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# The Food Value of Milk

By HELENE HEYE

PERHAPS all of us remember the old fairy story in the grade school reader—the story of the old couple who gave their last bit of food to a hungry wayfarer, and who were rewarded in part by the gift of a magical pitcher that would supply milk in such quantity as they desired?

If each home could have such a pitcher, our dairy problems would be solved. There would be no epidemics borne of careless handling of milk resulting in contamination, no high costs of production resulting from boarder cows and inefficient delivery, no pasteurization or storage problem.

With the resulting use of much milk a higher degree of vigor and health would follow. In this connection may I suggest experiments by Dr. Sherman in which adding more milk to an already adequate diet resulted in this very way down through the generations of rats upon which he was experimenting. These results lead us to wonder whether or not we should encourage a much larger consumption of milk. If you are interested in reading all of Dr. Sherman's article, it is in the December, 1926, number of "Industrial and Engineering Chemistry."

Leaving this Utopia with no problems of milk production and the splendid, vital race of people inhabiting it, we return to earth and the problems confronting us. The housekeeper is obliged to face these problems from a dollars and cents standpoint—plus, I hope, a common sense standpoint. She is faced by such questions—how much shall I spend for milk, what kind shall I buy, where shall I buy it, and how shall I get my family to drink it when it has been bought?

How much shall one spend for milk? Usually one of two answers is given.

If the family has a budget or keeps accounts or has any method of arriving at the amount of money spent for various food classes, the advice that is usually given is as follows: Spend as much money for milk and cheese as for meat and fish, the total expenditure of the two items being considered. The same amount should be spent for fruit and vegetables.

The other method of arriving at the amount spent for milk is to allow at least a quart for each child and a pint for each adult. This is considered the minimum and perhaps if Dr. Sherman's experiments are regarded as indicative of the same results when applied to human nutrition, the amount should be increased, especially if the family is a little under grade physically. The use of skim milk for cooking and the more extensive use of cottage cheese would prove a very inexpensive means of using more milk.

May I pause just a moment to say a word about cottage cheese? We westerners claim that "men are men", regardless of social status—in fact, we say we have no social status. We pride ourselves on our democracy. We score our fellow men on what they are and do—not on what their families happen to be, or how they dress, or how awkwardly they set their feet down. At least, we often hear the comment that these things make no difference. And yet, are we not a bit snobbish at heart? Prove it? Did you ever see anyone turn up his nose at skim milk? or buttermilk? or cottage cheese? To be sure, we feed skim milk and buttermilk to our livestock, but that can hardly be used as an argument against them. The stock does very well indeed on them!

Skim milk contains all the food elements of whole milk with the exception of the butterfat. The removal of the butterfat takes with it the greater part of the calorific value and a valuable source of vitamin A. But the calcium, phosphorus and protein, which is especially valuable because of its kind, remain in greater concentration if like amounts of whole and skim milk are compared. Buttermilk is essentially the same in composition as skim milk.

Cottage cheese, returning to my original topic, contains the same nutrients as skim milk, with the exception of the carbohydrate, or milk sugar, which remains in solution in the whey. Since carbohydrate is abundant in the average dietary, usually composing the larger part of it, and this loss is not important, we can say that cottage cheese is an important source of protein, phosphorus and calcium. Economically and nutritionally, it would be profitable to include more of this food in our dietaries.



Bacteria multiply rapidly in warm milk.

Now let us consider the question of what kind of milk to buy and where to buy it. If you do not buy from a reliable dealer, who guarantees clean and sanitary production and storage at a low temperature, be sure that you know the conditions under which the milk you buy is being produced. Frequently, one is more than willing to pay an extra cent or two for milk if one can see the conditions under which various dairies produce milk. It seems that microorganisms are even more intelligently selective than are human beings. Judging from bacterial counts of milk, microorganisms are particularly fond of milk as a beverage. Care must be taken to prevent initial infection, and then additional care must be taken to prevent the rapid multiplication of those bacteria that do get in. Unless the cow and the stable are kept clean, unless covered pails are used in milking and the milker is cleanly, careful and healthy; unless utensils are carefully washed and sterilized, and the milk cooled quickly and kept cool, the bacterial count will rise rapidly.

These considerations carry us at once into the expense involved in the production of clean milk. With more rigid enforcement for healthful conditions in the production of milk comes increased expense. However, increased efficiency in production will probably tend to keep prices down even with this increased cost of production due to sanitary regulations and inspection.

Pasteurization, as practiced by the modern milk plant, provides safety against infection due to pathogenic organisms, and if done properly has no effect on the taste and very little effect on the nutritive and physical properties of milk. Pasteurization offers no excuse for the production of milk under unsanitary conditions. If your family doesn't like milk, it may be because it is lacking in quality. We have federal and state standards for butterfat and total solid content—unfortunately, we cannot regulate "off-flavors" in milk. Personally, I think there is a great deal of truth in the statement, "It is no wonder that so many children

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The child who does not like milk is beginning life under a physical and economical handicap.

the campus is a fine thing. I recall the first football game that my father attended. My brother was playing on the high school team. Father went to see him. He was not concerned with rules nor scores, but "Where's my boy?" After every scrimmage, "Where's the boy?" He was interested in football for all time. Thus, the interests of the children may well find a place in the program of the home.

May I state very frankly my own ideas about this problem, that unless the home is organized to include children in it, we can never reach any very high place? In a home where there are no children, the spirit of that home should reach out to those little ones who have no parents and it should make that home shelter those fatherless and motherless children. I have not the words to fittingly express my feeling with reference to the man or woman who wastes his affection upon an animal with four legs and a tail and whose sole bit of self expression is "Bow Wow". I think that it is a terrible criticism upon the home that is so organized. I recall a time, just after I had left college when I went west and met a man who told me of his courtship days. "Before we were married, we talked over the whole program of the home which we would build," he said. "We knew what we were going to do; how we would handle finances. We wouldn't buy this or that until we could afford it. We counselled about everything. We talked over our club and lodge relationships. We each knew how the other stood as members of society. We talked about buying a home. We talked about my work and the time it would take. Even the amount of travel that we would do was planned." It was my privilege to live in that home and I found it ideal.

I hope that upon this campus and upon others, college men and women will meet together and fairly and squarely face the problems of the home; that they will bring together all of their notions and ideas, ideals and conceptions, whatever they may be. I hope that having brought them together they may merge them in one discussion together in class rooms. I have great hopes for the stimulating and satisfying home of the twentieth century.

Clarice Iles, who was graduated from the Home Economics Division of Iowa State College in 1924, is a dietitian at the Broadlawns Hospital in Des Moines. She writes, "Diet work here consists mainly of a high protein diet, with basic and smooth diets in special cases. I feel that I am gaining some valuable experience in buying and cost accounting, the buying for all the Polk County hospitals being taken care of from this department."

### CORRECTION

The foods and nutrition article, "Have You Analyzed Your Headache?" which appeared in last month's *Home-maker*, was written by Mary Louise Buchanan.

### The Food Value of Milk

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do not like milk—there is so much poor milk on the market."

The responsibilities of the homemaker do not end with the selection of clean, wholesome milk. A great deal of good milk is spoiled after it gets into the home. Perhaps I should modify the foregoing statement by saying, a great deal of milk is spoiled on the doorstep of the home. Have you ever passed down your street in the middle of the morning and seen the family milk bottles and the family cat or puppy enjoying the sunshine on the front steps together? We will eliminate the family pets from the discussion by granting the sunshine is good for them. In the case of the milk the situation is slightly different. With the rise in temperature resulting, the bacteria multiply rapidly, and even if no harmful pathogenic bacteria are present and no serious trouble follows, it is annoying to find that the baby has developed a "tummy-ache" or that the milk we planned to use for dinner at night is sour.

Unless your milkman has regular hours and you know just when to expect him, have him ring the doorbell, and take the milk in immediately and put it in a cool place. Wash off the milk bottles before putting them away—it saves time later. And always be sure to wash the top carefully—maybe if milk bottles had handles it would not be so convenient to carry them with the fingers over the top.

If the family or some one member of it doesn't like milk, maybe it would be best to try to find out why they do not. Often it is because mother and father do not drink it, or drink it with facial or verbal protest. It is proved daily that babies will take cod liver oil and like it, if the one administering it can say with tones of sincerity—and a feeling of hypocrisy—"Mm! Isn't it good!" How much more easy should it be to stimulate an interest in milk.

The family attitude sometimes has to be remade in order that the children will like milk. Sometimes interest must be stimulated artificially. Try giving it to the reluctant child in an unusual cup or a cup with his initial on it, or in a glass with a straw. Never cultivate distaste for milk by giving something a child does not like in a glass of milk. If a child does not like spinach juice, do not cause the dislike to be associated also with

milk by mixing the two. Sometimes the neighbor's child who has been more fortunate in his introduction to milk, or his natural inclination for milk, will unconsciously create an interest by his hearty cooperation in the disappearance of the milk quota if he is invited over to luncheon or dinner.

My memory fails me in an attempt to give all the details of a successful attempt to stimulate interest in milk.

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As the details are unimportant, and as the case might serve to suggest better methods or ideas, I am offering what I remember. In this instance there happened to be several children who consistently refused milk. The parents finally devised a nautical game in which buttered toast and milk played the principal parts. It is the other principals—Adam and Eve by name—whose identity escapes my memory. Perhaps, in fact I am sure, they were imaginary creatures and existed only by virtue of their spirit. The milk in the bowl was the sea and the toast the raft, and the game was called "Adam and Eve on a raft—*Wreck them!*" This consisted of the disappearance of the raft—and the sea followed the raft as a natural event. The popularity of

the game led to the use of whole wheat toast as the children's demand was principally for bread and milk from that time on. In the case of an only child, daddy and mother will have to enthusiastically join the "wrecking crew" if the venture is to be a success. I can even conceive that such a venture might be fun!

Whatever the means, the acceptance of milk naturally and happily is a priceless heritage for every child, and the child who does not like milk is beginning life under a physical and economical handicap.

### A Bit About Switzerland

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would expect to have it every day. 'Petting' is absolutely unknown.

"Travelers who stay at the large hotels do not see the Swiss people and learn very little of their life, for the native is retiring, tho friendly, and he does not often mix with the foreigners. Sports in winter and the mountains and scenery in summer draw great crowds of people into Switzerland. St. Moritz is especially well known for its skating, skiing and coasting but the whole country abounds with winter sports. The hotels are an important source of revenue for the people.

"The Swiss have given contributions of various sorts to the world. Geneva has always been a place of peacemaking. Swiss watches are world famous. The making of milk chocolate was discovered in the Peters' chocolate factories many years ago. Giuyere cheese is a product of Switzerland. The parcel post system was first adopted there and the United States has been the last to take it up. In Switzerland even trunks can be sent by mail.

"As a people, the Swiss are not particularly famous for their art altho they have a keen appreciation of beauty and have established a number of famous museums. They seem to see more beauty in every day things than does the average American. Their lives are less hurried. Perhaps, tho, as our country becomes older, we, too, will find time for the simpler, more beautiful things that are close at hand and, we like them, in spite of differences in habits and customs within our country will develop a wholesome love of home which will bind us in friendly unity."

### Fine Ware Made of Iowa Clay

By Mary Yarcy

IN the department of Ceramic Engineering at Iowa State College, an effort is being made to produce a decorated pottery of high artistic merit. It is desired that this ware compare favorably with that of the Rookwood, Newcomb and Marblehead potteries, whose standards are highest in the United States.

The work is conducted in the manner of a research to prove that Iowa clays are suitable for making fine ware. Much manufacturing of heavy products is already being done in the state. Brick and the possibilities of succeeding in the making of potter are just as great. The work at Iowa State College is intended to stimulate the financier and manufacturing men and to arouse their interest in such an undertaking. The natural resources are here and only need developing.

In searching for the method of decoration of pottery to which the clays of this state would best lend themselves, every process was tried: slip-painted or pate-sur-pate incised pattern painted with underglaze colors over glaze painting, and lastly, and most successfully, painting on the raw unfired glaze.

Ames pottery is a faience and is similar in manufacture to many other wares, but in order to keep it individual and distinctive of Iowa, only Iowa materials are used. The body is a shale from Adel, the glazes are results of experiments worked out by Professor Paul E. Cox, head of the Department of Ceramic Engineering, and the ware is burned in the kilns of the department. The decoration also is derived from native materials. Indigenous plant and flower forms are used for the designs and no designs are duplicated. There are no two pieces alike and each bears the mark of the college, the potter and the decorator.

The first step, or rather the preliminary, to making a piece of pottery is the designing of the shape. According to the Greek method of geometric ratio as analyzed by Mr. Jay Hambidge in his book, "Dynamic Symmetry," there is an exact science of proportioning. Yet Chinese forms, which are second to none, cannot be analyzed by that method. The question is, therefore, open and debatable. It is safe to say, however, that design for pottery forms should be expressive of the character

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