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# DEPARTMENT OF AGRICULTURE

#### OFFICE OF THE DAIRY COMMISSIONER

OTTAWA, September 5, 1919.

# Yield and Relative Value of Some Dairy Products

TABLE I

Showing approximate yield of different products from 100 pounds of milk containing 3.5 per cent of fat and 12.5 per cent of total milk solids.

Product.	Pounds.	•	Pounds.
Cheese Butter Evaporated Milk (Unsweetened) Condensed Milk (Sweetened)	$9 \cdot 30 \\ 4 \cdot 20 \\ 39 \cdot 68 \\ 39 \cdot 68^*$	and Whey and Skim milk	90 90
Milk Powder. Cream Powder. Skim milk Powder.	$12.75 \\ 4.77 \\ 8.23$	and Skim milk Powder and Butter	$7 \cdot 62 \\ 4 \cdot 20$

\*The yield indicated is obtained from condensing 100 pounds of milk to which a certain quantity of cane sugar (usually 17 to 19 pounds) has been added before the condensing process is started.

## TABLE II

Showing approximate yield of Canadian cheddar cheese and butter from 100 pounds of milk containing different percentages of fat.

Per Cent of Fat	Pounds of Cheese	Pounds of Butter
in Milk.	from 100 Pounds of Milk.	from 100 Pounds of Milk.
$ \begin{array}{r} 3 \cdot 0 \\ 3 \cdot 1 \\ 3 \cdot 2 \\ 3 \cdot 3 \\ 3 \cdot 3 \\ \cdot 3 \cdot 4 \\ 3 \cdot 6 \\ 3 \cdot 6 \\ 3 \cdot 7 \\ 3 \cdot 8 \\ 3 \cdot 9 \\ 4 \cdot 0 \\ \end{array} $	$\begin{array}{c} 8.52\\ 8.73\\ 9.02\\ 9.14\\ 9.21\\ 9.30\\ 9.39\\ 9.50\\ 9.72\\ 9.90\\ 10.08\end{array}$	$\begin{array}{c} 3 \cdot 60 \\ 3 \cdot 72 \\ 3 \cdot 84 \\ 3 \cdot 96 \\ 4 \cdot 08 \\ 4 \cdot 20 \\ 4 \cdot 32 \\ 4 \cdot 44 \\ 4 \cdot 56 \\ 4 \cdot 68 \\ 4 \cdot 80 \end{array}$

### TABLE III

Showing the prices which must be obtained for cheese and butter to give the same net return for one hundred pounds of milk testing 3.5 per cent of fat, or for one pound of fat or for one pound of "fat and casein" (fat + 2).

(1) Price of Cheese.	(2) Net Return for 100 Pounds Milk.	(3) Equivalent Price of Butter.	(4) Net Return for 1 Pound Fat.	(5) Net Return for 1 Pound "Fat and Casein". (Fat + 2).
 cts.	\$	cts.	cts.	cts.
$12 \cdot 00$	0.91	25.75	26.00	16.54
12.25	0.93	26.25	26.57	16.90
$12 \cdot 50$	0.95	26.75	27.14	17.27
12.75	0.98	27.25	28.00	17.81
13.00	1.00	27.75	28.57	18.18
68450	1			

(1) Price of Cheese.	(2) Net Return for 100 Pounds Milk.	(3) Equivalent Price of Butter.	(4) Net Return for 1 Pound Fat.	(5) Net Return for 1 Pound "Fat and Casein". (Fat + 2).
cts.	\$	cts.	cts.	cts.
13.25	1.02	28.25	29.14	18.54
13.50	1.05	29.00	30.00	19.09
13.75	1.07	29.50 •	30.57	19.45
14.00	1.09	<mark>30</mark> ∙00	31 · 14	19.81
14.25	1.12	30.75	32.00	20.36
14.50	1.14	31.25	32.57	20.72
14.75	1.16	31.75	33.14	21.09
15.00	1.19	32.25	34.00	21.63
15.25	1.21	32.75	34.57	22.00
15.50	1.23	33.25	35.14	22.36
15.75	1.26	, 34.00	36.00	22.90
16.00	1.28	34.50	36.57	23.27
16.25	1.30	35.00	37.14	23.63
16.50	1.33	35.75	38.00	24.18
16.75	1.35	36.25	38.57	24.54
17.00	1.37	36.75	39.14	24.90
17.25	1.40	37.25	40.00	25.45
17.50	1.42	37.75	40.57	25.81
17.75	1.44	38.25	41.14	26.18
18.00	1.47	39.00	42.00	26.72
18.25	1.49	39.50	42.57	27.09
18.50	1.51	40.00	43.14	27.45
18.75	1.53	40.50	43.71	.27.81
19.00	1.56	41.25	44.57	28.36
19.25	1.58	41.75	45.14	28.72
19.50	1.60	$42 \cdot 25$	45.71	29.09
19.75	1.63	42.75	46.57	29.63
20.00	1.65	$43 \cdot 25$	47.14	30.00
20.25	1.67	43.75	47.71	30.36
$20 \cdot 50$	1.70	44.50	48.57	30.90
20.75	1.72	45.00	49.14	31.27
21.00	1,74	45.50	49.71	31.63
21.25	1.77	$46 \cdot 25$	50.57	32.18
21.50	1.79	46·50 ·	51.14	$32 \cdot 54$
21.75	1.81	47.00	51.71	32.90
22.00	1.84	47.75	52.57	33.45
$22 \cdot 25$	1.86	48.25	$53 \cdot 14$	33.81
$22 \cdot 50$	1.88	48.75	53.71	34.18
		2		

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $					
of etc.Pound Part.Pound Part. </th <th>(1) Price</th> <th>(2) Net Return</th> <th>(3) Equivalent Price</th> <th>(4) Net Return</th> <th>(5) Net Return for 1</th>	(1) Price	(2) Net Return	(3) Equivalent Price	(4) Net Return	(5) Net Return for 1
cts. $$$ cts.cts.cts.cts. $22.75$ $1.91$ $49.50$ $54.57$ $34.72$ $23.00$ $1.93$ $50.00$ $55.14$ $35.00$ $23.25$ $1.95$ $50.50$ $55.71$ $35.45$ $23.50$ $1.98$ $51.25$ $50.57$ $36.00$ $23.75$ $2.00$ $51.50$ $57.71$ $36.36$ $24.00$ $2.02$ $52.00$ $57.71$ $36.72$ $24.25$ $2.05$ $52.75$ $58.57$ $37.27$ $24.60$ $2.07$ $63.25$ $59.14$ $37.83$ $24.75$ $2.09$ $53.75$ $59.71$ $38.00$ $25.00$ $2.12$ $54.50$ $00.57$ $38.54$ $25.25$ $2.14$ $56.00$ $61.14$ $38.90$ $25.50$ $2.12$ $54.50$ $61.71$ $39.27$ $25.75$ $2.19$ $56.25$ $62.57$ $39.81$ $26.00$ $2.21$ $56.75$ $63.14$ $40.18$ $26.50$ $2.26$ $57.75$ $64.57$ $41.09$ $26.75$ $2.33$ $59.50$ $65.71$ $41.81$ $27.55$ $2.33$ $59.50$ $65.71$ $43.33$ $27.55$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $2.49$ $61.25$ $65.77$ $43.43$ $27.55$ $2.37$ $60.50$ $67.71$ $43.60$ $27.55$ $2.37$ $60.57$ $41.45$ $27.50$ $2.44$ $62.00$ $69.71$ $41.36$ $27.55$ $2.61$ <	of Cheese.	for 100 Pounds Milk.	of Butter.	for 1 Pound Fat.	Pound "Fat and Casein". $(Fat + 2)$ .
22.751.01 $49.50$ $54.57$ $34.72$ $23.00$ 1.93 $50.00$ $55.14$ $35.00$ $22.25$ 1.95 $50.50$ $55.71$ $35.45$ $23.60$ 1.98 $81.25$ $55.77$ $30.00$ $23.75$ 2.00 $51.50$ $57.14$ $36.73$ $24.05$ 2.02 $52.00$ $57.14$ $36.73$ $24.25$ 2.05 $52.75$ $58.57$ $37.97$ $24.50$ 2.07 $53.25$ $59.14$ $37.63$ $24.75$ 2.00 $53.75$ $59.71$ $39.00$ $25.00$ 2.12 $54.50$ $60.57$ $38.54$ $25.55$ 2.14 $55.00$ $61.14$ $39.90$ $25.50$ 2.16 $55.50$ $61.71$ $39.27$ $25.75$ 2.19 $56.55$ $62.57$ $39.81$ $26.00$ 2.21 $56.75$ $63.14$ $40.18$ $26.50$ 2.25 $57.75$ $64.57$ $41.09$ $26.75$ 2.23 $57.00$ $63.71$ $49.54$ $27.50$ 2.33 $59.50$ $66.57$ $42.86$ $27.50$ 2.33 $59.50$ $66.57$ $42.86$ $27.75$ 2.37 $60.50$ $67.71$ $43.03$ $28.50$ 2.44 $62.00$ $69.71$ $44.63$ $29.50$ 2.44 $62.00$ $69.71$ $44.63$ $29.50$ 2.44 $62.55$ $77.71$ $49.63$ $29.50$ 2.54 $67.75$ $70.57$ $44.96$ $29.55$ 2.54 $67.75$ $77.71$	cts.	\$	cts.	cts.	cts.
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$24 \cdot 00$ $2 \cdot 02$ $52 \cdot 00$ $57 \cdot 71$ $36 \cdot 72$ $24 \cdot 25$ $2 \cdot 05$ $52 \cdot 75$ $58 \cdot 57$ $37 \cdot 27$ $24 \cdot 50$ $2 \cdot 07$ $53 \cdot 25$ $59 \cdot 14$ $37 \cdot 63$ $24 \cdot 75$ $2 \cdot 09$ $53 \cdot 75$ $59 \cdot 71$ $38 \cdot 00$ $25 \cdot 00$ $2 \cdot 12$ $54 \cdot 50$ $60 \cdot 57$ $38 \cdot 54$ $25 \cdot 25$ $2 \cdot 14$ $55 \cdot 00$ $61 \cdot 14$ $38 \cdot 90$ $25 \cdot 50$ $2 \cdot 16$ $55 \cdot 50$ $61 \cdot 71$ $39 \cdot 27$ $25 \cdot 75$ $2 \cdot 19$ $56 \cdot 25$ $62 \cdot 57$ $39 \cdot 81$ $26 \cdot 00$ $2 \cdot 21$ $56 \cdot 75$ $63 \cdot 14$ $40 \cdot 18$ $26 \cdot 25$ $2 \cdot 23$ $57 \cdot 00$ $63 \cdot 71$ $40 \cdot 54$ $26 \cdot 50$ $2 \cdot 266$ $57 \cdot 75$ $64 \cdot 57$ $41 \cdot 00$ $26 \cdot 50$ $2 \cdot 26$ $57 \cdot 75$ $66 \cdot 57$ $42 \cdot 36$ $27 \cdot 50$ $2 \cdot 35$ $60 \cdot 00$ $67 \cdot 14$ $42 \cdot 72$ $27 \cdot 75$ $2 \cdot 37$ $60 \cdot 50$ $67 \cdot 71$ $43 \cdot 09$ $28 \cdot 00$ $2 \cdot 49$ $61 \cdot 25$ $68 \cdot 57$ $43 \cdot 63$ $28 \cdot 25$ $2 \cdot 41$ $61 \cdot 75$ $71 \cdot 74$ $45 \cdot 63$ $28 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 18$ $29 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 18$ $29 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 18$ $29 \cdot 50$ $2 \cdot 54$ $66 \cdot 57$ $73 \cdot 71$ $46 \cdot 50$ $29 \cdot 50$ $2 \cdot 54$ $66 \cdot 57$ $73 \cdot 71$ <	23.75	2.00	51.50	57.14	36.36
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24.50 $2.07$ $53.25$ $59.14$ $37.63$ $24.75$ $2.09$ $53.75$ $59.71$ $38.00$ $25.00$ $2.12$ $54.50$ $60.57$ $38.54$ $25.25$ $2.14$ $55.00$ $61.14$ $38.90$ $25.90$ $2.16$ $55.50$ $61.71$ $39.27$ $25.75$ $2.19$ $56.25$ $62.57$ $39.81$ $26.00$ $2.21$ $56.75$ $63.14$ $40.18$ $26.25$ $2.23$ $57.00$ $63.71$ $40.54$ $26.50$ $2.26$ $57.75$ $64.57$ $41.00$ $26.75$ $2.28$ $58.25$ $65.14$ $41.45$ $27.00$ $2.30$ $58.75$ $66.57$ $42.36$ $27.50$ $2.33$ $59.50$ $66.57$ $42.36$ $27.75$ $2.37$ $60.50$ $67.71$ $43.00$ $28.00$ $2.43$ $61.25$ $68.57$ $44.36$ $28.50$ $2.44$ $61.75$ $69.14$ $41.00$ $28.50$ $2.44$ $61.75$ $70.57$ $44.90$ $29.00$ $2.44$ $62.00$ $69.71$ $44.36$ $29.50$ $2.44$ $61.75$ $70.57$ $44.90$ $29.50$ $2.44$ $66.50$ $72.57$ $46.18$ $29.75$ $2.56$ $65.00$ $73.14$ $45.54$ $30.00$ $2.68$ $67.75$ $75.71$ $46.90$ $39.25$ $2.61$ $66.25$ $74.57$ $46.18$ $39.75$ $2.65$ $67.00$ $73.71$ $46.90$ $39.2$	24.25	2.05	52.75	58.57	37.27
24.75 $2.09$ $53.75$ $59.71$ $38.00$ $25.00$ $2.12$ $54.50$ $60.57$ $38.54$ $25.25$ $2.14$ $55.00$ $61.14$ $38.90$ $25.50$ $2.16$ $55.50$ $61.71$ $39.27$ $25.75$ $2.19$ $56.25$ $62.57$ $39.81$ $26.00$ $2.21$ $56.75$ $63.14$ $40.18$ $26.25$ $2.23$ $57.00$ $63.71$ $40.54$ $26.80$ $2.26$ $57.75$ $64.57$ $41.09$ $26.75$ $2.28$ $58.25$ $65.14$ $41.45$ $27.00$ $2.30$ $58.75$ $65.71$ $41.81$ $27.25$ $2.33$ $59.50$ $66.57$ $42.36$ $27.50$ $2.35$ $60.00$ $67.14$ $42.72$ $27.75$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $2.40$ $61.25$ $68.57$ $44.36$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $61.75$ $70.57$ $44.90$ $29.00$ $2.44$ $62.00$ $69.71$ $44.36$ $29.50$ $2.44$ $62.00$ $73.14$ $46.54$ $30.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $72.57$ $46.18$ $29.75$ $2.66$ $65.00$ $73.71$ $46.90$ $30.25$ $2.61$ $66.25$ $74.57$ $47.45$ $30.00$ $2.63$ $66.75$ $75.14$ $47.45$ $30.7$	24.50	2.07	53.25	59.14	37.63
25.00 $2.12$ $54.50$ $60.57$ $38.54$ $25.25$ $2.14$ $55.00$ $61.14$ $38.90$ $25.50$ $2.16$ $55.50$ $61.71$ $39.27$ $25.75$ $2.19$ $56.25$ $62.57$ $39.81$ $26.00$ $2.21$ $56.75$ $63.14$ $40.18$ $26.25$ $2.23$ $57.00$ $63.71$ $40.54$ $26.50$ $2.26$ $57.75$ $64.57$ $41.09$ $26.75$ $2.28$ $58.25$ $65.14$ $41.45$ $27.00$ $2.30$ $58.75$ $66.57$ $42.36$ $27.75$ $2.33$ $59.50$ $66.57$ $42.36$ $27.75$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $2.40$ $61.25$ $68.57$ $43.63$ $28.50$ $2.44$ $61.75$ $69.14$ $44.00$ $28.50$ $2.44$ $62.00$ $69.71$ $44.30$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $65.60$ $73.71$ $45.63$ $29.50$ $2.54$ $64.50$ $72.57$ $46.18$ $29.75$ $2.56$ $65.00$ $73.71$ $45.93$ $30.00$ $2.58$ $65.50$ $73.71$ $46.99$ $30.23$ $2.61$ $60.25$ $74.57$ $47.45$ $30.50$ $2.63$ $67.75$ $70.67$ $48.72$ $31.25$ $2.70$ $68.25$ $77.14$ $49.09$ $31.2$	24.75	2.09	53.75	59.71	38.00
$25 \cdot 25$ $2 \cdot 14$ $55 \cdot 00$ $61 \cdot 14$ $38 \cdot 90$ $25 \cdot 50$ $2 \cdot 16$ $55 \cdot 50$ $61 \cdot 71$ $39 \cdot 27$ $25 \cdot 75$ $2 \cdot 19$ $56 \cdot 25$ $62 \cdot 57$ $39 \cdot 81$ $26 \cdot 00$ $2 \cdot 21$ $56 \cdot 75$ $63 \cdot 14$ $40 \cdot 18$ $26 \cdot 25$ $2 \cdot 23$ $57 \cdot 00$ $63 \cdot 71$ $40 \cdot 54$ $26 \cdot 25$ $2 \cdot 26$ $57 \cdot 75$ $64 \cdot 57$ $41 \cdot 09$ $26 \cdot 75$ $2 \cdot 28$ $58 \cdot 25$ $65 \cdot 14$ $41 \cdot 45$ $27 \cdot 00$ $2 \cdot 30$ $58 \cdot 75$ $66 \cdot 57$ $42 \cdot 36$ $27 \cdot 25$ $2 \cdot 33$ $59 \cdot 50$ $66 \cdot 57$ $42 \cdot 36$ $27 \cdot 50$ $2 \cdot 35$ $60 \cdot 00$ $67 \cdot 71$ $43 \cdot 09$ $28 \cdot 00$ $2 \cdot 40$ $61 \cdot 25$ $68 \cdot 57$ $43 \cdot 63$ $28 \cdot 25$ $2 \cdot 42$ $61 \cdot 75$ $69 \cdot 14$ $44 \cdot 00$ $28 \cdot 50$ $2 \cdot 44$ $62 \cdot 00$ $60 \cdot 71 \cdot 14$ $45 \cdot 27$ $29 \cdot 25$ $2 \cdot 41$ $61 \cdot 75$ $70 \cdot 57$ $44 \cdot 90$ $29 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 18$ $29 \cdot 50$ $2 \cdot 54$ $66 \cdot 50$ $73 \cdot 71 \cdot 14$ $45 \cdot 57$ $29 \cdot 25$ $2 \cdot 51$ $65 \cdot 50$ $73 \cdot 71 \cdot 14$ $45 \cdot 57$ $29 \cdot 50$ $2 \cdot 58$ $65 \cdot 50$ $73 \cdot 71 \cdot 14$ $45 \cdot 51$ $30 \cdot 25$ $2 \cdot 61 \cdot 66 \cdot 25 \cdot 74 \cdot 57$ $46 \cdot 18$ $47 \cdot 51$ $30 \cdot 25$ $2 \cdot 61 \cdot 66 \cdot 25 \cdot 74 \cdot 57 \cdot 77 \cdot 14$ $49 \cdot 09$ $30 \cdot 25$ $2 \cdot 61 \cdot 66 \cdot 57 \cdot 77 \cdot 77 \cdot 71 \cdot $	25.00	2.12	54.50	60.57	38.54
25.50 $2.16$ $55.50$ $61.71$ $39.27$ $25.75$ $2.19$ $56.25$ $62.57$ $39.81$ $26.00$ $2.21$ $56.75$ $63.14$ $40.18$ $26.25$ $2.23$ $57.00$ $63.71$ $40.54$ $26.50$ $2.26$ $57.75$ $64.57$ $41.00$ $26.75$ $2.28$ $58.25$ $65.14$ $41.45$ $27.00$ $2.30$ $58.75$ $65.71$ $41.81$ $27.25$ $2.33$ $59.50$ $66.57$ $42.36$ $27.50$ $2.35$ $60.00$ $67.14$ $42.72$ $27.75$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $2.40$ $61.25$ $68.57$ $43.63$ $28.25$ $2.42$ $61.75$ $70.57$ $44.90$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $62.75$ $71.57$ $44.90$ $29.90$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.50$ $2.54$ $66.75$ $73.71$ $46.90$ $30.92$ $2.63$ $66.75$ $73.71$ $46.90$ $30.95$ $2.64$ $66.25$ $74.57$ $47.45$ $30.90$ $2.58$ $65.50$ $73.71$ $46.90$ $30.92$ $2.66$ $67.75$ $76.57$ $48.72$ $31.60$ $2.68$ $67.75$ $76.57$ $48.72$ $31.45$ $2.70$ $68.25$ $77.71$ $49.45$ $31.6$	25.25	2.14	55.00	61.14	38.90
25.75 $2.19$ $56.25$ $62.57$ $39.81$ $26.00$ $2.21$ $56.75$ $63.14$ $40.18$ $26.25$ $2.23$ $57.00$ $63.71$ $40.54$ $26.50$ $2.26$ $57.75$ $64.57$ $41.09$ $26.75$ $2.28$ $58.25$ $65.14$ $41.45$ $27.00$ $2.30$ $58.75$ $65.71$ $41.81$ $27.25$ $2.33$ $59.50$ $66.57$ $42.36$ $27.75$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $2.40$ $61.25$ $68.57$ $43.63$ $28.25$ $2.42$ $61.75$ $69.14$ $44.00$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.75$ $2.56$ $65.00$ $73.14$ $49.54$ $30.00$ $2.58$ $65.50$ $73.71$ $46.90$ $30.25$ $2.61$ $60.75$ $75.74$ $47.45$ $30.00$ $2.58$ $65.50$ $73.71$ $49.90$ $30.25$ $2.61$ $60.75$ $75.74$ $47.45$ $30.00$ $2.58$ $65.75$ $77.71$ $49.90$ $30.25$ $2.70$ $88.25$ $77.14$ $49.09$ $31.50$ $2.72$ $68.75$ $77.71$ $49.45$ $31.50$ $2.77$ $69.50$ $78.57$ $50.00$ $32.0$	25.50	2.16	55.50	61.71	39.27
$26\cdot00$ $2\cdot21$ $56\cdot75$ $63\cdot14$ $40\cdot18$ $26\cdot25$ $2\cdot23$ $57\cdot00$ $63\cdot71$ $40\cdot54$ $26\cdot50$ $2\cdot26$ $57\cdot75$ $64\cdot57$ $41\cdot09$ $26\cdot75$ $2\cdot28$ $58\cdot25$ $65\cdot14$ $41\cdot45$ $27\cdot00$ $2\cdot30$ $58\cdot75$ $65\cdot71$ $41\cdot81$ $27\cdot25$ $2\cdot33$ $59\cdot50$ $66\cdot57$ $42\cdot36$ $27\cdot50$ $2\cdot35$ $60\cdot00$ $67\cdot14$ $42\cdot72$ $27\cdot75$ $2\cdot37$ $60\cdot50$ $67\cdot71$ $43\cdot09$ $28\cdot00$ ' $2\cdot40$ $61\cdot25$ $68\cdot57$ $43\cdot63$ $28\cdot50$ $2\cdot44$ $62\cdot00$ $69\cdot71$ $44\cdot36$ $28\cdot50$ $2\cdot44$ $62\cdot25$ $71\cdot14$ $45\cdot27$ $29\cdot25$ $2\cdot51$ $63\cdot75$ $71\cdot71$ $45\cdot63$ $29\cdot50$ $2\cdot54$ $64\cdot50$ $72\cdot57$ $46\cdot18$ $29\cdot75$ $2\cdot56$ $65\cdot00$ $73\cdot14$ $45\cdot54$ $30\cdot00$ $2\cdot58$ $65\cdot50$ $73\cdot71$ $46\cdot90$ $30\cdot23$ $2\cdot61$ $66\cdot25$ $74\cdot57$ $47\cdot45$ $30\cdot50$ $2\cdot63$ $66\cdot75$ $75\cdot71$ $48\cdot18$ $31\cdot00$ $2\cdot68$ $67\cdot75$ $76\cdot57$ $48\cdot72$ $31\cdot25$ $2\cdot70$ $88\cdot25$ $77\cdot14$ $49\cdot09$ $31\cdot50$ $2\cdot77$ $70\cdot00$ $78\cdot57$ $50\cdot00$ $32\cdot00$ $2\cdot77$ $70\cdot00$ $79\cdot14$ $50\cdot36$	25.75	2.19	56.25	62.57	39.81
$26\cdot25$ $2\cdot23$ $57\cdot00$ $63\cdot71$ $40\cdot54$ $26\cdot50$ $2\cdot26$ $57\cdot75$ $64\cdot57$ $41\cdot09$ $26\cdot75$ $2\cdot28$ $58\cdot25$ $65\cdot14$ $41\cdot45$ $27\cdot00$ $2\cdot30$ $58\cdot75$ $65\cdot71$ $41\cdot81$ $27\cdot25$ $2\cdot33$ $59\cdot50$ $66\cdot57$ $42\cdot36$ $27\cdot50$ $2\cdot35$ $60\cdot00$ $67\cdot14$ $42\cdot72$ $27\cdot75$ $2\cdot37$ $60\cdot50$ $67\cdot71$ $43\cdot09$ $28\cdot00$ $2\cdot49$ $61\cdot25$ $68\cdot57$ $43\cdot63$ $28\cdot25$ $2\cdot42$ $61\cdot75$ $99\cdot14$ $44\cdot00$ $28\cdot50$ $2\cdot44$ $62\cdot00$ $69\cdot71$ $44\cdot36$ $28\cdot75$ $2\cdot47$ $62\cdot75$ $70\cdot57$ $44\cdot90$ $29\cdot00$ $2\cdot49$ $63\cdot25$ $71\cdot14$ $45\cdot27$ $29\cdot25$ $2\cdot51$ $63\cdot75$ $71\cdot71$ $45\cdot63$ $29\cdot75$ $2\cdot56$ $65\cdot00$ $73\cdot14$ $46\cdot54$ $30\cdot00$ $2\cdot58$ $65\cdot50$ $73\cdot71$ $46\cdot90$ $30\cdot25$ $2\cdot61$ $66\cdot25$ $74\cdot57$ $47\cdot45$ $30\cdot50$ $2\cdot63$ $66\cdot75$ $75\cdot71$ $48\cdot18$ $31\cdot00$ $2\cdot68$ $67\cdot75$ $76\cdot57$ $48\cdot72$ $31\cdot25$ $2\cdot70$ $88\cdot25$ $77\cdot71$ $49\cdot45$ $31\cdot75$ $2\cdot75$ $69\cdot50$ $78\cdot57$ $50\cdot00$ $32\cdot00$ $2\cdot77$ $70\cdot00$ $79\cdot14$ $50\cdot36$	26.00	$2 \cdot 21$	56.75	63.14	40.18
$26\cdot50$ $2\cdot26$ $57\cdot75$ $64\cdot57$ $41\cdot09$ $26\cdot75$ $2\cdot28$ $58\cdot25$ $65\cdot14$ $41\cdot45$ $27\cdot00$ $2\cdot30$ $58\cdot75$ $65\cdot71$ $41\cdot81$ $27\cdot25$ $2\cdot33$ $59\cdot50$ $66\cdot57$ $42\cdot36$ $27\cdot50$ $2\cdot35$ $60\cdot00$ $67\cdot14$ $42\cdot72$ $27\cdot75$ $2\cdot37$ $60\cdot50$ $67\cdot71$ $43\cdot09$ $28\cdot00$ $2\cdot40$ $61\cdot25$ $68\cdot57$ $43\cdot63$ $28\cdot25$ $2\cdot42$ $61\cdot75$ $69\cdot14$ $44\cdot00$ $28\cdot50$ $2\cdot44$ $62\cdot00$ $69\cdot71$ $44\cdot36$ $28\cdot50$ $2\cdot44$ $62\cdot00$ $69\cdot71$ $44\cdot36$ $28\cdot50$ $2\cdot44$ $62\cdot00$ $69\cdot71$ $45\cdot27$ $29\cdot25$ $2\cdot51$ $63\cdot75$ $71\cdot71$ $45\cdot63$ $29\cdot50$ $2\cdot54$ $64\cdot50$ $72\cdot57$ $46\cdot18$ $29\cdot75$ $2\cdot56$ $65\cdot00$ $73\cdot14$ $46\cdot54$ $30\cdot00$ $2\cdot58$ $65\cdot50$ $73\cdot71$ $46\cdot90$ $30\cdot25$ $2\cdot61$ $60\cdot25$ $74\cdot57$ $47\cdot45$ $30\cdot50$ $2\cdot63$ $66\cdot75$ $75\cdot14$ $47\cdot81$ $30\cdot75$ $2\cdot05$ $67\cdot00$ $75\cdot71$ $48\cdot18$ $31\cdot00$ $2\cdot68$ $67\cdot75$ $76\cdot57$ $48\cdot72$ $31\cdot25$ $2\cdot70$ $68\cdot25$ $77\cdot71$ $49\cdot45$ $31\cdot75$ $2\cdot75$ $69\cdot50$ $78\cdot57$ $50\cdot00$ $32\cdot00$ $2\cdot77$ $70\cdot00$ $79\cdot14$ $50\cdot36$	26.25	2.23	57.00	63.71	40.54
26.75 $2.28$ $58.25$ $65.14$ $41.45$ $27.00$ $2.30$ $58.75$ $65.71$ $41.41$ $27.25$ $2.33$ $59.50$ $66.57$ $42.36$ $27.75$ $2.35$ $60.00$ $67.14$ $42.72$ $27.75$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $2.40$ $61.25$ $68.57$ $43.63$ $28.50$ $2.42$ $61.75$ $69.14$ $44.00$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.75$ $2.56$ $65.00$ $73.14$ $46.54$ $30.00$ $2.58$ $65.50$ $73.71$ $46.90$ $30.25$ $2.61$ $60.25$ $74.57$ $47.45$ $30.50$ $2.63$ $66.75$ $75.71$ $48.18$ $31.00$ $2.68$ $67.75$ $76.57$ $48.72$ $31.25$ $2.70$ $68.25$ $77.11$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.00$ $31.50$ $2.72$ $68.75$ $77.71$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.00$ $32.00$ $2.77$ $70.00$ $79.14$ $50.36$	26.50	2.26	57.75	64.57	41.09
$27\cdot00$ $2\cdot30$ $58\cdot75$ $65\cdot71$ $41\cdot81$ $27\cdot25$ $2\cdot33$ $59\cdot50$ $66\cdot57$ $42\cdot36$ $27\cdot50$ $2\cdot35$ $60\cdot00$ $67\cdot14$ $42\cdot72$ $27\cdot75$ $2\cdot37$ $60\cdot50$ $67\cdot71$ $43\cdot09$ $28\cdot00$ ' $2\cdot49$ $61\cdot25$ $68\cdot57$ $43\cdot63$ $28\cdot25$ $2\cdot42$ $61\cdot75$ $69\cdot14$ $44\cdot00$ $28\cdot50$ $2\cdot44$ $62\cdot00$ $69\cdot71$ $44\cdot36$ $28\cdot75$ $2\cdot47$ $62\cdot75$ $70\cdot57$ $44\cdot90$ $29\cdot00$ $2\cdot49$ $63\cdot25$ $71\cdot14$ $45\cdot27$ $29\cdot25$ $2\cdot51$ $63\cdot75$ $71\cdot71$ $45\cdot63$ $29\cdot50$ $2\cdot54$ $64\cdot50$ $72\cdot57$ $46\cdot18$ $29\cdot75$ $2\cdot56$ $65\cdot00$ $73\cdot14$ $46\cdot54$ $30\cdot00$ $2\cdot58$ $66\cdot75$ $75\cdot14$ $47\cdot45$ $30\cdot50$ $2\cdot63$ $66\cdot75$ $75\cdot14$ $47\cdot45$ $30\cdot50$ $2\cdot63$ $66\cdot75$ $75\cdot14$ $47\cdot45$ $31\cdot00$ $2\cdot68$ $67\cdot75$ $76\cdot57$ $48\cdot72$ $31\cdot25$ $2\cdot70$ $68\cdot25$ $77\cdot11$ $49\cdot45$ $31\cdot75$ $2\cdot75$ $69\cdot50$ $78\cdot57$ $50\cdot00$ $32\cdot00$ $2\cdot77$ $70\cdot00$ $79\cdot14$ $50\cdot36$	26.75	2.28	58.25	65.14	41.45
27.25 $2.33$ $59.50$ $66.57$ $42.36$ $27.50$ $2.35$ $60.00$ $67.14$ $42.72$ $27.75$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $'2.40$ $61.25$ $68.57$ $43.63$ $28.25$ $2.42$ $61.75$ $69.14$ $44.00$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.50$ $2.54$ $64.50$ $72.57$ $46.18$ $29.75$ $2.56$ $65.00$ $73.14$ $49.54$ $30.00$ $2.58$ $65.50$ $73.71$ $46.99$ $30.25$ $2.61$ $60.25$ $74.57$ $47.45$ $30.50$ $2.63$ $66.75$ $75.71$ $48.18$ $31.00$ $2.68$ $67.75$ $76.57$ $48.72$ $31.25$ $2.70$ $68.25$ $77.11$ $49.45$ $31.50$ $2.72$ $68.75$ $77.71$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.00$ $32.00$ $2.77$ $70.00$ $79.14$ $50.36$	. 27.00	2.30	58.75	65.71	41.81
27.50 $2.35$ $60.00$ $67.14$ $42.72$ $27.75$ $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ $'2.40$ $61.25$ $68.57$ $43.63$ $28.25$ $2.42$ $61.75$ $69.14$ $44.00$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.50$ $2.54$ $64.50$ $72.57$ $46.18$ $29.75$ $2.56$ $65.00$ $73.14$ $46.54$ $30.00$ $2.58$ $65.50$ $73.71$ $46.99$ $30.25$ $2.61$ $66.25$ $74.57$ $47.45$ $30.50$ $2.63$ $66.75$ $75.14$ $47.81$ $31.00$ $2.68$ $67.75$ $76.57$ $48.72$ $31.25$ $2.70$ $68.25$ $77.14$ $49.09$ $31.50$ $2.72$ $68.75$ $77.71$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.00$ $32.00$ $2.77$ $70.00$ $79.14$ $50.36$	27.25	2.33	59.50	66.57	42.36
27.75 $2.37$ $60.50$ $67.71$ $43.09$ $28.00$ ' $2.43$ $61.25$ $68.57$ $43.63$ $28.25$ $2.42$ $61.75$ $69.14$ $44.00$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.50$ $2.54$ $64.50$ $72.57$ $46.18$ $29.75$ $2.56$ $65.00$ $73.14$ $46.54$ $30.00$ $2.58$ $65.50$ $73.71$ $46.90$ $30.25$ $2.61$ $66.25$ $74.57$ $47.45$ $30.50$ $2.63$ $66.75$ $75.71$ $48.18$ $31.00$ $2.68$ $67.75$ $76.57$ $48.72$ $31.25$ $2.70$ $68.25$ $77.11$ $49.09$ $31.50$ $2.72$ $68.75$ $77.71$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.00$ $32.00$ $2.77$ $70.00$ $79.14$ $50.36$	27.50	2.35	60.00	67.14	42.72
28.00' $2.43$ $61.25$ $68.57$ $43.63$ $23.25$ $2.42$ $61.75$ $69.14$ $44.00$ $28.50$ $2.44$ $62.00$ $69.71$ $44.36$ $28.75$ $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.50$ $2.54$ $64.50$ $72.57$ $46.18$ $29.75$ $2.56$ $65.00$ $73.14$ $46.54$ $30.00$ $2.58$ $65.50$ $73.71$ $46.90$ $30.23$ $2.61$ $66.25$ $74.57$ $47.45$ $30.50$ $2.63$ $66.75$ $75.14$ $47.81$ $30.75$ $2.65$ $67.00$ $75.71$ $48.18$ $31.00$ $2.68$ $67.75$ $76.57$ $48.72$ $31.25$ $2.70$ $68.25$ $77.14$ $49.09$ $31.50$ $2.72$ $68.75$ $77.71$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.36$ $32.00$ $2.77$ $70.00$ $79.14$ $50.36$	27.75	2.37	60.50	67.71	43.09
$28 \cdot 25$ $2 \cdot 42$ $61 \cdot 75$ $89 \cdot 14$ $44 \cdot 00$ $28 \cdot 50$ $2 \cdot 44$ $62 \cdot 00$ $69 \cdot 71$ $44 \cdot 36$ $28 \cdot 50$ $2 \cdot 44$ $62 \cdot 00$ $69 \cdot 71$ $44 \cdot 36$ $28 \cdot 75$ $2 \cdot 47$ $62 \cdot 75$ $70 \cdot 57$ $44 \cdot 90$ $29 \cdot 00$ $2 \cdot 49$ $63 \cdot 25$ $71 \cdot 14$ $45 \cdot 27$ $29 \cdot 25$ $2 \cdot 51$ $63 \cdot 75$ $71 \cdot 71$ $45 \cdot 63$ $29 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 18$ $29 \cdot 75$ $2 \cdot 56$ $65 \cdot 00$ $73 \cdot 14$ $46 \cdot 54$ $30 \cdot 00$ $2 \cdot 58$ $65 \cdot 50$ $73 \cdot 71$ $46 \cdot 90$ $30 \cdot 25$ $2 \cdot 61$ $66 \cdot 25$ $74 \cdot 57$ $47 \cdot 45$ $30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	28.00	2.40	61.25	68.57	43.63
$28\cdot50$ $2\cdot44$ $62\cdot00$ $69\cdot71$ $44\cdot36$ $28\cdot75$ $2\cdot47$ $62\cdot75$ $70\cdot57$ $44\cdot90$ $29\cdot00$ $2\cdot49$ $63\cdot25$ $71\cdot14$ $45\cdot27$ $29\cdot25$ $2\cdot51$ $63\cdot75$ $71\cdot71$ $45\cdot63$ $29\cdot50$ $2\cdot54$ $64\cdot50$ $72\cdot57$ $46\cdot18$ $29\cdot75$ $2\cdot56$ $65\cdot00$ $73\cdot14$ $46\cdot54$ $30\cdot00$ $2\cdot58$ $65\cdot50$ $73\cdot71$ $46\cdot90$ $30\cdot25$ $2\cdot61$ $66\cdot25$ $74\cdot57$ $47\cdot45$ $30\cdot50$ $2\cdot63$ $66\cdot75$ $75\cdot14$ $47\cdot81$ $30\cdot75$ $2\cdot65$ $67\cdot00$ $75\cdot71$ $48\cdot18$ $31\cdot00$ $2\cdot68$ $67\cdot75$ $76\cdot57$ $48\cdot72$ $31\cdot25$ $2\cdot70$ $68\cdot25$ $77\cdot14$ $49\cdot09$ $31\cdot50$ $2\cdot72$ $68\cdot75$ $77\cdot71$ $49\cdot45$ $31\cdot75$ $2\cdot75$ $69\cdot50$ $78\cdot57$ $50\cdot00$ $32\cdot00$ $2\cdot77$ $70\cdot00$ $79\cdot14$ $50\cdot36$	28.25	. 2.42	61.75	69.14	44.00
28.75 $2.47$ $62.75$ $70.57$ $44.90$ $29.00$ $2.49$ $63.25$ $71.14$ $45.27$ $29.25$ $2.51$ $63.75$ $71.71$ $45.63$ $29.50$ $2.54$ $64.50$ $72.57$ $46.18$ $29.75$ $2.56$ $65.00$ $73.14$ $49.54$ $30.00$ $2.58$ $65.50$ $73.71$ $46.90$ $30.25$ $2.61$ $66.25$ $74.57$ $47.45$ $30.50$ $2.63$ $66.75$ $75.14$ $47.81$ $30.75$ $2.65$ $67.00$ $75.71$ $48.18$ $31.00$ $2.68$ $67.75$ $76.57$ $48.72$ $31.25$ $2.70$ $68.25$ $77.71$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.00$ $32.00$ $2.77$ $70.00$ $79.14$ $50.36$	28.50	2.44	62.00	69.71	44.36
$29 \cdot 00$ $2 \cdot 49$ $63 \cdot 25$ $71 \cdot 14$ $45 \cdot 27$ $29 \cdot 25$ $2 \cdot 51$ $63 \cdot 75$ $71 \cdot 71$ $45 \cdot 63$ $29 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 13$ $29 \cdot 75$ $2 \cdot 56$ $65 \cdot 00$ $73 \cdot 14$ $46 \cdot 54$ $30 \cdot 00$ $2 \cdot 58$ $65 \cdot 50$ $73 \cdot 71$ $46 \cdot 90$ $30 \cdot 25$ $2 \cdot 61$ $66 \cdot 25$ $74 \cdot 57$ $47 \cdot 45$ $30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 50$ $2 \cdot 72$ $68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	28.75	2.47	62.75	70.57	44.90
$29 \cdot 25$ $2 \cdot 51$ $63 \cdot 75$ $71 \cdot 71$ $45 \cdot 63$ $29 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 18$ $29 \cdot 75$ $2 \cdot 56$ $65 \cdot 00$ $73 \cdot 14$ $43 \cdot 54$ $30 \cdot 00$ $2 \cdot 58$ $65 \cdot 50$ $73 \cdot 71$ $46 \cdot 90$ $30 \cdot 25$ $2 \cdot 61$ $66 \cdot 25$ $74 \cdot 57$ $47 \cdot 45$ $30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	29.00	2.49	63.25	71.14	45.27
$29 \cdot 50$ $2 \cdot 54$ $64 \cdot 50$ $72 \cdot 57$ $46 \cdot 18$ $29 \cdot 75$ $2 \cdot 56$ $65 \cdot 00$ $73 \cdot 14$ $43 \cdot 54$ $30 \cdot 00$ $2 \cdot 58$ $65 \cdot 50$ $73 \cdot 71$ $46 \cdot 90$ $30 \cdot 25$ $2 \cdot 61$ $66 \cdot 25$ $74 \cdot 57$ $47 \cdot 45$ $30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 71$ $48 \cdot 18$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 50$ $2 \cdot 72$ $68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	29.25	2.51	63.75	71.71	45.63
$29 \cdot 75$ $2 \cdot 56$ $65 \cdot 00$ $73 \cdot 14$ $46 \cdot 54$ $30 \cdot 00$ $2 \cdot 58$ $65 \cdot 50$ $73 \cdot 71$ $46 \cdot 90$ $30 \cdot 25$ $2 \cdot 61$ $66 \cdot 25$ $74 \cdot 57$ $47 \cdot 45$ $30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	29.50	2.54	64.50	72.57	46.18
$30 \cdot 00$ $2 \cdot 58$ $65 \cdot 50$ $73 \cdot 71$ $46 \cdot 90$ $30 \cdot 25$ $2 \cdot 61$ $66 \cdot 25$ $74 \cdot 57$ $47 \cdot 45$ $30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	29.75	2.56	65.00	73.14	46.54
$30 \cdot 25$ $2 \cdot 61$ $66 \cdot 25$ $74 \cdot 57$ $47 \cdot 45$ $30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $\cdot 68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	30.00	2.58	65.50	73.71	46.90
$30 \cdot 50$ $2 \cdot 63$ $66 \cdot 75$ $75 \cdot 14$ $47 \cdot 81$ $30 \cdot 75$ $2 \cdot 65$ $67 \cdot 00$ $75 \cdot 71$ $48 \cdot 18$ $31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $\cdot 68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	30.25	2.61	66.25	74 57	47.45
30.75 $2.65$ $67.00$ $75.71$ $48.18$ $31.00$ $2.68$ $67.75$ $76.57$ $48.72$ $31.25$ $2.70$ $68.25$ $77.14$ $49.09$ $31.50$ $2.72$ $68.75$ $77.71$ $49.45$ $31.75$ $2.75$ $69.50$ $78.57$ $50.00$ $32.00$ $2.77$ $70.00$ $79.14$ $50.36$	30.50	2.63	66.75	75.14	47.81
$31 \cdot 00$ $2 \cdot 68$ $67 \cdot 75$ $76 \cdot 57$ $48 \cdot 72$ $31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $\cdot 68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	30.75	2.65	67.00	75.71	48.18
$31 \cdot 25$ $2 \cdot 70$ $68 \cdot 25$ $77 \cdot 14$ $49 \cdot 09$ $31 \cdot 50$ $2 \cdot 72$ $68 \cdot 75$ $77 \cdot 71$ $49 \cdot 45$ $31 \cdot 75$ $2 \cdot 75$ $69 \cdot 50$ $78 \cdot 57$ $50 \cdot 00$ $32 \cdot 00$ $2 \cdot 77$ $70 \cdot 00$ $79 \cdot 14$ $50 \cdot 36$	31.00	2.68	67.75	76.57	48.72
31·50         2·72         '68·75         77·71         49·45           31·75         2·75         69·50         78·57         50·00           32·00         2·77         70·00         79·14         50·36	31.25	2.70	68.25	77.14	49.00
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	31.50	2.72	*68.75	77.71	49.45
32.00 2.77 70.00 79.14 50.36	31.75	2.75	69.50	78.57	50.00
	32.00	2.77	70.00	79.14	50.36

The figures in Table III are worked out on the following basis:----

	Cheese.	Butter.
1 pound fat produces. 100 pounds 3.5 per cent milk produces. Cost of making per pound.	$\begin{array}{c} 2 \cdot 65 \text{ pounds} \\ 9 \cdot 30 & \text{``} \\ 2\frac{1}{4} \text{ cents} \end{array}$	$\begin{array}{c} 1 \cdot 20 \text{ pounds} \\ 4 \cdot 20  \text{``} \\ 4 \text{ cents} \end{array}$

If 100 pounds of milk testing 3.5 per cent of fat produces 9.3 pounds of cheese, which is sold at the prices indicated in column 1, with a manufacturing charge of  $2\frac{1}{4}$  cents per pound of cheese deducted, and the value of the whey not taken into consideration:—

Column 2 shows the net return for 100 pounds of milk;

Column 4 shows the net return for 1 pound of fat;

Column 5 shows the net return for one pound of "fat and casein," if the proceeds are divided according to the "Fat + 2" method.

If 100 pounds of milk testing 3.5 per cent of fat produces 4.2 pounds of butter, for which a manufacturing charge of 4 cents per pound is deducted and the value of the skim milk is not taken into consideration:—

Column 3 shows the price at which the butter must be sold to realize the same net return 100 pounds of milk or per pound of fat or per pound of "fat and casein" sa is shown in columns 3/4 and 5, respectively.

If a producer knows what net price he can realize for 100 pounds of milk or for one pound of "fat and casein," as the case may be, this net return may be located in column 3 or column 5, and the same line in column 4 will indicate the net price which must be obtained for 1 pound of fat to equalize the price being obtained by either of the other two methods.

The value of the by-products (whey and skim milk) varies, since at times it is impossible for the producer to feed all of the by-products, and since their value depends also on the probable market value of the stock to which they are fed. Consequently, the value of the by-products is not taken into consideration in Table III. Each producer may estimate the value of the by-products in his own particular case and add the estimated value of the by-products to the value of the milk as shown in this Table. Table I shows the pounds of by-products from 100 pounds of milk.

In order to ascertain the net return of milk testing other than  $3 \cdot 5$  per cent of fat, the net value per pound of the cheese or butter must be determined by subtracting the cost per pound of manufacturing from the selling value per pound of the product. This net price per pound, multiplied by the yield of the product per 100 pounds of milk as shown in Table II will give the net return for 100 pounds of milk. The net return for 100 pounds of milk divided by the per cent of fat in the milk will give the net return for one pound of fat.

For example:—If milk tests  $3 \cdot 8$  per cent of fat while cheese sells for  $24\frac{1}{2}$  cents per pound and the cost of manufacturing is  $2\frac{1}{4}$  cents per pound, the net value to the producer of 1 pound of cheese is  $24\frac{1}{2}$  cents  $-2\frac{1}{4}$  cents  $=22\frac{1}{4}$  cents. Referring to Table II, 100 pounds of milk testing  $3 \cdot 8$  per cent of fat will produce approximately  $9 \cdot 72$  pounds of cheese. Therefore the net return of 100 pounds of milk is  $9 \cdot 72 \times 22\frac{1}{4}$  cents = \$2.16. The net return for 1 pound of fat is determined by dividing \$2.16 by  $3 \cdot 8$ , which gives  $56 \cdot 84$  cents. The value of the same milk manufactured into butter may be determined in a similar way if the market value of butter is known. If the cost of manufacturing differs from the figures used in the table, the correct figures may be substituted. Digitized by the Internet Archive in 2012 with funding from Agriculture and Agri-Food Canada – Agriculture et Agroalimentaire Canada

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