Milk
Cost of production
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(Department of Economics).

INTERIM REPORT

ON

COST OF MILK PRODUCTION, SUMMER, 1947.

BY

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I. INTRODUCTION.

This interim report on the costs of milk production covers the Summer Period 1947, i.e. the six months from 1st April to 30th September. Records were completed for 80 herds for this period and 79 of these are included in the summaries. This is one less than for the Winter Period, as a change of farm made it impossible for the farmer to continue the investigation. At the end of this report the figures for the year ended 30th September, 1947, and the amended half yearly costs, are shown as a pre-view of the full-year's report, which will be issued later.

II. GENERAL DESCRIPTION OF FARMS AND HERDS STUDIED.

Location and size of Herds. The only change from the Winter Period concerns one stock-raising farm for which no record was available. The average size of herd has decreased from 47 cows in the Winter Period, 1946-47, to 46 cows in the 1947 Summer Period. This compares with 43 cows in the Summer Period, 1946.

Type and Size of Farms. The loss of one stock-raising farm, which included a large area of rough grazings has had the effect of reducing the average size of farm from 292 acres in the Winter Period, 1946-47 to 278 acres for this period. The low rental of the excluded farm left a slightly higher average rent of £349:10:0 per farm as against £348 in the Winter Period. The new acreage and rent gave an average of 25/2d. per acre compared with 23/10d. in the Winter Period.

When rough grazings were converted to their equivalent acreage of arable land, the average "adjusted" size of farm became 248 acres, and the rent 28/2d. per acre.

Type and composition of herds. The herds costed were practically the same as in the preceding Winter Period and were thus more or less identical as regards breed and quality of stock.

The total number of cows costed was 3,611, including 747 dry cows, i.e. 21% - the same proportion as in Summer 1946. There was also a small number of cows costed which were suckling calves but were not permanent nurse cows. The size of herd ranged from 6 to 143 and averaged 46 cows; these figures included cows in milk, dry or suckling.

The percentage of dry cows was smaller than in the 1946-47 Winter Period and the range too was reduced, although one herd had as many as 44% dry cows.

Quality of milk. During the period one farmer changed over from an ordinary to an attested herd. Our sample now includes 58 attested herds and 21 herds not tested. Of the attested herds only three do not produce milk for sale in the Tuberculin Tested grade; thus the milk from 70% of the herds was sold as Tuberculin Tested or Certified. Thirteen herds, i.e. 16%, including one attested herd, produced milk of the Standard grade and the remaining eleven herds, i.e. 14%, including two attested herds, produced Non-graded or Ordinary milk.

Nearly all the herds are milked by machine and the number of herds hand-milked has remained constant, at five, as in the Winter Period.

The milk produced was mainly sold wholesale but 22% of the farms directly retailed the major portion of their production.

Milk Yield per Cow. The average milk production of 347 gallons per cow for the six months Summer Period was 51 gallons higher than the Winter Period and only two gallons less than for the 1946 Summer Period.

The variation from the highest to the lowest yield was again very great, with extremes of 510 and 214 gallons per cow. While these figures are neither as high nor as low as those for the 1946 Summer Period, there is still plenty of room for improvement for the low yielding herds.

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In Table I below the herds are grouped according to milk yield per cow per farm and the percentage of herds in each group is shown for both the 1947 and 1946 Summer Periods.

TABLE I. - MILK YIELD PER COW PER FARM: SUMMER 1947 cf., SUMMER 1946.

	Under 251 Galls.	251 to 300 Galls.	301 to 350 Galls.	351 to 400 Galls.	401 to 450 Galls.	451 to 500 Galls.	Over 500 Galls.	Total.
No. of herds in 1947	5	13	25	16	15	4	1	79
Do. 1947 as percentages	6	17	32	20	19	5	1	100%
Do. 1946 as percentages	10	10	31	27	14	4	4	100%

In 1947, only one per cent of the herds had the high average yield of over 500 gallons per cow for the summer, as against four per cent in the previous summer; on the other hand only six per cent of the herds in 1947 had an average yield of less than 251 gallons; more herds tended towards "average yields".

III. COSTS OF PRODUCTION.

Preparation of costs data. The data have been carefully analysed for each herd costed and summarised to allow comparisons between individual farms and also between other Colleges in Great Britain undertaking a similar inquiry.

In this period, Summer 1947, we have adhered to the main principles set out in the previous reports; a summary of these is given below.

(i) The Year was divided into two six-monthly periods - viz., Summer and Winter.

(ii) Home Grown Foods have again been charged at the prices used during the Winter 1946-47 Period.

Grazing costs were calculated individually for each farm and the total cost for the year was charged in this period.

(iii) Labour was charged for the production of milk to the point of cooling and bulk storage, unpaid family labour being charged at rates equivalent to those paid to hired workers, with appropriate allowances for overtime work.

(iv) Miscellaneous Costs included expenses directly chargeable to the dairy herd, such as bull upkeep, veterinary fees and dairy stores, depreciation, and repairs and maintenance of dairy equipment. Over-head expenses, calculated on the same lines as in the previous year, were also included.

(v) Herd Maintenance has been temporarily ignored, as is usual in our interim reports.

(vi) Credits for calves sold and retained, and for unexhausted manurial values, were deducted from the GROSS COSTS to give the NET COSTS per gallon.

SUMMER MILK COSTS./

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The average costs for the 79 herds studied are set out below.

TABLE II. - COSTS PER GALLON AND PER COW (PROVISIONAL)+

Items	Per Gallon d.		Per Cow £ s. d.		%	
FOODS - Purchased	3.14		4:10: 9		18	
- Home Grown	2.66		3:16:10		15	
- Grazing	3.20		4:12: 6		19	
TOTAL		9.00		13: -: 1		52
LABOUR - Hired	3.59		5: 3:10		21	
- Family	.48		13:10		3	
- Farmer & Wife	.91		1: 6: 5		5	
TOTAL		4.98		7: 4: 1		29
MISCELLANEOUS COSTS		3.39		4:18: -		19
GROSS COSTS		17.37		25: 2: 2		100
Less CREDITS for Calves) U.M.R.)		.81		1: 3: 5		-
NET COSTS		16.56		23:18: 9		-

+ Excluding Herd Maintenance (i.e. "Cow Replacement").

Foods account for over one half of the total cost of keeping a cow for the summer six months. This shows their importance even during the Summer Period when grass - a comparatively cheap food - forms the bulk of the diet. Compared with the Summer Period 1946 the cost was lower for purchased feeding stuffs, but higher for home grown foods and grazing. The difference was a reduction of about 4/- from 1946 to 1947. The food costs are £7:14:0 less for the Summer than for the Winter Period and this is mainly responsible for the difference in gross and net costs per cow for the two periods. Concentrates were fed at the rate of 2.16 lb. per gallon and included the rationed allowance of purchased foods, home-grown corn and in some cases a little dried grass meal. This rate of feeding is identical to that for the Summer Period 1946.

Labour Costs per cow remained steady and were only 3d. greater than for the Winter Period. Hired labour increased by 1/- per cow and there was also an increase in the cost of the labour of the farmer and wife, while the family labour cost was less than in the Winter Period 1946-47. Any tendency for reduced costs in the summer due to the shorter time taken to attend the herd is offset by the incidence of holidays with pay, necessitating relief workers, and also by many dairy workers being paid for the job regardless of time taken and thus receiving a steady wage throughout the year. Compared with the Summer Period 1946 interim figures, this summer shows an increase of 13/3d. in labour costs per cow. The rise in minimum wage rates for agricultural workers in October 1946 will have been mainly responsible for this increase. It is interesting to note that the official weekly rate rose by just over 14% but the effective rise for the milk costs was 10% thus showing a tendency, for the dairy workers' wages to be brought nearer to the appropriate minimum.

Labour Costs per gallon were nearly a 1d. less than for the Winter Period due to the higher milk production.

Miscellaneous Costs were 5/- per cow less than for the Winter Period.

Credits for unexhausted manurial residues and for calves sold or retained for rearing were nearly 18/- per cow less than for the Winter Period and also 2/- less than /

than for the Summer Period 1946.

Total net costs averaged nearly £24 per cow, an increase over the interim figures for the Summer 1946 and ranging from £14:16: 6 to £39: 0: 7; the net cost per gallon averaged 16.56d. with a range of 10.86d. to 34.68d. The table below gives the distribution of the herds concerned for both cost per gallon and per cow.

TABLE III. - DISTRIBUTION OF HERDS ACCORDING TO COST PER GALLON OF MILK PRODUCED AND COST PER COW (6 MONTHS 1st APRIL to 30th SEPTEMBER 1947).

Net Cost per Gallon.								
	Under 12d.	d. 12-15	d. 15-18	d. 18-21	d. 21-24	d. 24-27	Over 27d.	Total
No. of Herds	4	29	21	14	4	4	3	79

Net Cost per Cow.							
	Under £15	£ 15 - 20	£ 20 - 25	£ 25 - 30	£ 30 - 35	Over £35	Total
No. of Herds	1	18	30	19	9	2	79

The cost of producing summer milk in the majority of the herds studied was between 12d. and 21d. per gallon and it cost from £15 to £30 to keep and tend a cow for the six months. In the main, the range in costs has become narrower since last summer (1946), especially in the case of costs per cow.

Compared with the interim report for Summer 1946 the average cost per cow has increased by 17/4d. (or 4%) and the milk yield per cow has decreased by 2 gallons (or about 0.6%). The result was an increase of .69d. (or 4%) in the cost per gallon.

The milk yield per cow was well maintained, at 347 gallons for the six months, considering the exceptional weather conditions which prevailed during the Spring and again in the Summer. The late commencement of the grazing season, added to the general shortage of feeding stuffs, due to the severe winter, depressed the yield during April and the beginning of May, but the great flush of grass seems to have produced an equally large amount of milk. Later, drought was the cause of a steep decline in production dut despite much pessimism, the final milk yield was only 2 gallons short of last Summer's interim figure. The abnormal weather conditions were instrumental in causing serious declines in the bulk of most farm crops, indeed all of the main crops except hay.

Once again, increases in wholesale prices have fully kept pace with the increased costs on those farms included in our sample. Compared with the corresponding figures for the Summer Period 1946, there has been an average price rise of 1⅓d. as against a rise in our calculated cost of .69d. per gallon. The preceding remarks do not take into account differences in cost due to fluctuations in herd replacement charges, but hold good so long as this factor is more or less stable.

IV. MILK COSTS FOR THE YEAR ENDED 30th SEPTEMBER 1947.

The following tables show the final figures for the two half-yearly periods and for the full year, for identical farms and included the herd maintenance cost for these periods.

TABLE IV. /

TABLE IV. - WINTER MILK COSTS 1946-47: AVERAGE OF 79 HERDS.
AVERAGE NUMBER OF COWS IN HERD 47
AVERAGE MILK YIELD PER COW (GALLONS) 296

Items	Per Gallon d.		Per Cow £ s. d.		%	
FOODS - Purchased	5.95		7: 6:10		21	
- Home Grown	10.88		13: 8: 4		37	
TOTAL		16.83		20:15: 2		58
LABOUR - Hired	4.21		5: 3: 9		14	
- Family	.60		14:11		2	
- Farmer & Wife	1.02		1: 5: 1		4	
TOTAL		5.83		7: 3: 9		20
MISCELLANEOUS COSTS		4.17		5: 2:11		14
HERD MAINTENANCE		2.32		2:17: 3		8
GROSS COSTS		29.15		35:19: 1		100
Less: CREDITS for Calves) U.M.R.)		1.66		2: 1: -		-
NET COSTS		27.49		33:18: 1		-

TABLE V. - SUMMER MILK COSTS 1947: AVERAGE OF 79 HERDS.
AVERAGE NUMBER OF COWS IN HERD 46
AVERAGE MILK YIELD PER COW (GALLONS) 347

Items	Per Gallon d.		Per Cow £ s. d.		%	
FOODS - Purchased	3.14		4:10: 9		16	
- Home Grown	2.66		3:16:10		14	
- Grazing	3.20		4:12: 6		16	
TOTAL		9.00		13: -: 1		46
LABOUR - Hired	3.59		5: 3:10		18	
- Family	.48		13:10		2	
- Farmer & Wife	.91		1: 6: 5		5	
TOTAL		4.98		7: 4: 1		25
MISCELLANEOUS COSTS		3.39		4:18: -		17
HERD MAINTENANCE		2.32		3: 7: 1		12
GROSS COSTS		19.69		28: 9: 3		100
Less: CREDITS for Calves) U.M.R.)		.81		1: 3: 5		-
NET COSTS		18.88		27: 5:10		-

TABLE VI. /

TABLE VI. - WHOLE YEAR COSTS (1st OCTOBER 1946 - 30th SEPTEMBER 1947): AVERAGE OF 79 HERDS.

AVERAGE NUMBER OF COWS IN HERD 46
AVERAGE MILK YIELD PER COW (GALLONS) 640

Items	Per Gallon d.		Per Cow £ s. d.		%
FOODS - Purchased	4.46		11:17: 6		19
- Home Grown	6.50		17: 6:10		27
- Grazing	1.71		4:11: 3		7
TOTAL		12.67		33:15: 7	53
LABOUR - Hired	3.89		10: 7: 7		16
- Family	.51		1: 7: 2		2
- Farmer & Wife	.97		2:11: 9		4
TOTAL		5.37		14: 6: 6	22
MISCELLANEOUS COSTS		3.75		9:19:11	15
HERD MAINTENANCE		2.32		6: 3:11	10
GROSS COSTS		24.11		64: 5:11	100
Less: CREDITS for Calves, U.M.R.		1.21		3: 4: 6	-
NET COSTS		22.90		61: 1: 5	-

The above table, for the whole year, shows that the average size of herd was 46 cows and the milk yield per cow 640 gallons. This compares with 43 cows and 628 gallons per cow for the previous Milk Costs year, ended 30th September 1946. The net cost of food, attendance and other items totalled over £61 per cow giving a cost of nearly 1/11d. per gallon of milk produced. The corresponding figures to these in 1945-46 were £58 per cow and 1/10d. per gallon.

ACKNOWLEDGMENTS.

Grateful acknowledgment is made of the assistance of the dairy farmers who supplied the information necessary to complete this investigation, and who always gave the investigators considerate attention on the occasion of their visits. Many of these farmers have again given cost records for some of the home-grown fodder crops and these will be utilised in the current Milk Costs year.

Each farmer will receive a copy of his own records for the Summer 1947 Period and the Whole Year 1946-47, along with this report; the report on the full year's costs, now in preparation, will be circulated as soon as available.