recommendation of the Scott Watson Committee.

Losses of Cattle - This is the purchase value of the beasts and a charge for feeding up to the time of death apportioned over the remaining beasts.

APPENDIX II

Average Number of Feeding Days, Quantities and Cost of Food, per Beast on each of Sixteen Farms

Average Feeding Days	Pressed Beet Pulp	Roots	Hay	Straw	Dried Grass	Corn and Pulses	Dried Beet Pulp	Purchased Cake	Grazing	Gross Food Costs	Manurial Residues	Net Food Costs
No.	Cwt	Cwt	Cwt	Cwt	Cwt	Cwt	Cwt	Cwt	£ s d	£ s d	£ s d	£ s d
144	–	51.9	4.2	8.0	–	3.76	7.71	–	9 9	16 9 1	12 6	15 16 7
172	2.7	154.9	8.5	11.3	1.69	3.37	3.37	–	3 6	23 11 5	1 5 5	22 6 0
148	8.0	46.3	6.3	9.0	.03	7.64	1.23	0.21	5 10	14 4 4	13 10	13 10 6
187	12.3	53.7	7.2	4.9	4.15	4.18	6.86	–	–	21 1 4	18 4	20 3 0
136	–	74.8	15.8	8.0	–	8.69	1.43	–	1 3	19 14 3	1 2 11	18 11 4
166	–	85.8	11.4	9.0	–	10.62	1.52	–	1 1	20 8 11	1 2 3	19 6 8
88	11.3	–	4.1	–	–	2.37	–	.29	1 7 6	6 5 3	4 9	6 0 6
135	25.5	45.5	20.9	14.0	–	–	6.89	–	2 4	21 0 5	1 1 6	19 18 11
185	11.7	63.8	18.7	14.0	–	6.14	–	–	3 1	18 1 5	1 2 6	16 18 11
146	19.5	11.1	9.7	–	–	11.25	6.25	–	1 5	18 1 5	16 6	17 4 11
120	–	42.3	9.0	4.5	–	2.62	8.15	–	5 0	15 1 2	14 3	14 6 11
163	26.6	28.8	9.6	–	–	4.81	11.95	1.68	1 1	23 19 4	18 6	23 0 10
73	21.5	14.3	3.9	7.0	–	–	1.97	2.88	–	11 18 3	6 10	11 11 5
123	11.1	44.9	8.1	7.7	–	4.21	4.21	0.81	1 5	16 11 5	13 10	15 17 7
167	34.1	29.0	8.9	8.9	–	3.01	1.74	2.30	–	20 4 1	14 1	19 10 0
110	33.5	28.5	8.5	5.9	–	3.86	7.72	–	–	19 4 7	14 6	18 10 1
Average on 16 farms												
141	13.6	48.5	9.7	7.0	0.4	4.78	4.44	0.51	3 11	17 17 3	16 5	17 0 10

(a) Mainly mangolds, but also includes some swedes, kale and beet tops.

APPENDIX III

Average Costs and Returns per Beast on each of Sixteen Farms.

Store Cost			Disposal Price			Gross Feeders Margin			Net Food Costs			Labour			Miscellaneous		Losses of Cattle		Overheads			Total Yarding Cost			Profit or Loss			Live-weight gain (a)	Live-weight gain per day	Yarding Cost per lb. live-weight	
£	s	d	£	s	d	£	s	d	£	s	d	£	s	d	s	d	s	d	£	s	d	£	s	d	£	s	d	lbs.	lbs.	s	d
50	11	1	74	7	9	23	16	8	15	16	7	2	11	8	5	0	-			13	0	19	6	3	+4	10	3	271	1.88	1	0
44	1	4	75	4	0	31	2	8	22	6	0	3	9	9	2	7	-			17	10	26	16	2	+4	6	6	336	1.95	1	7
45	3	10	66	18	11	21	15	1	13	10	6	3	10	5	-		-		1	0	3	18	1	2	+3	13	11	179	1.20	2	0
47	17	0	76	11	8	28	14	8	20	3	0	4	0	0	3	8	-		1	3	3	25	9	11	+3	4	10	193	1.03	2	8
40	13	3	66	0	10	25	7	7	18	11	4	2	16	6	2	7	-			14	9	22	5	2	+3	2	5	298	2.19	1	6
40	13	2	67	18	9	27	5	7	19	6	8	3	11	2	2	7	14	11		17	11	24	13	3	+2	12	4	293	1.77	1	8
42	14	5	52	16	0	10	1	7	6	0	6	1	4	4	-		-			7	4	7	12	2	+2	9	6	207	2.35	0	9
53	18	6	79	6	1	25	7	7	19	18	11	2	7	0	4	8	-			13	6	23	4	1	+2	3	5	193	1.43	2	5
51	19	7	77	18	4	25	18	9	16	18	11	5	10	11	3	9	-		1	9	3	24	2	10	+1	15	11	268	1.45	1	10
47	1	5	69	13	4	22	11	11	17	4	11	3	1	3	4	5	-			18	0	21	8	7	+1	3	4	254	1.74	1	8
56	6	5	74	7	1	18	0	8	14	6	11	2	6	9	5	0	-			11	6	17	10	2	+0	10	7	221	1.84	1	7
31	18	9	58	18	5	26	19	8	23	0	10	2	18	2	1	5	9	0		15	5	27	4	10	-0	5	2	237	1.45	2	4
52	10	7	64	14	1	12	3	6	11	11	5	1	11	9	3	3	-			7	5	13	13	10	-1	10	5	102	1.40	2	8
53	16	2	71	4	5	17	8	3	15	17	7	2	5	7	2	6	16	7		12	5	19	14	8	-2	6	5	102	0.83	3	10
45	0	0	65	11	6	20	11	6	19	10	0	2	12	7	3	3	-			14	10	23	0	8	-2	9	4	199	1.19	2	4
58	0	0	73	18	8	15	18	8	18	10	1	3	15	2	5	0	-			17	4	23	7	7	-7	9	0	208	1.89	2	3
Average of sixteen farms																															
47	12	10	69	14	5	22	1	7	17	0	10	2	19	8	3	1	2	6		15	11	21	2	0	+0	19	7	223	1.60	2	0

(a) Calculated on Ministry of Food Weight plus 28 lbs.

APPENDIX IV

Average Consumption of Foods per Day per Beast and number of grazing days per beast on each of Sixteen Farms

Feeding Days per Beast	Pressed Beet Pulp	Roots (a)	Hay	Straw	Dried Grass	Corn and Pulses Home-Grown	Dried Beet Pulp	Purchased Cake	Grazing Days per Beast
~~lbs.~~ No.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	No.
144	-	40.37	3.27	6.22	-	2.93	6.00	-	19
172	1.76	100.87	5.53	7.36	1.10	2.19	2.19	-	7
148	6.05	35.04	4.77	6.81	0.23	5.78	0.93	0.16	12
187	7.37	32.16	4.31	2.94	2.49	2.50	4.16	-	-
136	-	61.60	13.01	6.59	-	7.16	1.18	-	3
166	-	57.89	7.69	6.07	-	7.17	1.03	-	2
88	14.38	-	5.22	-	-	3.02	-	0.37	55
135	21.16	37.75	17.34	11.61	-	-	5.72	-	5
185	7.08	38.62	11.32	8.48	-	3.72	-	-	6
146	14.96	8.52	7.44	-	-	8.63	4.80	-	3
120	-	39.48	8.40	4.20	-	2.45	7.61	-	10
163	18.28	19.79	6.65	-	-	3.31	8.21	1.15	2
73	32.99	21.94	5.98	10.74	-	-	3.02	4.42	-
123	10.11	40.88	7.38	7.01	-	3.83	3.83	0.74	3
167	22.87	19.45	5.97	5.97	-	2.02	1.17	1.54	-
110	54.11	29.02	8.65	6.01	-	3.93	7.86	-	-
Average of sixteen farms									
141	11.95	36.46	7.68	5.63	0.24	3.67	3.61	0.52	8

(a) Mainly mangolds, but also includes some swedes, kale, and beet tops.