

MODIFIED MILK VERSUS WHEY MIXTURES.*

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ALL of us are agreed, I presume, that human milk is the best form of food for the feeding of infants. As all the constituents of human milk are also found in cow's milk, though in different proportions, it would seem that all one has to do is to make the different ingredients in cow's milk correspond to those in human milk.

It was on this theory that Rotch first began his investigations and finally gave us an insight into milk percentages.

The first requisite for any definite modification of cow's milk for infant feeding is a clear-cut idea of the average composition of human and cow's milk.

Let us first look at the composition of human milk, and then cow's milk.

HUMAN MILK.		Cow's MILK.	
Fat.....	4 per cent.	Fat.....	4 per cent.
Sugar.....	7 "	Sugar.....	4.5 "
Proteids ..	1.5 "	Proteids ..	4 "
Salts	.2 "	Salts	.7 "
Reaction ..	Neutral	Reaction ..	Acid.
Water.		Water.	

The salts we need not consider. They are probably beyond our control anyway. The sugar is practically two-thirds more in human milk. All one has to do is to raise the percentage of milk sugar from 4.5 to 7 per cent. Formula to follow. The proteids have to be reduced from 4 to 1.5 per cent. Simple dilution with water will effect this.

1 dilution will give	2 per cent.
2 dilutions	1.33 "
3 "	1 "
4 "	.80 "

Thus you see that two dilutions, i.e., two parts water to one part milk, will give about the same proportion of proteids that exist in human milk. While simple dilution reduces the proteids to about the right percentage, it also reduces the fat to an equal extent—an amount altogether too small to keep an infant round, plump and well-padded. Therefore, some other plan than mere dilution will have to be adopted.

The simplest and most practical formula for introducing definite percentages in milk mixtures that I have yet seen is the Scott formula, figured out by Dr. Paul L. Scott, of this city.

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