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# MILK

THE FOUNDATION OF A SAFE DIET



MARTHA MCPHEETERS  
Food and Nutrition Specialist

JOHN W. BOEHR  
Extension Dairyman

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# MILK—THE FOUNDATION OF A SAFE DIET

By

MARTHA MCPHEETERS, Food and Nutrition Specialist

JOHN W. BOEHR, Extension Dairyman

## INTRODUCTION

How much, or rather, how little dairy products do American families use? In comparison with other leading civilized nations, our United States stands low in the consumption of such foods. According to the latest figures, the average person in the United States uses 17½ pounds of butter per year, while the Canadian uses 27.7 pounds. The contrast is even greater in cheese consumption. In the United States, people use about 4 pounds of cheese per person per year, while in Switzerland 23.3 pounds per person is consumed. Briefly our average person uses the equivalent of ½ pint of milk per day, which is far deficient, according to the standard health rules. The average adult should consume at least one pint of milk per day and the average child at least one quart.

Dairy products contribute to the strength and health of human kind, and in no case should they be omitted from the diet. No other food contains the vitamins, minerals, fats and protein in such proportions as does the whole milk. Milk is called the "natural" food for the human body, and nutrition workers contend that its equal can be found in no other food or combination of foods. Prices on dairy products soared so high, especially immediately following the Great War, that many of the farmers were tempted to overlook the indispensability of these products in the home. In no case, however, should economic conditions, the power of exchange for dairy products, or any other influence, curtail the use of dairy products in the daily diet of every individual.

The economic factor is one of growing importance in the production and consumption of dairy products. Conditions have changed and are continuing to change, so that the dairy industry has developed to such a proportion that an overproduction point is "here." No factor has contributed to this serious crisis which compares to the great underconsumption of dairy products. Two great evils have met, and in their magnitude have done great injury not only to the American farmer but to nearly all homes. Dairy products are used in such small quantities in a great majority of homes that it has become unprofitable to produce them, and since their use has been curtailed, a state of undernourishment and deficiency diseases have arisen.

A more liberal use of dairy products would make markets for our great dairy industry and thus insure a profit to the American farmer by removing the surplus and opening up channels of trade. Also, if 20% or more of the food in the home would be made up of dairy products, the cost of living would be decreased to a great extent and both the producer and the consumer would enjoy greater prosperity. Most important of all, however, we could well afford to forget the above mentioned benefits and think of the health factor, normal growth, and contentment of our American people.

## WHAT AUTHORITIES SAY ABOUT MILK

1. "It is the one food for which there is no effective substitute."—Dr. E. V. McCollum."
2. "Spend at least as much for milk as for meat, or for milk and cheese as for meat and fish."—Dr. Henry C. Sherman.
3. "A deficiency of food lime calcium is sure to cause abnormal development of body structures."—Jordon.
4. "Milk is the only food that supplies calcium in large enough quantities to insure an adequate supply to the body."—Willard & Gillett.
5. "The people who have made liberal use of milk as a food have, in contrast, attained greater size, greater longevity, and have been much more aggressive than non-milk using peoples and have achieved greater advancement in literature, science and art."—Dr. E. V. McCollum.
6. "Certainly it seems to me the boy should have his quart of milk per day until he is a full grown man and the girl should continue to take her quart of milk per day until she has weaned her first child."—Dr. H. C. Sherman.

## FOUNDATION OF DIET

Milk is our most valuable and complete single food. It furnishes the greatest number of nutritive elements necessary for growth and health. It is always available, easily prepared, easily digested and may be used in countless different ways.

The proteins furnished by milk are of the best possible quality for the building of muscles and body tissues. A sufficient amount of milk in the daily diet is absolutely necessary for normal health and growth of children.

As a source of energy, milk ranks among the first in the classification of foods. Pattee gives the following table of the energy value of milk:

1 cup whole milk, -----	169 calories
1 cup skimmed milk, -----	89 calories
1 cup cream (18%) -----	440 calories
1 cup cream (40%) -----	865 calories

"Milk is of paramount importance because of its mineral content. It contains all of the different kinds of mineral elements needed in nutrition, namely:

Calcium -----	1.170
Phosphorus -----	0.907
Potassium -----	1.394
Magnesium -----	0.117
Sodium -----	0.497
Chlorine -----	1.034
Sulphur -----	0.332
Iron -----	0.002
Iodine -----	"Present."

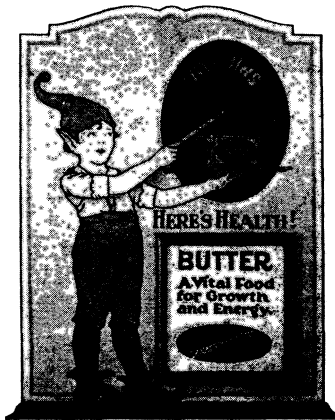
Dr. Mary Swartz Rose.

The calcium or lime, of which milk is an indispensable source, is essential for the growing child, since it is the principal constituent of the bones and teeth in the body. Phosphorus, a second most important mineral, also found in milk, is necessary to insure good composition of the blood and eventually good health. The iron content of milk is rather low, but is of

excellent quality, and because of the potassium present, is completely absorbed and utilized by the body. A quart of milk each day insures the best storage of lime for the growing child. The adult needs at least a pint each day for this purpose.

Milk is called a "protective" food because of its vitamin content. Experiments show that a quart of milk yields enough Vitamin A and B to meet the requirements for the growing child. Vitamin A is a factor of the greatest practical importance to nutrition and health. Lack of it affects the lachrymal glands, salivary glands and reproductive glands, thereby causing eye diseases and such widespread weakening of the body that it is rendered readily susceptible to infectious diseases of various sorts. It is a fat soluble vitamin and found most readily in butterfat. Vitamin B is the anti-neuritic vitamin. Lack of it is noted by chronic under-nourishment, derangement of functions of digestion and assimilation, and definite nervous disorders.

Vitamin C, also present in milk is less dependable than are A and B. Milk from cows fed on dry feed show a shortage of vitamin C. Orange juice, tomato juice, raw vegetables and citrous fruits often used to assist in furnishing the very important vitamin C, which prevents skin diseases of various sorts, in extreme cases lapsing into scurvy. Vitamin D, which aids in preventing rickets, is present in the butterfat of milk, but should be aided by sunshine, egg yolk and cod liver oil in order to function with the greatest amount of benefit.



**Butter a Health Food**

Milk and milk products are easily digested and assimilated. Butterfat is the most easily digested of all the fats and oils. Milk sugar is less susceptible to fermentation than cane sugar. The proteins of milk are the most completely digested and absorbed of all food proteins, either animal or vegetable.

Although milk is the most important food for children and adults, a more satisfactory diet is had when it is supplemented with vegetables, (especially succulent and leafy vegetables), fruits, whole grain cereals, bread, potatoes, eggs and meat. Also, a use of the various dairy products in the preparation of other foods, is quite important.

## BUTTERMILK

The value of buttermilk in the home is appreciated in a few cases, but this drink could be used much more extensively to great advantage. The food value is nearly the same as that of milk with the butterfat removed, but something has happened to give buttermilk an added value. Its slightly sour flavor makes it a very wholesome drink, highly digestible, and very agreeable to the digestive organs. Buttermilk has a cooling and invigorating effect and is used very extensively in hospitals where people are rebuilding their strength. On the farm this drink is usually valuable because hard labor makes it necessary to stimulate proper digestion and reconstruct the body effectively, as buttermilk will do.

There are three kinds of buttermilk in use and farm folks will be interested in at least two of these. One is ordinary buttermilk—called lactic acid buttermilk. This name is given because lactic acid is found in the buttermilk. It is an excellent food and aids digestion. Another kind is the Bulgarian buttermilk. This is slightly stronger and is used very extensively in the sick room. To make this on the farm one may purchase the Bulgarian culture from creameries or from a creamery supply house. On the package there are directions as to how much of the culture to use to a given quantity of sweet, clean milk—skim milk or whole milk. Many people who do not like ordinary buttermilk enjoy Bulgarian buttermilk. Farm women as well as other homemakers will be interested in a new kind of buttermilk which is used for food in the nursery. Many babies are now fed on this new product which is called "Acidophillus." This culture was first isolated in Yale University but now can be secured in many creameries. In cases where there are babies suffering from digestive disturbances this special kind of buttermilk has been used quite successfully.

It is impractical to make "Acidophillus" buttermilk in the home since the method requires special care and equipment.

### POINTS TO REMEMBER

Every child should have one quart of milk each day, either as a drink or incorporated in other foods.

The adult should have at least a pint a day or its equivalent in dairy products.

Milk is an ideal food for the sick and convalescent.

Milk is an ideal food for the aged.

Milk is one of the most essential items of diet for the prospective mother.

The overweight person following a reducing diet should use at least one to two cups of skim milk and one tablespoon of butter each day.

## WAYS OF USING MILK AND DAIRY PRODUCTS

It is not necessary that we take all of our milk as a drink. It may be used in many ways. If it is not liked in one way it may be liked in another. This will help to solve the problem for the child or the individual who does not like milk and dairy products.

They may be served:

For drinking	In custards
In beverages	In puddings
As cottage cheese	In frozen desserts
As cheese	In bread and baked products
In cheese dishes	On cereals
In sauces	As seasoning for vegetables, etc.
In soups	

## IMPORTANCE OF PURE MILK

Bacteria grow rapidly in milk, therefore, great care should be taken in caring for it. Only milk from clean and healthy cows is fit for human consumption. If there is any doubt as to its safety, it should be heated before using. (Heat in a double boiler about five minutes after bubbles form around the edge of the container.)

## PREPARATION OF DAIRY DISHES

Milk and cheese dishes require a low cooking temperature (scalding 186° F.) and also short cooking periods. High temperature hardens and toughens the protein content, thus making it somewhat more difficult to digest. Too much heat also renders both milk and cheese mixtures less palatable, less attractive in appearance, and boiling causes the lime of milk to fall to the bottom of the vessel where it sticks and is lost.

### BEVERAGES

Beverages serve primarily to relieve thirst. The universal beverage is water. Other beverages answer the same purpose, because their chief constituent is water. They are also taken for their temperature, cold or hot, for their flavor, which helps to arouse or appease the appetite, or for their stimulating properties. Usually they have little or no energy value, but when made with milk, eggs, cocoa, chocolate or other highly nutritive materials, they become most valuable as a means of administering food in liquid form.

#### Milk Shakes

Milk shakes are milk flavored with chocolate, vanilla or fruit juices. Combine and shake in a covered jar, or beat with a Dover egg beater to make light and frothy.

It is generally advisable to add the milk to the flavoring rather than the flavoring to the milk.

Use the following proportions subject to taste, being careful not to oversweeten:

$\frac{3}{4}$ cup cold milk	Dash of salt
2 T. syrup	A beaten egg may be added

#### Fruit Syrups

Fruit syrups are made by adding a cup of sugar to  $\frac{1}{2}$  cup of fruit juice. Boil together for about 3 minutes. Use any flavor of juice desired. Grape, cherry and raspberry are very good.

### Chocolate Syrup

¼ c. cocoa                           ¼ t. ground cinnamon  
¼ c. sugar                           ½ c. water

Mix sugar, cocoa and cinnamon and add water. Cook for 5 minutes.  
**Cocoa**

1½ T. Cocoa                       Few grains salt  
1 T. sugar                         1½ cups milk  
1 cup boiling water

Scald milk. Mix cocoa, sugar and salt, add one cup of boiling water and boil a few minutes. Turn in scalded milk and beat with egg beater. Vanilla or cinnamon improves the flavor. Serve hot or cold.

### Egg-Nog

1 egg                                 ¾ cup milk  
Speck salt                         Flavoring  
¼ T. sugar

Beat the egg, add the sugar and salt. Blend thoroughly and flavor. Serve immediately. The flavoring may be vanilla extract or fruit juices such as lemon, orange, etc.

### Cafe au lait

Scald 3 cups of milk. Make coffee four times its usual strength. Use half and half when combined.

### SOUPS

White sauce is the basis of most milk soups and creamed dishes. Potatoes, peas, tomatoes, corn, spinach, celery, carrots and many other vegetables make very good milk soups. Cook the vegetables until tender. Rub through a sieve. Add about 1½ to 2 cups of vegetable pulp to 4 cups of thin white sauce.

#### Thin White Sauce

1 c. milk                             2 T. butter  
1 T. flour                         ½ t. salt

Scald milk. Melt fat, add flour and seasonings. When blended pour on hot milk gradually, stirring constantly. Cook over hot water 15 minutes.

#### Potato Soup

Pare and slice potatoes, using about one-half of a medium sized potato per person, add salt and a few slices of onion, cover with water and cook to a mush. Season well with butter and add hot milk, enough to make a soup. This makes a delicious soup.

#### Tomato Soup

1 c. tomatoes                       ½ t. pepper  
½ t. sugar                         1 T. finely chopped onion  
1 t. salt                           1 or 2 cloves  
Bay leaf                           ½ t. soda

Add sugar, salt, pepper, onion and cloves to tomatoes and cook for ten minutes. Strain through sieve and add soda. Add to white sauce made by above recipe.

#### Mock Oyster Soup

4 c. canned corn                   4 crackers  
2 t. sugar                         2 c. milk  
Dash paprika                     4 to 5 T. butter  
Dash black pepper



Drain corn. Put kernels through food chopper. Add ground corn to the liquid drained from the corn. Add seasoning and cook 10 to 15 minutes. Roll the crackers fine and soak in the milk while corn is cooking. Combine mixtures and cook again for 15 minutes.

#### **Lima Bean Soup**

To 2 cups of mashed cooked lima beans add 3 tablespoons of butter and 2 cups of hot milk. Two or three slices of onion added to the beans while they are cooking improves the flavor greatly. If you desire a thicker soup a thin white sauce may be used in place of the milk.

#### **CEREALS COOKED IN MILK**

The nutritive value and flavor of breakfast cereal may be increased by cooking the cereal in either whole or skim milk. Sometimes the cereal is started in water and milk added later as a part of the liquid.

#### **Oatmeal Gruel**

¼ cup granulated oatmeal	1½ cups boiling milk
½ t. salt	Milk or cream

Add oatmeal and salt to boiling milk and cook four or five hours in a double boiler, adding more milk if necessary. Strain and dilute with hot milk to make it of the right consistency. Reheat and serve.

#### **SCALLOPED DISHES**

##### **Medium White Sauce**

1 c. milk	2 T. butter
2 T. flour	½ t. salt

Make as you do thin white sauce mentioned above.

##### **GENERAL RULE:**

1 c. medium white sauce  
2 c. cooked vegetables or meat.

Arrange alternate layers of sauce and vegetables or fish in a greased baking dish. Sprinkle buttered bread crumbs over the top and brown in a moderate oven about 15 minutes.

##### **Scalloped Ham and Potatoes**

Into a well buttered pan place slices of raw potatoes and a little pepper. Then add a layer of uncooked sliced ham. Add another layer of potatoes and ham and pour on a thin white sauce (recipe under soups), or milk. Sprinkle bread crumbs on top and bake in moderate oven until potatoes are well done and browned on top. Serve hot.

##### **Milk Gravies**

The flavor of gravies made from roasted or fried meats or chicken is greatly improved by adding milk instead of water. (If there is a large amount of fat, most of it should be removed before adding the flour and milk).

##### **Milk Toast**

Pour hot milk or thin cream sauce over hot buttered toast. Serve hot.

#### **DESSERTS**

##### **Soft Custard**

2 c. scalded milk	½ t. salt
2 eggs	½ t. vanilla
¼ c. sugar	

Beat eggs, add sugar and hot milk. Cook in a double boiler, stirring constantly until mixture coats the spoon, then remove quickly from the fire, place dish in bowl of cold water to cool, add flavoring. Serve plain as a dessert, or as a sauce on other desserts.

#### Baked Custard

1 qt. scalded milk	6 to 8 T. sugar
4 to 6 eggs	¼ t. salt
Few grains nutmeg	½ t. vanilla

Beat eggs slightly, add sugar, vanilla and salt. Pour scalded milk slowly over the above mixture. Strain into buttered mould, set in pan of hot water. Sprinkle with nutmeg and bake in a slow oven until firm, which may readily be determined by inserting knife blade; if it comes out clean custard is done. Do not allow water surrounding mould to boil. Remove mould as soon as done.

#### VARIATIONS

**Flavoring**—Use other extracts or nutmeg, cinnamon or caramel and chocolate, in baked custard recipe.

**Tapioca Custard**—Use 4 T. pearl tapioca or 1½ T. minute tapioca. Soak pearl tapioca for one hour in cold water to cover. Minute tapioca does not need soaking. Drain and cook the tapioca in the milk until transparent. Add half of sugar to the milk and half to egg yolks slightly beaten and the salt. Pour the hot mixture slowly over the egg and sugar, stirring constantly. Return the mixture to the double boiler and cook until it thickens. Remove it from the heat and add the stiffly beaten egg whites. Add flavoring and cool. Serve with cream or whipped cream.

#### Chocolate Pudding

3 T. cornstarch	4 T. sugar
2 T. cold water	¼ t. vanilla
1 pint scalded milk	1 square of Bakers chocolate
2 eggs	

Mix cornstarch in cold water and add to hot milk. Add sugar and cook in double boiler for half or three quarters of an hour. Add melted chocolate about ten minutes before removing from fire. Remove from fire and fold in beaten egg whites while mixture is still hot. Pour into individual moulds. Serve cold with soft custard made of the egg yolks.

#### Milk Sherbet

¼ c. lemon juice	1 qt. milk
2 c. sugar	1 c. pineapple (grated)
1 egg white	

Mix sugar and lemon juice. Stir constantly while slowly adding the milk. Pour into freezer, add the stiffly beaten egg whites and partially freeze. Then add the pineapple and finish freezing.

Other crushed fruits and concentrated syrups may be used instead of pineapple.

#### Ice Cream

2 eggs	½ t. vanilla
1 C. sugar	1 pint milk
2 T. gelatin	1 pint cream
½ t. salt	

To the stiffly beaten whites add the slightly beaten yolks. Fold in the sugar and salt; add the milk, dissolved gelatin and flavoring. Fold in the whipped cream and pour the mixture into can and freeze, using one part of salt to eight parts of ice.

## CHEESE DISHES

### Baked Rice, Meat, Cheese

2 C. scalded milk	1 C. cooked rice
2 or 3 eggs	$\frac{1}{2}$ C. ground meat
$\frac{1}{2}$ t. salt	2 T. grated cheese

Add slightly beaten eggs and salt to hot milk. To this add the rice, meat and cheese. Pour into a buttered baking dish and bake in moderate oven for 25 minutes.

### Bread and Cheese Custard

2 C. scalded milk	4 to 6 slices of buttered bread
2 or 3 eggs	or toast
$\frac{1}{2}$ t. salt	$\frac{1}{2}$ C. diced or grated cheese

Place bread in a baking dish. Sprinkle with the cheese and pour the egg and milk over it and bake.

### Cheese Fondue

1 C. scalded milk	$\frac{1}{2}$ t. salt
1 C. soft stale bread crumbs	3 egg yolks
$\frac{1}{4}$ C. diced cheese	3 egg whites
1 T. butter	

Mix first five ingredients, add egg yolks beaten until lemon colored. Fold in beaten egg whites. Pour into buttered dish and bake 20 minutes in moderate oven.

### Sandwiches

Cottage cheese makes excellent sandwich filling when combined with the following:

Chopped nuts	Chopped raisins
Chopped celery	Chopped dates
Chopped carrots	Honey
Chopped pickles	Marmalade

Mix seasoned cottage cheese with any of the above, use as a spread for buttered bread, such as whole wheat, graham, oatmeal and brown bread.

### Cottage Cheese Pie or Tarts

1 $\frac{1}{2}$ cup cottage cheese	Whites two eggs beaten stiff or
$\frac{1}{2}$ cup sugar	$\frac{1}{2}$ c. heavy cream whipped
2 T. lemon juice	$\frac{1}{2}$ c. grated pine apple or
	crushed berries

Work the cheese until smooth. Add part of the whipped cream, the flavoring and fruit. Fold in beaten egg whites, if used. Heap lightly into baked pie crust or tart shells. Tart shells are made by baking pie crust on bottom of inverted muffin tins. Garnish with whipped cream and with fresh or canned fruits or marmalade (orange marmalade is excellent).

### Cheese Toast

Pour over hot buttered toast the above cheese sauce.

### Toasted Sandwich

Place a fairly thick slice of cheese between slices of buttered bread and toast or brown on both sides, or they may be browned in a pan in which bacon has been fried. Serve hot.

### Cheese and Jelly Sandwiches

Spread slices of bread with a layer of cream cheese, then a layer of jelly. Place another layer of bread on top to form a sandwich, then toast. Serve hot.

### Cottage Cheese

Cottage cheese may be used in both cooked and uncooked dishes. However, it is best liked by most people when used uncooked. It combines well with raw fruits and raw vegetables in salads and sandwiches.

### Cheese and Pear Salad

Fill the cavity of halved pears (raw or canned) with seasoned cottage cheese or balls of grated American cheese moistened with salad dressing or cream. Serve on lettuce leaves with mayonnaise. Peaches or pineapple may be used in place of pears if preferred.

### Cheese and Lettuce Salad

Place seasoned cottage cheese balls or cream cheese balls on a bed of chopped lettuce. Garnish with cooked salad dressing or mayonnaise.

### Cheese and Tomato Salad

Remove centers from medium sized tomatoes. Fill cavities with seasoned cottage cheese. Garnish with salad dressing—a little chopped green pepper added to the cheese would be a nice addition.

### Cheese, Rice and Tomatoes

1 c. cooked rice	½ medium sized pepper
1 t. salt	¼ medium sized onion
4 T. cheese	3 medium sized tomatoes

Cook tomatoes, onion, and green pepper 20 minutes. Add cooked rice and seasoning, then the cheese. When melted, pour over heated crackers or toast.

### Cheese and Macaroni

1 c. macaroni (broken in small pieces)	1 t. onion juice
1 T. chopped green pepper	1 c. diced or grated cheese
1 T. butter	Salt and pepper

Cook macaroni in boiling water until tender. Rinse in cold water. Cook green pepper and onion in a little water with butter. Mix all ingredients together with the cheese and bake in a moderate oven 15 minutes.

### Fried Bread and Cheese

Cut stale bread into thin pieces and put two pieces together with cheese between them. Dip in a mixture of egg and milk and fry in butter or other fat.

### Cauliflower with Cheese Sauce

Place a whole cooked cauliflower on a dish for serving. Pour over and around the cauliflower two cups of:

#### Cheese Sauce

2 T. butter	½ t. salt
4 T. flour	Pepper
2 c. milk	1 c. grated cheese

Melt butter, add flour mixed with seasonings and stir until blended; pour on milk and stir constantly, cooking until thick. Then add grated cheese and cook slowly until cheese is melted and mixture smooth. This sauce may be used with many vegetables, such as, string beans, cabbage, potatoes, tomatoes and asparagus.