

OUR PRIZE COMPETITION.

WHY IS MILK AN IDEAL FOOD? MENTION SOME WAYS IN WHICH IT MAY BE MADE MORE DIGESTIBLE.

We have pleasure in awarding the prize this week to Miss J. G. Gilchrist, Gilmore Place, Edinburgh.

PRIZE PAPER.

Milk contains all the proximate principles necessary for the nourishment of the tissues, having about 4 per cent. of proteids in the form of casein; 4.5 per cent. of carbo-hydrates in the form of milk sugar, and 3.5 per cent. of fat and salts in solution. By consuming several pints of milk per day one would have about the proper amount of each element essential for the maintenance of the body, though this, of course, is an impracticable diet for adults in active work and health. Life, moreover, can be sustained longer on milk alone than on any other single article of food. It is further accepted as the ideal food for the infant and growing child, and is an indispensable food in sickness and weakness from malnutrition, whether taken as whole milk, or in a modified form. Good whole milk should contain not less than 3 per cent. of butter fat, and 8.5 per cent. of solids not fat.

Skimmed milk is simply milk from which the cream has been removed after it has stood some hours.

Separated milk is milk from which the cream has been removed in a machine called a cream separator. Almost the whole of the cream is separated from the milk by this method, and in this respect separated milk differs from skimmed milk in which only the cream which rises is removed. Fat in cream ranges from 25 to 40 per cent. Amongst various forms in which milk is now frequently used are—Preserved milk, sold in air-tight tins. It is condensed by the process of removing water by evaporation. Two kinds are ordinarily sold: that sweetened by cane sugar, and the unsweetened. "Condensed" milk is taken to mean whole milk deprived of a proportion of its water *only*, but the cheap kinds of tinned milk are usually made from skimmed milk, and are thus not suitable for the purpose of nourishment, especially in the case of infants, as there is not nearly enough cream in them. The proteid matter constituting the curd of milk is not easily digested by infants and those in a weak state of health from disease, and to modify the proteid constituents some form of diluent may be used, and by doing this the quantity of fat is also lessened. Plain sterile "boiled" water, lime or barley water are

commonly used, thus making the milk "lighter" and preventing the formation of a tense tough clot. Lime water lessens the acidity. Soda and potash water in syphons are a convenient method for the same purpose for adults. Milk may be peptonized or pre-digested by a peptogenic milk powder being added to the required quantity of modified milk, usually equal parts of milk and water being employed, the milk mixture being varied to suit the invalid's condition regarding digestion in stomach or bowels.

Milk may be separated into curds and whey, by means of rennet, in the proportion of 1 dram to a pint of milk. Whey contains lactalbumin, sugar of milk, and a very small amount of casein and fat, the latter being left in the mass of curd. Whey will often be retained when more nutritive food is persistently rejected, more fat being taken from the curd when desired by beating the clot and allowing it to strain through into the whey. Wine whey, lemon whey, and cream wine whey are all good preparations, the milk, after curdling by the agent used, being strained through muslin.

Albulactin, a powder sold in tins, is a valuable digestive preparation, being especially successful in the case of delicate infants artificially fed. Glaxo, an unadulterated form of dried milk, is a good and useful form when travelling about, or when fresh cow's milk cannot be readily obtained.

In comparison with cow's milk, that of the ass and goat have a smaller percentage of proteid matter, but the latter has a larger percentage of fat. They occasionally prove more suitable to both infants and invalids.

HONOURABLE MENTION.

The following competitors are awarded honourable mention:—Miss E. F. Mason, Miss T. Commings, Miss Dora Vine, Miss A. Musto, Miss A. M. Solly.

QUESTION 'FOR' NEXT WEEK.

What do you know of anti-typhoid vaccination and its preventive influence?

WHAT IS STERILE MILK?

In reply to the above question, the following reply is given in *The Modern Hospital*:—

Pasteurization destroys most of the micro-organisms in milk, and is supposed to destroy all those that are harmful, but it does so at the lowest temperature that will perform the work. Generally about 140° F. for twenty minutes is the temperature and time used. Nearly always there are some micro-organisms, more espe-

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