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This rule is based on the figures given in the accompanying table:

Casein	Total Protein	Total Protein*	Casein	Total Protein	Total Protein*
Found	Found	Casein	Found	Found	Casein
2.54	3.16	1.244	3.01	3.79	1.252
2.42	2.99	1.235	3.13	4.04	1.290
2.46	3.04	1.235	2.29	2.81	1.227
2.52	3.13	1.242	2.34	3.02	1.290
2.61	3.25	1.245	2.47	3.24	1.301
2.68	3.33	1.242	2.43	3.07	1.262
2.71	3.40	1.245	2.39	3.02	1.262
2.80	3.47	1.239	2.55	3.20	1.255
2.90	3.57	1.231	2.81	3.55	1.262
Average.....					1.252

1. Total solids:
 $L/4 + (1.2 \times F) = \text{total solids.}$
2. Solids not fat:
 $L/4 + (0.2 \times F) = \text{solids not fat.}$
3. Casein:
 $(F - 3) \times 0.4 + 2.1 = \text{per cent. of casein.}$
4. Total proteins:
 - (a) $(F - 3) \times 0.4 + 2.8 = \text{per cent. total proteins.}$
 - (b) $\text{Casein} \times 1\frac{1}{4} = \text{per cent. total proteins.}$

* The figures under this heading were obtained by dividing the per cent. of total protein by the per cent. of casein.

5. Sugar:

(a) Total solids — ($F + \text{total protein} + 0.9$) = per cent. sugar.(b) Solids not fat — ($\text{total protein} + 0.9$) = per cent. sugar.

L = the reading of the Quevenne lactometer.

F = the per cent. of fat as determined by the Babcock method.

In rules 5 (a) and 5 (b) the 0.9 is introduced in order to compensate for the ash and organic substances not otherwise accounted for (citrates, etc.).

Rules 1, 2, 3 and 4 (a) are taken from "The Science and Practice of Cheese Making," by Van Slyke and Publow.

The accuracy of these rules is shown by the figures given in Table 2.

TABLE 2.—APPROXIMATE COMPOSITION OF MILK CALCULATED FROM LACTOMETER READINGS AND BABCOCK TEST

	Solids	Fat	Casein	Total Protein	Sugar, Ash, Etc.	Sugar
Found....	11.98	3.43	2.29	2.81	5.74	
Calculated	.....	....	2.27	2.85	5.70	4.80
Found....	12.43	3.58	2.34	3.02	5.83	
Calculated	.....	....	2.33	2.91	5.94	5.04
Found....	12.64	3.64	2.47	3.24	5.76	
Calculated	.....	....	2.36	2.95	6.05	5.15
Found....	12.52	3.62	2.43	3.07	5.83	
Calculated	.....	....	2.35	2.94	5.96	5.06
Found....	12.65	3.84	2.39	3.02	5.79	
Calculated	.....	....	2.44	3.03	5.78	4.88
Found....	12.86	3.98	2.55	3.20	5.68	
Calculated	.....	....	2.49	3.11	5.77	4.87
Found....	13.50	4.23	2.81	3.55	5.72	
Calculated	.....	....	2.59	3.24	6.03	5.13