

Health Effects of Cows' Milk

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History of milk

by Maria Rollinger

From "Milch besser nicht" written by Maria Rollinger
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Summary by Maria Rollinger

There is no historical book about milk history in Europe or the near East in any language of this region, as far as I know. This is remarkable, because one can find books about a lot of foods, especially the basic foods such as bread, meat, fish and vegetables.

Milk has become a basic food in northern Europe only since the last 60 to 70 years. Before, there was a rural milk-production nearly everywhere, but only with the main intent to produce butter and some cheese from the sour-milk leftovers.

The German milk landscape is pictured in the book as an example. The other European countries faced a similar development.

Since the upcoming of liquid milk-consumption in the late 19th century, scientific milk-research was established in Germany. Though specialized milk-science-institutes were then built, none ever researched the history of milk.

There is actually no milk-history, which is worth telling. Milk has never been a basic food in Europe. Therefore the historical sources are minute. And what is known nowadays contradicts the impression of a historical habit of milk consumption for centuries and in ancient times, which is given by the milk-industries and sciences.

Because the food-industry and food-science are depending on people's milk consumption, there is no interest in a research with a result like: only 150 years ago liquid milk-consumption started. Before then, milk was used mainly to get the fat (butter) out of it and a little cheese.

A research result like this would make people aware of the possibility to live without

milk-products, which make now 30 to 50% of the daily calorie-intake.

So there is an enormous economic and also scientific interest in ignoring the food-history and especially the milk-history in Europe.

It comes to the point that those who ask questions about the history of milk are quickly designated as milk-critics. Lately some milk-history was detected, when a scientist found the medieval books about milk-products, butter, cheese and whey, in European libraries. These books are all written medieval Latin language and had to be photographed for conservation. They need to be translated into English, French, German or Italian, but there was and is no money to do so. One medieval book was translated into Italian language by a professor for food science. The professor came, like me, to the conclusion that in medieval times milk-consumption was wildly thought to be dangerous for the health of people.

Doctors warned not to eat cheese, because of a lot of illnesses and especially mental and central nervous diseases like epilepsy. Butter was not used wildly and whey was used only as a purgative, to clean the guts, and seen as food for animals (dogs and pigs) or as garbage. In the 16th century things started to change slowly. But milk-production still stayed low. The average milk-production of a cow was seen around 600 kg per lactation. Nowadays it is 6000 to 8000 kg and in some countries even more.

Let us start now from the beginning.

Milking pictures are as old as 6000 y in Egypt and Iraq. From northern India they are about 4000 y old. Milking emerged more often in goats than in cows or sheep.

The first areas with an appreciable European milk-production were Greece and Italy in ancient times.

They still produced mainly goat and sheep-milk to make cheese. Cows were used as workers on the fields, as towing animals. Therefore they could not be milked all the time. When they were milked, their milk was used mainly to make butter. It is interesting why.

Cow's milk is the only mammalian milk that encloses an enzyme (euglobulin), which separates the fat-globules from the plasma within a short period of time. When one milks, you just let the milk sit for two hours in wide and flat bowls and you will find the fat on top. When it is sitting even for a day, one will find a big creamy part on the top, which can be taken out and used directly as a fattening source or to make butter.

With goat and sheep-milk this would not be possible. Therefore one can even today hardly find goat or sheep-butter. This milk can only be drunk or made creamy cheese out of it.

Neither ancient Greeks nor Romans used to eat butter. They thought of it as a barbarian habit. They produced butter only for cosmetic reasons for the upper class. So one can imagine how 'big' this butter-production was.

In ancient Egypt and Palestine they already used to produce cow-milk butter as foodstuff.

The fat supply has been a problem through all times up to the 20th century, when it was finally solved. So in areas, where there was no other fat source as animals, the milking of animals and specially cows was an advantage, because the animals had not to be killed in order to get their fat.

These areas were deserts and woody places where nomadic life was still going on, where people did not grow olive trees.

In ancient times 2000 to 2500 y ago, only in the Mediterranean area olive oil was produced. Besides the olive tree, there has been no other nameable plant-fat source in the Mediterranean world. Palm-fat was not known at that time.

Specialists for olive oil became Greeks and Romans in their classical period, who then did not need any butter or fat from milking. In Palestine and Egypt fat from plants and animals both were used, depending of the form of living, nomadic (milk) or sedentary (more plant-oil). In northern Europe fat was a big food problem. So milking developed there to have some independent fat-source, besides killing the animals. Like in India, cows were seen as holy, which prevented them to be slaughtered as young animals. In northern Europe the olive tree could not grow, and other plants in the woods was not a big deal. So the cream of cow-milk or the fattening goat-milk was a welcomed additional fat source. But the ancient Germans obviously did not know how to make butter, otherwise the Roman conquerors would have written about it. Only Greek authors mentioned the use of butter as foodstuff for some people living around the Black Sea. So, Greeks and Romans used their olive oil and made out of goat- and sheep-milk fattening cheeses.

The Germans made some kind of cottage cheese out of cow- and goat-milk. This was it.

At the beginning of milking, the quality of the cheeses was not the best. Only in the classical

Roman times, 2000 y ago, the quality improved so far, that hard cheeses became a delicious food; mainly as a desert. They did not eat as much as the western world does today but addiction was already known in the upper class: One Roman emperor is said to have died because he ate too much cheese.

In Roman times the hard cheese was the ideal protein- and fattening food for soldiers. It could keep over months and was easily transported. So it became in the conquerors times a food for soldiers and travelers.

When the Romans came to Germany around 50 B.C., they found the Germans not drinking milk, but eating milk in the shape of eating cottage cheese. This was then the only way they used milk. How to make hard lab-cheese was taught by the Romans. In the northern part of Europe north of the Alps, this knowledge vanished after the Roman period, since 400 a. C to 800 A.C., the beginning of the medieval times. From 800 A.C. on, hard lab-cheeses from goat- and sheep-milk started to be produced in monasteries; north of the Alps mostly goat-milk. There, sheep were held mainly because of wool-production and meat-production, not because of milk-production, whereas in Italy, Greece and South France milk production stayed an economic goal in sheep-farming. In medieval times around 1100 A.C. most of the produced cheese in German countries was goat-cheese.

The famous medieval nun “Hildegard von Bingen” wrote books about health -treatment, foodstuff, herbage and plants. She mentioned butter (from cows) mainly as cosmetics. And when she used the word cheese, she thought of goat-cheese. This leads to the conclusion, that milk from cows was rare and indeed, cattle were still mainly used as field-workers in Germany and the other northern countries. Hildegard warned people to eat cheese while getting sick of neurological illnesses. Even an emperor made a law, forbidding eating cheese, when someone was sick of epilepsy.

Butter-production from cow-milk as a foodstuff started only around the 14th century and was safely established in the 15th and 16th centuries. In this late medieval times the few books about milk-products were written in Latin language. And the first doctors started to tell people, that milk-products were not as bad as the mainstream was arguing.

The upcoming butter-production divided Europe into two different areas of fat and cheese consumption. The southern countries stayed mainly with olive oil and sheep- and goat-cheese, the northern countries made cow-milk butter and from the rest, the fatless sour-milk-plasma they made a stinky sour-milk cheese; up to the 19th century the food for the very poor. This cheese was not a lab-cheese, but made through the sour-milk bacteria within the milk itself.

The very poor ate this or whey-cheese and sold their butter to the richer people. The monasteries watched over their lab-cheese recipes strictly, as well as of their brewing recipes. Their lab-cheeses, still mostly of goat-milk, were tastier than the sour-milk-cheeses out of cow's milk. So they could make good money out of it. Monks and nuns were sitting on the fountain and sometimes got addicted. So it is reported that their heads often had to forbid cheese consumption to their monks and nuns. For normal people, butter and cheese were mostly not of good quality because they lacked the knowledge how to do it. So, most people did not eat lots of this foodstuff. Especially, butter was something for richer people.

Another interesting thing: In former German language, the word for whey was not this. What is whey they called "cheese-water". And cheese-water was garbage or food for animals or used medically as a purgative. In the 17th century, when Dutch emigrants came to German countries to make a business out of butter- and sour-milk-cheese production, they held pigs on the side and made good business from it. The pigs were fed with the cheese-water what made them grow faster and bigger than normal pigs. Probably the effect of estrogens and the IGF's in whey!

Up to the 19th century in German as well as Latin language there was no expression like "drinking milk". When the subject in literature is milk, one used the words: "eating milk". That shows also that liquid milk was not a usual food. The normal consumption was the collection of the fat for buttering and then eating the sour-milk or making some form of cottage cheese out of it. So milk was always "eaten".

And up to the 19th century the yield of a cow was measured not in liter or kg milk like today. The expression was: a cow gives - for instance 50 - pounds of butter a year. The butter-yield was the main thing, the normal measurement.

Liquid milk consumption could start only as the industrial revolution brought about the cooling technique, in the 1870s and when enough railroads where build for a quick transportation.

As often, a social habit starts with the rich people. In the late 19th century, richer people in the cities longed for milk from rural areas. Most of the wealthy upper middle-class did not live in solely standing houses in the big cities any more, like they used to do in rural areas. They could not make their own butter and cheese, what used to be women's work, because there was no room any more. The cities were dusty and strange. In imagining the easy and holistic rural, clean life they or their ancestors used to live, they whished to have some of it back. So they wanted to have milk also in the cities and paid high prices for it. They were not used to

the liquid, but to sour-milk and fat. They used the cream for cooking and the rest they ate as sour-milk. Having liquid milk at home, which they could not work with any more, they started to drink it. But the consumption was not much. Only for the early 20th century one can find statements for liquid milk consumption as a habit.

Rural people were not used to liquid milk as a food. For them it was something for children or old or sick people to make them gain weight again. When these people came to the cities as workers, they kept their habit of not using liquid milk. They were used to butter, but in the cities they could not afford it any more. So butter even more became a food for richer people. For the poor, margarine was invented, which they made up to the 20th century out of whey or milk-plasma mixture with cow - body fat (tallow).

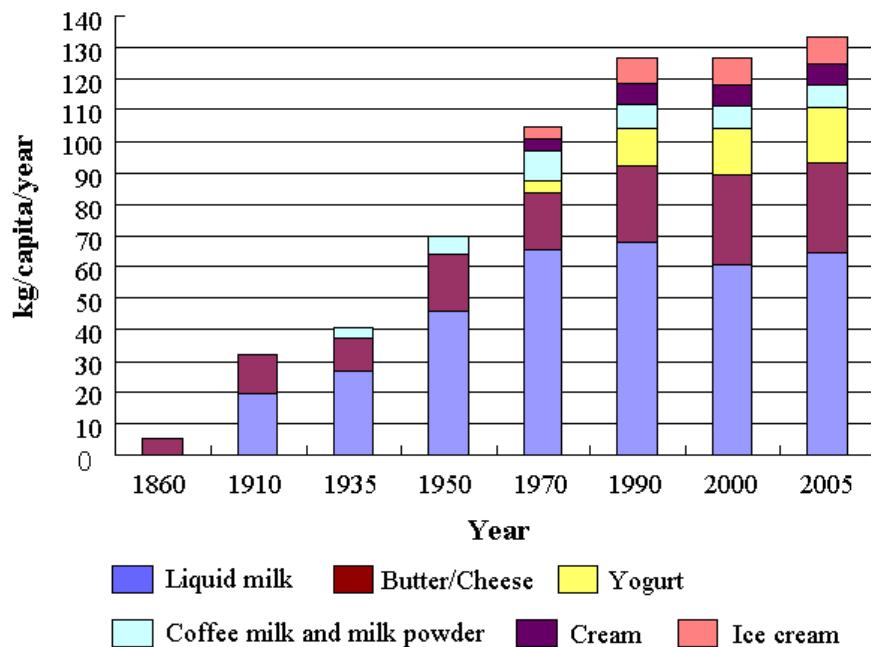
The epidemics like cholera, tuberculosis and diphtheria, which killed thousands of people in the cities in the late 19th century was not confined to the proletarians, the poor, but involved also the upper class. And since it was known that these used liquid milk in contrary to the proletarians, scientists thought that not only infected water, but also the liquid milk was a source of the epidemics. Therefore, in the upper class milk was seen as a problematic food quickly. For this, pasteurization of the milk was installed but wildly rejected by rich and poor because of “bad taste”. Because milk could always be a source of disease, the attitude towards milk stayed ambivalent also with the main consumers, the upper-class. Only after World War I in the 1920s and 1930s milk-consumption was wildly pushed and promoted by politics as a normal and healthy food for everybody.

Up to World War II milk-consumption steadily increased but stayed low in contrary to today. Butter and self-made sour-milk and a little cheese stayed the main milk-products which were consumed.

The enclosed statistics show this continuous growth. The numbers for the 19th century are from books about what people ate at that time, and the first statistic books. For the 20th century the numbers are mostly from the official statistic books. In Germany an official milk-production statistic started only as late as 1928. That shows, that milk was not very important, because a statistic for meat and plant-foodstuff was made already since 1870.

You learn all this and more in the book “**Milch besser nicht**”, including the quotation of the books and studies, which have been used in the book.

Consumption of various milk products 1860 to 2005 in Germany



Consumption of milk and milk products in Germany from 1935 to 2005 (kg/capita/year)

year	1935	1950	1960	1970	1980	1990	1995	2000	2005
Fresh milk products	116.4	122.0	123.4	93.7	84.5	91.5	91.0	89.9	92.7
Liquid drinking milk	26.5	45.9	53.6	58.8	75.9	67.6	66.4	61.0	64.2
Yogurt				0.9	3.75	6.77	11.7	12.9	15.3
Butter	7.8	6.3	8.5	8.3	7.1	7.3	7.1	6.6	6.4
Cheese	3.2	3.9	4.5	10.1	13.7	17.3	19.8	21.2	22.2
Cream		(1.5)	(3.3)	3.5	5.0	6.7	7.5	7.8	7.6
Coffee milk & milk-powder	3.1	5.7	8.0	9.4	8.3	7.3	7.1	7.5	7.4
Ice cream				2.0	4.4	6.6	8.2	8.1	8.1

Fresh milk products include: drinking milk, cottage cheese, sour-milk products and up to 1960 cream. From 1970 on without cream, therefore fresh milk products decreased thence.