

Again, some medical men strongly recommend milk from one cow, or mixed cow's milk, either of its natural strength or diluted in different proportions with water. There is the same difficulty in getting at a reliable standard for the composition of cow's milk as in woman's milk, but the variations in the analyses of the former are not so marked. I have taken the mean of the results obtained by four eminent chemists, and this gives the composition of the solids of cow's milk as follows:—Casein, 4.68; fat, 3.75; milk sugar, 4.26; and salts, .62 per cent. From these figures I get the quantity of milk solids as in case of the other milks.

The following table expresses the estimated quantities, in ounces, of the various milk solids taken by an average child in twenty-four hours, when fed on mother's milk, condensed milk, cow's milk, and mixtures of cow's milk and water.

	Mother's milk. 3 pints.	Sweetened condensed milk (A). 3½ pints.	Unsweetened condensed milk (B). 3½ pints.	Pure cow's milk. 3 pints.	½ parts cow's milk, 1 part water. 3 pints.	Equal parts cow's milk and water. 3 pints.	1 part cow's milk and 2 parts water. 3 pints.
Casein.	1.57	1.12	1.12	1.57	1.4	1.12	.93
Fat.	1.3	1.04	1.15	1.5	1.5	1.27	.75
Milk sugar.	3.42	1.41	1.37	3.42	1.7	1.37	.85
Mineral matter.	.12	.15	.12	.12	.24	.18	.12
Cane sugar.		3.30					
Total solids. ...	6.01	7.11	3.96	7.07	5.31	3.97	2.65

It is hardly necessary for me to analyse this table; each one who has an interest in the question can do this for himself and draw his own conclusions. It is very evident, however, that as they stand the milk that comes nearest the mother's milk in the total amount of solids is the sweetened condensed milk. The milk that approximates most nearly in the quantities of casein and fat is the mixture of two parts cow's milk and one part water; but this is of course deficient in the saccharine principle, and requires the addition of either milk sugar or cane sugar to the extent of one and a half ounces per day. The deficiency of casein and fat in the diluted condensed milk could be got over by making the milk stronger, that is, by adding less water, but this increases the quantity of cane sugar also, which is undoubtedly not desirable. As compared with mother's milk even the best of these substitutes is no better than an approximation, but there are several reasons why condensed milk should have the preference over ordinary cow's milk.

Objection is frequently taken to the use of sweetened condensed milk, and from various standpoints. For example;

we are told that the excess of cane sugar decomposes and forms lactic acid which gives rise to irritation and diarrhoea; but this may readily be obviated by a more or less liberal allowance of lime water, this being particularly necessary during teething time, when the natural tendency is for acid secretions to be formed. We are further assured that ossification is retarded by the use of this milk. The following sentences are quoted as an example of a common line of argument, from a work intended as a text-book for students, and published so lately as this year. The author says:—"Condensed milk cannot be regarded as a model food in the same way as pure milk, for the proportions of heat-giving and nitrogenous matters are too high. Children fed upon it fatten rapidly, but, owing to the comparatively small quantity of saline matter present, the bones are only imperfectly formed. Generally a weak state is produced and a predisposition to disease." With reference to these statements, it is obvious from the tables I have given, that the nitrogenous matter is not too high; on the contrary, it is rather low; and that the saline matter is not present in "comparatively small quantity," but, as compared with human milk, in large quantity. The idea expressed in the last sentence is also very common, but I would be glad to see the statistics on which it is based. I find that medical men themselves can rarely point to a single case among the hundreds that pass through their hands, and say "that child has been injured by the use of condensed milk." My own observation leads me to believe that children fed on condensed milk are quite as healthy and as able to resist disease as those fed on ordinary cow's milk, and while I am not at all inclined to regard the former as a perfect food, I prefer it to the latter, even when that is mixed so as to be brought to the nearest possible approximation to human milk, for several reasons.

Condensed milk is more digestible than ordinary cow's milk, a fact which is admitted even by those who say it should not be used. It is less liable to turn sour in the bottle—and how great a boon this is is known only to those who have to do with feeding-bottles. It is less liable to decompose in the stomach. A medical friend informs me that he frequently finds that children fed on cow's milk are troubled with flatulency, diarrhoea, green-stools, and want of health generally, and that on changing the food to condensed milk these symptoms at once disappear and a most healthy condition of body is induced. Condensed milk is less liable to vary in composition and more likely to be pure. It is well known that the quality of cow's milk

varies with the food supplied to the cow, and as in these days it is often the main object to have quantity, quality is frequently at a discount. Besides this, the change of a cow, the introduction of a new cow into the dairy, the use of milk before it is quite free from the colostrum, all these have often been accompanied by dangerous results. Now this cannot happen with condensed milk. It is in the interests of the dairymen themselves to use the very richest milk for condensing purposes; the cows are fed on Nature's food, whether in the green Swiss valleys or the Norwegian dals, or "in the pastures of the far-famed Acadia of Longfellow's 'Evangeline,'" as one advertisement sets forth in poetic language; and if due care is taken to mix and properly condense and preserve the milk, the chances of variation or impurity are indeed few and far between.

The conclusion, therefore, to which I arrive is that when mother's milk is not available, a good sweetened condensed milk is the best substitute, and, though it is not by any means a model food, it is not quite so unsatisfactory as some authorities would have us believe.

P.S.—Since the above was in type, I notice in the *Chemical News*, for Dec. 5, the first instalment of a very complete paper by Professor Albert Leeds, on "The Composition and Methods of Analysis of Human Milk." So far as it has gone this valuable communication contains nothing that affects the tables I have drawn up. The percentage of ash in the sample with which Professor Leeds experimented was 0.21, which very nearly corresponds with what I have given as the mean of four analyses, viz. 0.2, and the other figures as stated above may also be accepted as giving an equally reliable average.

PREVENTION OF MILK FEVER.

There has been much written about milk fever; various remedies are given for it, claimed as certain, but still we often hear of fatal cases, and these usually where the cow is of high value.

Two kinds of treatment, to prevent the disease, are advanced by experts, exactly the reverse of each other, one tending to lower the tone of the system, the other to reinforce it. It seems to me that both are wrong and both right, for the treatment should depend on the condition of the animal, aiming to put her in that state which will best encounter the strain to be put on her, especially the feverishness invariably accompanying calving.

If a cow in the sixth or seventh month is low in condition, whether she feeds well or not, means should be taken to put her on the gaining road. The