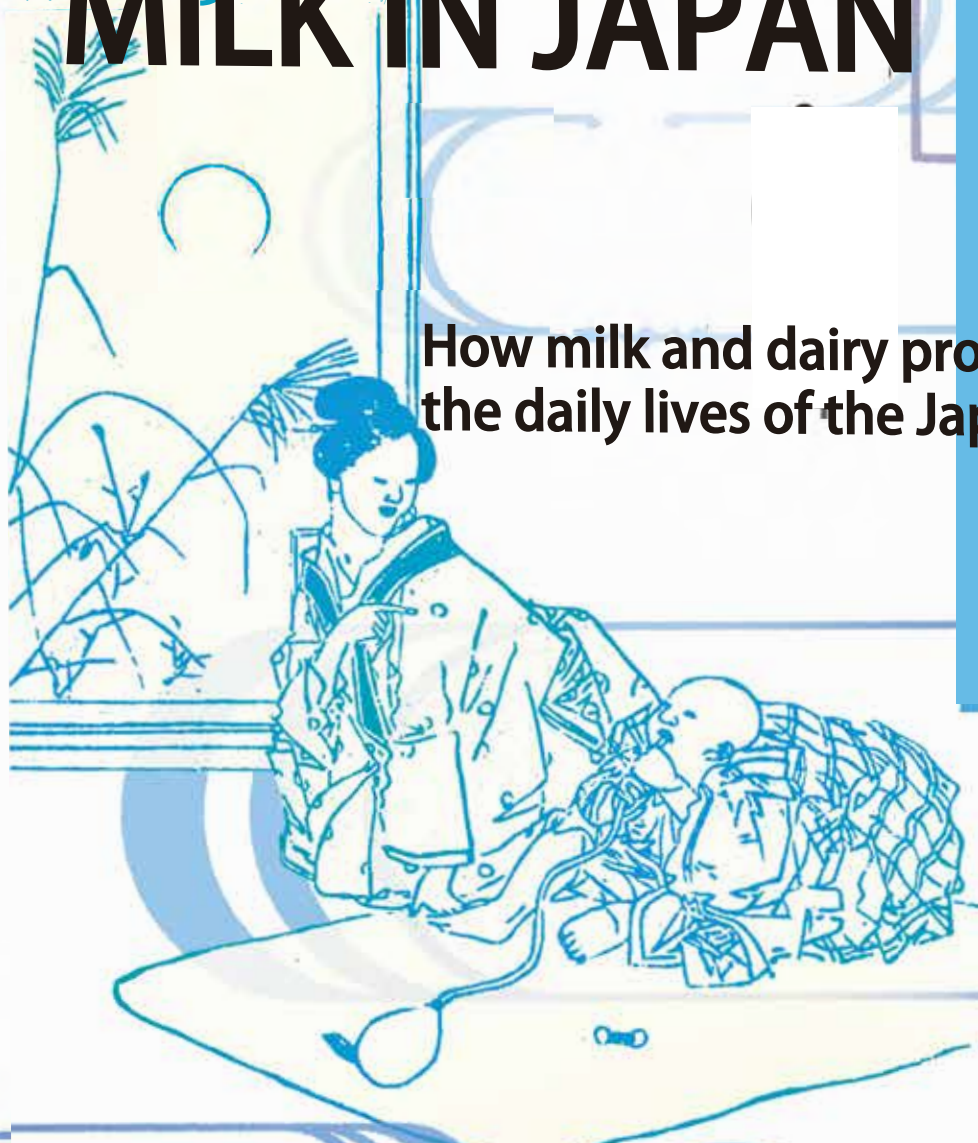


FACTBOOK  
March 2020



# THE HISTORY OF MILK IN JAPAN

How milk and dairy products took root in the daily lives of the Japanese



Japan Dairy Association (J-milk)

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Milk and dairy products have become an indispensable part of the Japanese diet. Milk and dairy products are now a common sight in refrigerators in Japanese homes, but when and how did they start to take root in our daily lives? The path of the Japanese people's encounters with and acceptance of milk and dairy products has taken many twists and turns. In this fact book, we will take a close look at the history of milk and dairy products, as evidenced by the latest research.

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From Ancient Times to the Edo Period

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## Dairy's Early History in Japan

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### ■ ■ ■ ■ ■ The Arrival of Dairy Products in Japan ■ ■ ■ ■ ■

The history of dairy products in Japan can be traced back to the Asuka Period (592–710). At a time when Emperor Kinmei (reign: 531–571) ruled the country, a priest named Chiso, who had come to Japan from Baekje, in what is now Korea, brought with him various medical tomes. These tomes, consisting of 164 volumes, contained descriptions of the beneficial effects of milk and methods of rearing dairy cattle. It is believed that this was when the Japanese people first learned about milking and cow's milk.

Later, Zenna, one of Chiso's sons, presented cow's milk to Emperor Kotoku (reign: 645–654) for the first time. It is said that the Emperor was so delighted, saying "cow's milk is a medicine that makes the human body better," that he bestowed on senior Head of milk the surname of "Yamato-no-Kusushi-no-Omi Medical Head of Japan and appointed him as "Chichi-no-Osa-no-Kami," a position that would manage the rearing of dairy cows, the procurement of cow's milk, and the manufacture of dairy products at Tenyaku-ryo, the division of the court in charge of medical care and the preparation of medicines.

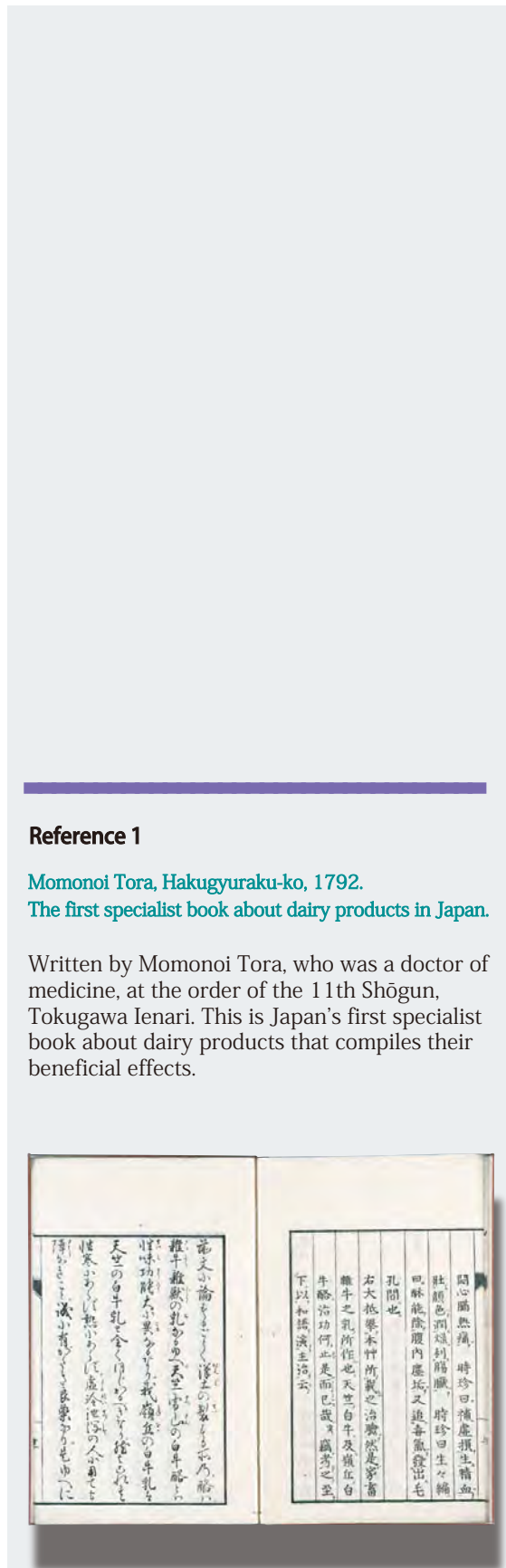
Later, descendants of Zenna became the managers of NyūgyūIn, an associated institution of Tenyaku-Ryo medical Department established in the Heian Period (794–1185), and Gyūboku, the government-owned dairy farm. Dairy farming spread from the Kanto region to Kyushu, and in 927, a taxation system called koso, which involved the payment of a dairy product called so, made by heating cow's milk down to one-tenth of its volume, as a tax. In this way, dairy products were highly valued by the aristocracy as medicine.

It may surprise the reader to learn that dairy cattle breeding had already spread throughout the land and that dairy products were being made as far back as the Heian Period. In the final days of the Heian Period, however, as samurai warriors gained power and the Imperial Court's power waned as a result, more and more effort was being poured into the production of war horses. The koso taxation system also fell into decline and mention of milk and dairy products disappeared from the records.

### ■ ■ ■ ■ ■ Dairy's Resurgence as Medicine in the Edo Period ■ ■ ■ ■ ■

The manufacture of dairy products showed signs of a resurgence in the Edo Period (1603–1868). During the Kyōhō Era (1716–1736), the 8th Shōgun, Tokugawa Yoshimune, established a dairy farm in Awa-Mineoka (near modern-day Oi, Minamiboso, Chiba Prefecture). There, a product called hakugyuraku was made from milk that had been boiled down. Hakugyuraku was extremely valuable, and it is said that sick people shaved it to take with tea.

What this tells us is that hakugyuraku was also a medicinal product, not a food for everyday consumption (Reference 1).



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### Reference 1

[Momonoi Tora, Hakugyuraku-ko, 1792.](#)  
[The first specialist book about dairy products in Japan.](#)

Written by Momonoi Tora, who was a doctor of medicine, at the order of the 11th Shōgun, Tokugawa Ienari. This is Japan's first specialist book about dairy products that compiles their beneficial effects.

# 1860s–1870s

## The Dawn of Milk Culture

### The buds of that culture seen in the final days of Edo

In terms of books, Zōtei Kaei Tsūgo, a textbook for learning English vocabulary published by Fukuzawa Yukichi in 1860, contains the names of three dairy products, namely “butter,” “cheese,” and “cream,” written in kanji (Chinese characters), English, and katakana (one of the Japanese language’s syllabaries). In 1863, Maeda Tomekichi commenced the manufacture and sale of cow’s milk in Yokohama for the first time in Japan, after he learned how to raise and milk dairy cows from the Dutch. At the beginning, however, Japanese consumers did not buy it at all and his main customers were foreigners

Matsumoto Ryojun, the court physician of the Shōgun, became aware of the benefits of milk during his studies of Western medicine in Nagasaki and he submitted a written proposal to the Tokugawa Shogunate about the promotion of cow and sheep farming in 1867. He actively promoted milk to the masses with stunts such as getting Sawamura Tanosuke, a famous Kabuki actor of the day, to drink it.

In 1870, he persuaded his uncle-in-law, Sakagawa Masaharu, to open the Sakagawa Milk Store in Akasaka Tokyo. This was the first dairy store in Tokyo. Here as well, however, initially, the only customers were foreigners.

### A Symbol of the Civilization and Enlightenment of the Meiji Period, Alongside Meat

The circumstances surrounding dairy products underwent a dramatic change in and after the Meiji Period (1868–1912). After the Meiji Restoration led to the establishment of a new government, there was a strong push toward modernization to narrow the overwhelming gap between Japan and the Western powers. The policies of Fukoku Kyohei (Enrich the country, strengthen the army) and Shokusan Kogyo (Encourage industry) were at the core of this modernization push. One part of these policies was encouraging people to eat meat and drink milk to “make their bodies strong.”

However, it is also true that people were bewildered by milk and dairy products, which they had never seen before. It is recorded that the elderly were particularly averse to animal milk. Nevertheless, through various educational measures, combined with the fact that the opening of Japan to the outside world brought Western food culture into the country, milk in particular, alongside gyūnabe (beef hot-pot), became a food that symbolized Japan’s civilization and enlightenment.

Agura Nabe, published by Robun Kanagaki in the early Meiji period, is well known for describing the social conditions of the common people during this age of civilization and enlightenment. The book depicts a store called Hinode-ya hanging over its entrance a noren curtain with the names of dairy products such as “milk,” “cheese,” and “butter” in both kanji and katakana, introducing them as kusuri-gui (for consumption as medicine) for civilization and enlightenment. (Reference 2)



Reference 2: KANAGAKI, Robun, Ushiya Zodan, Agura Nabe, Ichimei Doronken—First edition, 1871

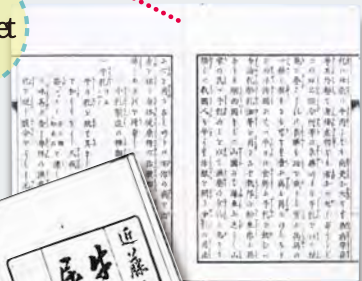
## Milk Campaign by the Meiji Government

From the beginning of its foundation, the new Meiji Government rolled out campaigns to encourage people to eat meat and drink milk. Compared with meat, which had continued to be eaten on a very small scale over the years, there had been a complete disruption of milk’s history in Japan, so the government employed a variety of educational measures to overcome people’s aversion to milk.

### Nikujiki no Setsu [Theory of meat eating], by Yukichi Fukuzawa, 1870

This pamphlet was produced and distributed by Gyūba Kaisha, a semi-government/semi-privately owned food company established in Tsukiji, Tokyo that started selling beef and cow’s milk in 1869. Written by Yukichi Fukuzawa, the pamphlet extolled the benefits of milk, such as “effective against all kinds of illness,” “keeps one young and long living,” and “makes your brain sharp.”

#### Pamphlet



#### Educational Paper

### [Educational Paper] Gyūnyū Kō [Thoughts on cow’s milk], by Yoshiki Kondo, 1872

The first paper on the study of cow’s milk in Japan, written by Yoshiki Kondo, a scholar of Japanese classical literature, by order of the Meiji government. It referred to historical facts about Emperor Kotoku and Zenna and stressed that it would be a mistake to consider cow’s milk as something impure that had come from the Western world. In this paper, Kondo advocated that milk is the most beneficial supplement for health and a valuable drink as a tonic medicine.

### Newspaper Article “Emperor Meiji Partakes of Cow’s Milk”

A newspaper called Shimbun Zasshi, No. 19, issued in November 1871, reported that Emperor Meiji, then 19 years of age, partook of cow’s milk twice a day.

## Influx of Western Knowledge

Knowledge about dairy products was also transferred to Japan all at once through translations.

The genres of such translated books included medicine, pharmaceuticals, parenting, housekeeping, and agriculture. At that time, however, these books merely introduced the characteristics of dairy products, their medicinal benefits, how to use them in the care of children, and how to make them. For example, *Seiyo Yojo Ron* (Western health theories) (1873), the translation of an American medical book, emphasized, "Animal milks are a tremendously beneficial and valuable food for children and adults during or after illness." It also describes cow's milk in particular, as "good for health in a civilized country."

We can also find many recommendations in translated books suggesting the use of animal milks such as cow's milk and goat's milk to raise children (Reference 3). These books explain the benefits and methods of use of cow's milk as a substitute in cases where an infant is unable to drink breast milk, such as when the mother has died and a suitable wet nurse cannot be found, or when the mother is unable to produce breast milk.

Other books suggest the use of cow's milk as a weaning food (Reference 3\*1), and encourage the active consumption of cow's milk by growing children, as well as infants (Reference 3\*2).

Based on such knowledge, there was an increase in the number of medical books and parenting books written by Japanese people containing similar recommendations for the consumption of cow's milk by invalids and children. *Gyūnyū Kakke Chikenroku* (Records of beriberi milk treatment trials), written by the surgeon, Gentatsu Tanaka, in 1878, describes in detail cases in which cow's milk was used to treat beriberi, which was a disease affecting the entire nation at the time. It also describes milk as a valuable substitute for breast milk. We can see from these descriptions that Tanaka appears to have thought highly of cow's milk in terms of its medicinal and nutritional benefits.

During this period, while sometimes placing almost excessive expectations on cow's milk, people treated milk as a very rare food.

However, because cow's milk in those days was raw milk, consumed just as it came out of the cow, hygiene control was a major issue.

There are several precautions in use of milk described in parenting books, such as being sure to use only fresh milk and to warm it before drinking, to be highly selective in the cows and their owners from whom to procure the milk (Reference 3\*1), and to only buy as much as could be consumed immediately (Reference 3\*3).

The use of feeding bottles was also recommended for feeding milk to infants, and in particular, *biidoru tokuri* (glass bottles), which could easily be checked if they were dirty or not (Reference 3\*4, Reference 4)

In 1871, an advertisement for Japan's first baby bottle, called *Uba Irazu* ("no wet nurse needed"), appeared in the *Shimbun Zasshi* newspaper, placed by an imported goods merchant called *Sanoya Jubei*.

This product was made of glass and had a rubber tube coming out of the bottle with a teat at the end (Reference 5).

## Reference 3

### Translated books introducing the use of animal milk as a substitute for breast milk

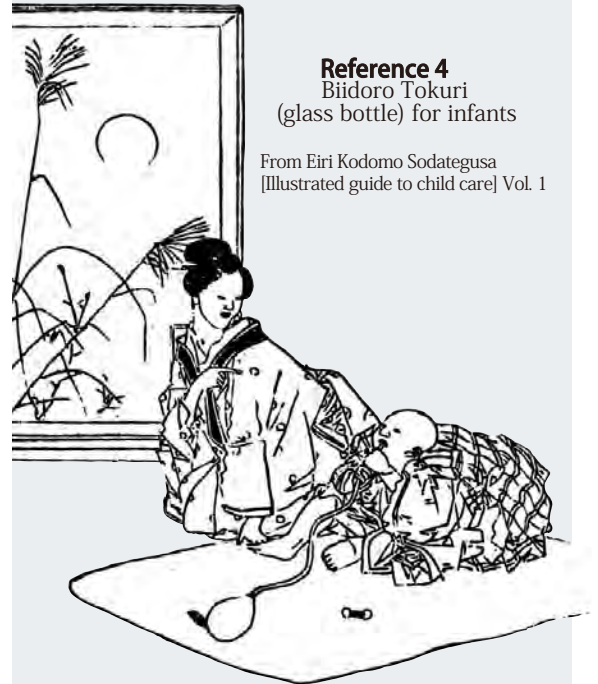
Eiri Kodomo Sodategusa  
[Illustrated guide to child care] Vol. 1 (1873)\*4

Hahaoya no Kokoroe  
[A guide for mothers] Vol. 1 (1875) \*1

Ikuji Shogen [Child care advice] Vol. 1-1 (1876) \*2

Kenzen Ron [Theory of sound health] Vol. 1 (1879)

Kosodategusa [Guide to infant care] (1880) \*3



**Reference 4**  
Biidoru Tokuri  
(glass bottle) for infants

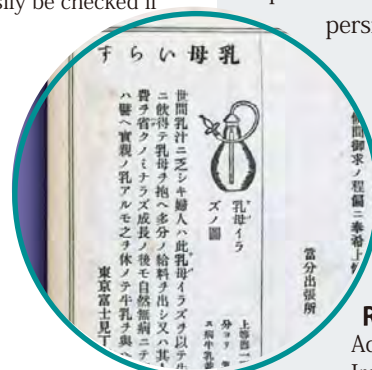
From Eiri Kodomo Sodategusa  
[Illustrated guide to child care] Vol. 1

## (Was Cow's Milk Japan's First "Super Food?")

"Miracle foods" (or super foods), which are believed to have many benefits when consumed, such as "recovery from illness," "health promotion," "perpetual youth and longevity" and "beauty," though they do not actually exist, have continued to appear in any age.

In books and advertisements about cow's milk in the early Meiji period, milk is described as a "miracle medicine" with remarkable benefits such as medicinal effects and revitalization. It was also expected to make people smarter and more persistent.

Advertised to the effect that "Drink this and you will be healthy," milk may have been the original super-food energy drink.



**Reference 5**  
Advertisement for Uba  
Irazu feeding bottle

# 1880s-1890s

## As a Substitute for Breast Milk and for Medicinal Purposes

Popularization of Feeding Infants with Milk and Dairy Products

From the 1880s onward, feeding of infants using milk and dairy products began to spread in earnest. In the 1880s, knowledge about established feeding methods using milk and dairy products was widely introduced from Western countries such as England, the United States, and Germany, predominantly through translations of books from overseas. A particular feature of these books was that they were aimed at general female readers. Know-how regarding the use of milk and dairy products at home was starting to be taught.

For example, *Kosodategusa* (Guide to infant care), which was published in 1880, is a translation of an original English book written by The Japanese translation was written with female readers in mind, with extensive use of hiragana and furigana (hiragana to show how to read kanji characters) used on all of the kanji.

*Kosodate-no-Tane* [Secrets to Raising Children], published in 1883, is a child care book that deals exclusively with feeding.

This book is believed to have been based on a speech by a Mr. Bertz, a teacher of the Faculty of Medicine at the University of Tokyo, and was compiled based on “various theories of European experts.”

It was also written in a manner that was “easy for female readers to understand,” using hiragana and containing illustrations of feeding equipment (Reference 6).

On the other hand, in addition to child care and housekeeping books for the general reader, medical books in which the use of cow's milk as a substitute for breast milk was encouraged also became widespread. *Ika Juniyo* (Twelve requirements of physicians), compiled by Jogoro Ise and published in 1887, describes cow's milk as the second best beverage after breast milk and recommended it be consumed more often.

As time went on, from around 1890, original books, not translations, that were written, copy-edited, and compiled by Japanese healthcare professionals including pediatricians and midwives as well as people bearing titles such as doctor of medicine, bachelor of medicine, or bachelor of pharmacology, started to be published. The names of female authors, such as female doctors, midwives, and educators, even appeared on some of these publications.

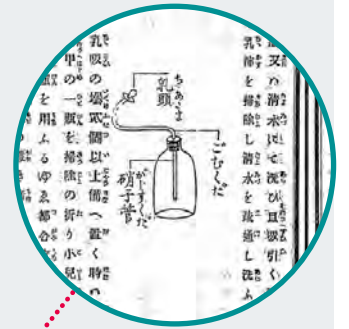
As a result, infant feeding methods came to be explained in ways that were easy to understand and disseminated to doctors and midwives involved in childbirth and childcare, as well as expectant mothers. These methods included how to dilute condensed milk (sweetened evaporated milk) when fresh milk was difficult to obtain, how to boil milk, and how to use feeding equipment safely.

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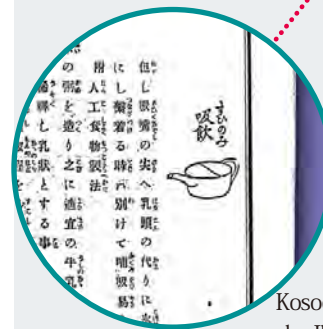
## Reference 6

### Childcare manuals with illustrations and various feeding devices of the times

Chichi Nomi Bin (feeding bottle)



Suinomi (feeding cup)



*Kosodate-no-Tane*, supervised by Ikujiro Sakurai, edited by Kanichi Yamori, 1883

Chichi no Bin (feeding bottle)



The rubber tube extending from the glass bottle has been shortened to make it more hygienic.

*Haha-no-Tsutome*, Ko no Maki by Michiyoshi Mishima (1892)

Michiyoshi Mishima, the first doctor to use the term, “artificial nurturing,” devoted his efforts to disseminating accurate know-how on “artificial nurturing methods,” through Haha-no-Tsutome, Ko no Maki [A mother’s duty—volume on children] (1892) and other publications. That know-how included the composition of milk, how to use and store milk, and the proper handling of feeding bottles (Reference 6). Mishima was also involved in school hygiene under the Ministry of Education and has been described as the father of school hygiene in Japan.

Genkei Shindo (former vice director of Oiso Hospital), the author of Ikujihikkei Chichi-no-Tomo [Essential Items for Child Care—Feeding Aids] (Sunchin Hyakushu, Vol. 47) (1894), and Etsutaro Kimura (pediatrician) and Tsukasa Hirota (Doctor of Medical Doctor Science, Professor of Faculty of Medicine, Tokyo Imperial University), the authors of Futsu Ikuji-ho [Regular Child Care Methods] (1901), were also in favor of the use of cow’s milk for child care.

In this way, the method of feeding infants with cow’s milk and dairy products as a substitute for breast milk came to be called by various names, including “artificial nurturing,” “artificial child care,” and “artificial nutrition.” It was featured in books of various genres and widely penetrated the consciousness of the general public.

### Human milk or cow’s milk?

However, as the acceptance of milk became more prevalent, some people, while acknowledging its nutritional value, became skeptical about the excessive use of milk. This was the question of which was better, breast milk (from mothers or wet nurses) or animal milks such as cow’s milk (or goat’s milk, etc.) and condensed milk.

For example, Kichitaro Niiharu, author of Tsūzoku Katei Kyōiku (Popular home education) (1899) emphasizes the importance of breast feeding. He wrote that some people were buying cow’s milk to feed their babies even though they were able to breastfeed, but that this was merely a trend, and that human milk was the really most appropriate for humans and it was not reasonable to say that animal milk was better than human milk.

In Ikuji to Eisei (Child care and hygiene) (1903), pediatrician Terumaro Kato pointed out that, while cow’s milk was nutritious, feeding infants with cow’s milk may lead to them receiving an excess of nutrition. Kato recommended raising children on a diet of lightly seasoned rice and fish and, instead of “artificial nutrition” using cow’s milk, he suggested “natural nutrition” using breast milk.

On the other hand, Kenichiro Takasu suggested using cow’s milk in combination with breast milk. As advances were made in medicine and nutrition, the status of breast milk as the first choice and milk and dairy products as substitutes became more firmly established.

### Evolution of Containers Promotes Popularization

A major factor behind the popularization of milk was the evolution in sales methods and milk containers.

In the early days of milk delivery, milk was placed into large tin cans for transport and sold by volume in 90 ml quantities with a ladle. Around 1877, milk in returnable small tins (180 ml) appeared. These tins were put into baskets, which were strung onto a pole and carried on the shoulders for delivery.

Later, ceramic bottles were used for a short period, until around 1888, when a milk shop in Tokyo adopted glass bottles for the first time, because they were more hygienic and easier to carry. The use of glass bottles for milk was later to become mandatory.

Early glass bottles were made of blue or green colored glass and had long, narrow necks. They were apparently sealed with a ceramic or metal cap held down with wire, or with metal screw top.

## The History of Milk Bottles



Milk tin from the early Meiji Period (approx. 12 cm tall, 90 ml)



Glass milk bottles from the Meiji Period (approx. 16 cm tall)



Glass milk bottles from the Taisho Period (approx. 15 cm tall)



After that, incidents of spoiled milk and other factors led to the revision of the Milk Business Control Regulations in 1927, in which sterilization was made compulsory and the use of colored glass bottles was banned. Clear, transparent glass bottles with wide mouths sealed with a paper lid came into use. This was the origin of the milk bottle that is in use today.



Wide-mouthed, clear, transparent bottle that is still used today.

Source: J-milk website  
(The above three items are from the collection of the Tomoe Milk Museum)

# 1900s

## Legislation and Expansion of Demand

### Safety Demands

As consumption of cow's milk increased, production in quantity also continued to expand. However, by around the turn of the century, hygienic safety had become a major problem for Japanese cow's milk. Due to the highly perishable nature of cow's milk, government authorities had been carrying out hygiene control since the early days. For example, in 1878, the Milking Operators Regulations were established by the Tokyo Metropolitan Police Department. These regulations imposed certain obligations such as keeping cattle sheds clean and free from malodors, not contaminating the milk with foreign objects or dirt, and not using copper equipment for delivery and storage.

Despite these regulations being amended numerous times, there appeared to be no significant improvement in poor hygiene practices. In addition to contagious bovine diseases, the sale of fraudulent cow's milk, such as watered-down milk, spoiled milk, and defective milk was widespread. This situation eventually developed into a major social problem.

In 1900, the Dept of Interior promulgated the Milk Business Regulations as a ministerial ordinance (Reference 7). This law stipulated the use of glass bottles in the delivery of cow's milk, and provisions regarding milk composition standards (specific gravity, fat content, etc.) and the location and construction of milking facilities.

With these regulations, standards of hygiene and quality control from cattle rearing to manufacture and sale of cow's milk improved dramatically, and this gave added momentum to the subsequent popularization of cow's milk.

Such improvements in the safety of milk owed greatly to Professor Keitaro Tsuno of the Faculty of Agriculture, Tokyo Imperial University, who wrote *Shinyū Keisatsuron* [Market Milk Policing Theory] (1892) (Reference 8), and *Gyūnyū Shōdokuhō oyobi Kenshō* [Methods of pasteurizing and Testing Milk] (1901). Tsuno published books one after another, compiling a knowledge base on the control of milk and dairy products, such as how to handle cow's milk with consideration of hygiene and methods for the analysis of milk composition. While studying overseas cases, Tsuno endeavored to establish clear inspection standards for dairy products for the first time in Japan.



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#### Reference 8

Keitaro Tsuno, *Shinyū Keisatsuron* [Market milk policing theory], 1892

#### Reference 7

### History of the Establishment of Legislation Leading to Today's Ministerial Ordinance on Milk and Milk Products Concerning Compositional Standards, etc.

The definition, composition standards, labelling, manufacturing, storage methods, etc., of milk and dairy products that are currently distributed in Japan are stipulated in the Ministerial Ordinance on Milk and Milk Products Concerning Compositional Standards, etc., which was established in 1951. The table below shows the history leading to the establishment of the ordinance.

Year	Authority, Law, and summary of amendment
1873	Rules and Regulations for Milking Operators are promulgated by the Governor of Tokyo
1878	Milking Operators Regulations are established by the former Tokyo Metropolitan Police Department.
1885	Milk Business Regulations are amended by the Tokyo Metropolitan Police Department. Use of tin cans is banned.
1900	Milk Business Regulations are promulgated by the Interim Structure of milking facilities is amended.
1927	Milk Business Regulations are amended by Tokyo Metropolitan Police Department. Use of colored glass bottles is banned, pasteurizing is made compulsory.
1933	Milk Business Regulations are amended by the Home Ministry. Low-temperature pasteurizing (heat for 30 mins at 63 - 65° C) or high-temperature pasteurizing (heat for 20 mins at 95° C or above).
1947	Food Sanitation Act is promulgated by the Health and Welfare Ministry.
1951	Ministerial Ordinance on Milk and Milk products Concerning Compositional Standards, etc. is promulgated under the Food Sanitation Act.

Continues to be amended and remains in effect today

Source: Japan Dairy Industry Association website



Further, around the time that the Milk Business Control Regulations were established, many specialist books about dairy products were published that emphasized the safety of cow’s milk and conveyed accurate knowledge about dairy products. With the development of detailed inspection standards for dairy products, successive authors, who had studied the standards, conveyed their contents in more accessible ways for the home.

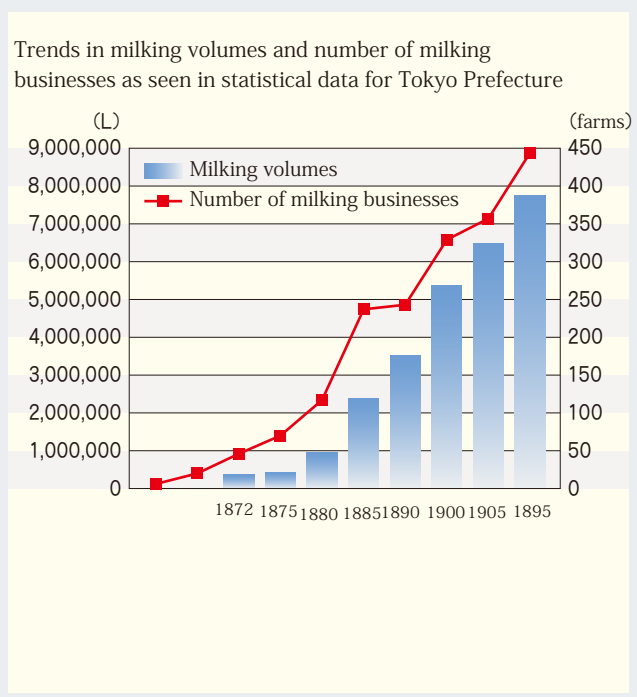
However, most of the books specializing in dairy products around the 1900s were compiled as general introductions to cow’s milk and dairy products, including sections on topics such as the history of cow’s milk, its composition, changes caused by microorganisms, and milk inspection methods, and there were very few books that discussed their everyday intake.

**Growth and Modernization of the Milk Business**

The Milk Business Control Regulations of 1900 also brought major changes to the milk industry.

It may sound surprising, but, until then, there had been many dairy farms located in the center of Tokyo. This is because many of dairy business in the very early Meiji period were run by former samurai-class people. Having lost their livelihoods in the Meiji Restoration, these former samurais established dairy farms on vacant land that had formerly been the residences of daimyo (feudal lords) and other samurais and started businesses. These were what were known as “milking businesses.”

In those days, both distribution and quality control were still undeveloped. Because milk spoiled easily, it needed to be delivered once or twice every day, which made the center of Tokyo the best place to set up milk shops. Although it was an extremely tough job, with the business owner doing everything from caring for the cows, milking them, and selling the milk, it was also an attractive business venture that could be highly profitable if it attracted regular customers.



Source: Mioko Hatanaka, Karisuma Fūdo Niku, Nyū, Kome to Nihonjin [Charismatic food: meat, milk, rice and the Japanese], Shunjusha Publishing (2017)

The new government also encouraged the business as part of its policies to encourage new industry and to help the samurai class to find ways of making a living. The milk shop business became the flag-bearer of civilization and enlightenment success stories and rapidly expanded in a short period. In 1871, there were only six or seven such milking businesses in Tokyo, with only 15 dairy cows in total, but by 1900, those numbers had increased to 329 businesses and 3557 cows, and milking volumes had also expanded significantly.

However, because of problems such as contagious bovine diseases and the sale of fraudulent milk, the Milk Business Control Regulations were established. These regulations improved standards of hygiene and quality control dramatically, from animal care through to production and sale. To meet hygiene standards, dairy farms had no choice but to relocate outside the city, which prompted the separation of the dairy farming business and the milk retail business. Moreover, to meet the needs for growing investment in equipment, the industry started along the path of modernization as it transformed from individual businesses to companies.



List of milking businesses in Tokyo in 1888. Dainippon Gyūnyū-shi [Japanese history of milk], Edited by Gyūnyū Shimbunsha, 1934

# 1910s–1920s

## Advances in Nutritional Science and Increase of Milk consumption

### Progress in Nutrition Research

In the Taisho Period (1912–1926), momentum started to build for the incorporation of cow's milk as a regular food in the home, not just as a substitute for breast milk.

One particular feature of this period is that drinking milk was believed to help improve physical build. The field of nutritional science, which had previously been part of medical science or physiological science, was established as an academic discipline in its own right. This trend was boosted by dramatic advances in research of nutrients, including the discovery of vitamins.

Atarashii Hakken oyobi Hatsumeai Dainikan (New discoveries and inventions, Vol. 2), published in 1922, contained a section titled “Gyūnyū to Taikaku (Milk and Physical Build)” to explain that people with large builds generally drank milk daily and that physical build was determined by one's skeletal framework, which is formed by calcium. It also stated that milk was the richest source of calcium of all foods.

A report titled Hokubei Sashi ni okeru Shinyū no Jōkyō (Status of market milk in Seattle in the United States), published in 1924, presented the campaign to encourage consumption of milk and dairy products that was being promoted across the whole of the United States at the time. This report included various promotional initiatives, such as pamphlets produced by the USDA encouraging parents to give their children milk to drink and to use milk in cooking, the “Ten Major Reasons Why Milk is the Best Food” issued by the American Red Cross (Reference 9), campaigns to serve milk at lunch in elementary schools, and a poster from the times (Reference 10).

### “Improvement of Physical Build” with Milk

With this knowledge of the way in which milk had become firmly established in American homes as a nutritional beverage based on modern knowledge of nutritional science, a growing number of books were also published in Japan that recommended the active consumption of milk for good health and improvement of physical build. This trend led to moves to encourage children of elementary school age to drink milk.

For example, Michikazu Okada, an elementary school doctor, claimed in his book titled Gakkō Katei Jido no Eisei (Children's health at school and in the home) (1922) that children should be encouraged to like milk because it was rich in vitamins and effective against kidney disease and beriberi.

As if to agree with this claim, guide books about how to drink milk also appeared. A succession of books targeting housewives were also published, such as Gyūnyū no Nomikata (How to drink milk) (1917) and Gyūnyū no Hanashi (About milk) (1922).

Kamesaku Todokoro, Director of the Niigata Prefecture Health Division, claimed in his book titled Inochi ha Shoku ni Ari (Life comes from food) (1925) that milk should be consumed little by little with enjoyment and that children needed to “practice how to drink milk” so that they would not dislike it.

### Reference 9

#### “Ten Major Reasons Why Milk is the Best Food” issued by the American Red Cross\*

1. Milk makes the body strong to prevent it from being invaded by disease.
2. Milk is rich in calcium, which is how good teeth are grown.
3. Milk aids in the workings of the digestive system.
4. Milk contains vitamins that are necessary for physical growth and health.
5. Milk provides fuel that gives people the energy to work.
6. Milk fixes parts of the body that have become weak.
7. Milk builds strong bones
8. Milk prevents malnutrition in children.
9. Milk is a well-balanced food that makes people more efficient.
10. Milk provides the richest nutritional value at the most affordable price.



### Reference 10

Poster produced in the United States to promote drinking milk

Source: Katsuharu Fukuhara, Hokubei Sashi ni okeru Shinyū no Jōkyō [Status of market milk in Seattle in the United States], 1924

## Expansion into Home Cooking

As the momentum for active consumption of cow's milk increased, the use of milk started to make inroads into home cooking.

In 1921, Keitaro Tsuno, who made great contributions to the improvement of milk safety (refer to Page 6) wrote *Katei-Muke Gyūnyū Ryōri* (Milk for home cooking), the first home cooking book using milk in Japan, with the objective of incorporating milk and dairy products in home cooking.

This book included many recipes containing dairy products, including milk use in soups, ice cream, and cheese. Although almost all of the recipes were translations, Tsuno actively encouraged the use not only of milk, but also cheese and butter, which had previously had negative images, as ingredients in home cooking. As such, this book can be considered as an invaluable early dairy cooking book.

## Yogurt and Other Dairy Products too

Around this time, yogurt was attracting attention, as well as milk.

Ilya Ilyich Mechnikov, the Russian scientist who was awarded the Nobel Prize for his concept of immune phagocytosis focused on the functions of intestinal bacteria and espoused the theory that yogurt was good for maintaining youth and longevity. This theory provided the trigger for the popularization of yogurt in Europe. Mechnikov is also well known for attempting to prove his theory by eating Bulgarian yogurt himself.

In addition to translations of Mechnikov's books, a succession of books were published in Japan that introduced yogurt as life-lengthening medicine. In this way, yogurt gained a reputation as the ideal dairy product to improve one's diet and to achieve longevity and population growth. Factors behind this movement included the problem of population decline, which was caused by the First World War that broke out in 1914, epidemic diseases, and a growing number of unmarried people. Moreover, high child mortality was another challenge at the time.

In addition to yogurt, the book titled *Seibutsukai no Chinō, Dōbutsu Hen* (Wisdom of the biological world—animals edition), published in 1916, introduced other animal milks such as goat's milk, as well as dairy products such as butter, cheese, and condensed milk.

Although demand for butter had expanded due to growth in domestic production at the encouragement of the Japanese Government, this book records that cheese had not been accepted very well, stating that "In Europe and the US, cheese is a major nutritional food, but in Japan, demand for cheese has not yet grown."

## The Emergence of "Anti-Milk"

In this way, the period from the 1910s to the 1920s could be described as the period when milk and dairy products became widely popular in Japanese homes.

However, along with that growing popularity, negative opinions about milk also started to emerge. While modern knowledge about nutrition was increasing on the one hand, on the other hand, moves to return to original Japanese styles of health management and folk medicine also became popular. This could be viewed as the origin of today's anti-milk trend. (See Page 14 for the history of anti-milk movement.)

**Umetaro Suzuki was also a strong supporter of milk!**

Umetaro Suzuki was a well-known agricultural chemist who isolated a nutrient he called "oryzanin" (Vitamin B1) from rice bran in 1910 when researching the causes of beriberi. He was also deeply involved with milk. Knowing that condensed milk, which was used when milk was difficult to obtain, was not nutritionally perfect, Suzuki aimed for perfect nutrition and developed a powdered milk formula for infants called Patrogen in 1923.

According to Nippon Rakuno Shi (Japanese dairy history), on April 23, 1927, at a three-day event called Gyūnyū (Milk) Day, jointly organized by the Livestock Union and the Milk Business Trade Association and sponsored by the Ministry of Agriculture and Forestry, the Tokyo Metropolitan Police Department,

Tokyo Prefectural Government and the City of Tokyo, Umetaro Suzuki presented his research about milk nutrition to the general public comprehensively. This presentation was apparently broadcast on radio programs around the country and was featured in the newspaper with photographs. The book mentioned that Suzuki's presentation served to increase public interest in milk nutrition and the nutritional evaluation of animal proteins came to be clearly indicated.

Incidentally, after the United Nations Food and Agriculture Organization (FAO) declared June 1st as World Milk Day in 2001, Japan also set that date as Milk Day and the month of June as Milk Month.

Source: The Food Science Institute Foundation website; Nippon Rakuno Shi [Japanese dairy history] by Yoshiteru Kubota, compiled by The Dairy Farmers Association of Japan, 1965; J-milk websiteHP

# 1930s–1940s

## Crisis Caused by the War, and Skim Milk Powder in the Post-War Period

### Circumstances Surrounding Milk Before and During the War

Before the Second World War, milk culture had become a well established part of the home in Japan, much more than we imagine today. The war, however, robbed Japan of that culture.

In 1937, the Sino-Japanese War began and the National Mobilization Law was established the following year. Military demand for milk took precedence due to the fact that casein, which accounts for 80% of milk protein, was a crucial ingredient of adhesives used on aircraft. In 1940, the Milk and Dairy Products Distribution Control Regulations came into effect. Milk was only provided to infants aged one year old or younger who were not receiving sufficient breast milk and to invalids.

As the war dragged on, Japan's livestock industry was almost destroyed, as rearing cattle became difficult due to the depletion of feed crops.

### Milk becomes the star of school meals after the war

Even after the war ended in 1945, there was absolutely no sign of resurgence of the livestock industry. That year, Japan was hit by a record famine, with rice harvests reaching only around 60% of the average. While rice from Taiwan and Korea stopped due to Japan's defeat, the Japanese population increased by 6.6 million with the repatriation of civilians and soldiers coming back to Japan. Food shortages in Japan became even worse than during the war (Reference 11).

Japan faced an unprecedented food crisis in which an average of 2.5 people were dying of starvation every day around Tokyo's Ueno Station, and in Osaka, more than 60 people were dying from malnutrition per month. Keizo Shibusawa, the Minister of the Treasury, expressed his sense of crisis, saying that if the situation did not change, up to 10 million people would die from hunger or illness in the next fiscal year.

To save Japan from such a situation, Licensed Agencies for Relief in Asia (LARA), an aid organization for Japan consisting of 13 organizations, including American Christian organizations, sent relief supplies to Japan.

The first shipment from LARA arrived in Yokohama on November 30, 1946. By 1952, the organization had delivered 16,207.89 tons of relief supplies, worth more than 40 billion yen. Foodstuffs such as skim milk powder and canned foods accounted for three-quarters of those supplies.

Thanks to these supplies from LARA, in January 1947, "milk school meals," consisting of skim milk powder dissolved in hot water and soup, began for three million elementary school children in the major cities. In 1949, UNICEF also started to send skim milk powder to Japan. In 1950, the supply of complete school meals, consisting of a bread roll made with flour donated by the United States, milk, and a side dish, began.

The skim milk powder of that time was of poor quality, and people still talk today about how bad it tasted, with comments like "I held my nose and gulped it down in one go." Nevertheless, it retained the high nutritional value of milk, so improved the nutritional state of Japan's children dramatically.

## Reference 11

Poor growth in children due to malnutrition in the early post-War years  
—Comparison with before the War

(elementary school boys in cities, body height)

	1937	1946
1st Grade	110.3cm	107cm
2st Grade	116.4cm	111.9cm
3st Grade	120.3cm	116.9cm
4st Grade	125.5cm	121cm
5st Grade	130.5cm	125.6cm
6st Grade	134.7cm	129.9cm

Source: Megumi Masuda, Heisei24-nendo Nyū no Shakai Bunka Gakujutsu Kenkyū Hōkokusho[FY2012 Research report on sociocultural academic research of milk], Research network of dairy sour Culture, p.176-195

# 1950s–1960s

## Rapid Economic Growth and Increase of Milk Consumption

### Spotlight on Milk Once Again Thanks to Nutritional Improvement Campaign

In 1946, around the same time that school meals started, a Nutrition Division was established in the Public Health Bureau of the Ministry of Health and Welfare. Under the guidance of the General Headquarters (GHQ) of the Allied Forces, a nutritional improvement campaign was launched, led by the Ministry.

The aim of the program was to improve people's health and physical build by moving away from the traditional Japanese diet, in which carbohydrates accounted for 90% of calory intake, and emulate the American diet to provide a well-balanced intake of nutrients such as protein, fat, vitamins, and minerals. This could be described as the starting point for the shift in earnest toward a Western diet in Japan.

In 1952, the year Japan regained its independence, the Nutrition Improvement Law was promulgated. Nutritional guidance by prefectural governments and nutritional consultations by municipal governments began. In local areas, nutritional education began with nutrition guidance vehicles (known as "kitchen cars") traveling around the countryside giving nutritional guidance with cooking demonstrations.

"Get more protein." "Eat vitamins." "Cook with a frying pan once a day." "Use one more spoonful of oil."

Using these kinds of campaigns and slogans, milk and dairy products were recommended as the ideal complete nutritional food, and attracted a great deal of attention. Cooking demonstrations using milk and butter became a regular activity of the kitchen cars.

### Resurgence of the Dairy Industry and Quality Improvements

Meanwhile, although the livestock industry had been slow to recover, thanks to dairy industry promotion measures, starting with the livestock industry resurgence plan in 1949, the industry started to recover.

The quality of milk also started to approach today's standards. In 1951, the Ministerial Ordinance on Milk and Milk Products Concerning Compositional Standards, etc. was promulgated under the Food Sanitation Act. Amended multiple times over the years to respond to changes in the times, this ordinance has continued to regulate milk and dairy products sold in Japan ever since.

In 1952, homogenized milk went on sale in Japan for the first time. Homogenization is a process in which pressure is applied to raw milk to make the milk fat globules a small, uniform size. A characteristic of this process is that, in addition to preventing milk fat from separating, it improves the digestion and absorption of milk. With the addition of vitamin D, which aids calcium absorption, this product became a major hit.

In 1957, ultra-high temperature processing (UHT) (2–3 seconds at 120–130° C) was introduced and became very popular in no time. This method, which kills almost all bacteria in milk, improved the safety of milk and, at the same time, lengthened storage periods remarkably and made mass production and mass distribution possible.

Today, 90% or more milk is produced using homogenization and UHT.

Continued next page →

## Reference 12

### Snow Brand Yakumo Plant Skim Milk Powder Poisoning Incident and Morinaga Milk Arsenic Poisoning Incident

In 1955, food poisoning incidents that have gone down in the history of cow's milk occurred one after the other.

#### ●Snow Brand Yakumo Plant milk powder poisoning incident

This food poisoning incident occurred on March 1 at nine primary schools in Tokyo, where skim milk powder produced at Snow Brand's Yakumo Plant was used in school meals. 1,579 people were affected. The cause was contamination by *Staphylococcus aureus*.

#### ●Morinaga Milk arsenic poisoning incident

From June to August, powdered infant milk formula manufactured at Morinaga Milk's Tokushima Plant was contaminated with toxic substances, including arsenic, causing many infants, mainly in western Japan, to suffer arsenic poisoning. Approximately 13,000 infants were affected, with 130 deaths. This was one of the largest food pollution incidents in the world.

After these incidents, the Food Sanitation Act was revised in 1957 to strengthen the regulations on food additives.

## Consumption Continues to Grow

Thanks to the post-war nutrition improvement campaigns, milk's rich nutritional value became well known and milk consumption increased (Reference 13).

From around 1955 in particular, washing machines, refrigerators, and televisions were the electrical appliances that most families longed for and they became known as “the three sacred treasures” of the home. Many homes now had a refrigerator, making it easier to store milk. In 1958, skim milk powder started to be replaced with fresh cow's milk for school meals in some areas.

Milk production in 1953 more than doubled that of the pre-War peak recorded in 1941. From that point onward, milk production continued to grow by around 10% every year until 1969. Twenty years after the War had ended, per capita milk consumption had grown ten-fold, and milk had taken root in Japan as the “new common national food” second only to rice.

## Market Expansion through Diversification

There was also progress in the diversification of milk and dairy products.

From the late 1950s, flavored milks such as coffee milk and fruit milk, as well as fermented milk drinks, were launched one after another. Sweetened yogurt set with agar became popular, in line with the health-consciousness boom. With the wide acceptance of reconstituted milk drinks, and yogurt, the market for milk and dairy products expanded dramatically.

More nutritious and better tasting. Milk and dairy products firmly established their position as an indulgence, as well as a common national food.

Before refrigerators became common in Japanese homes, chilled drinking milk and milk drinks were greatly appreciated, particularly in summer. Around this time, people would often be seen enjoying these drinks at the public baths and station kiosks.

## Taking Root in the 1960s

In the 1960s, milk became a common sight in Japanese homes. Along with the popularization of bread and refrigerators and the development of supermarkets, it became completely natural to see milk stored in the refrigerator at home. Also around this time, milk in cardboard cartons was becoming popular.

Dishes made with milk were also making inroads into Japanese homes. The most typical one was white stew, a stew made with milk. In 1966, stew mix, which was a powdered roux, was launched, and this dish became a standard recipe in home cooking. Macaroni au gratin and cream croquettes were dishes that people most wanted to eat.

## “10-Yen Milk Campaign”, the Pioneer of the Direct-from-the-Farm System

The “10-yen milk campaign” of 1954 was an indicator of how high demand was for milk at that time. In those days, milk prices were rising sharply.

The average milk price was 12 yen in 1950, but it rose by 1 yen every year after that, reaching 15 yen in 1953. This was in an era when a bowl of plain soba noodles in soup cost 20 yen.

To combat this, the union of launched a “10-yen milk campaign” that was directly connected to milk producers. They criticized the complicated distribution systems and distribution margins harshly, and as a result, retail prices fell to 12.50 yen in 1955.

This was a noteworthy event in the history of the consumer campaign in Japan, and is said to mark the beginning of direct sale of products from production regions, directly connecting areas of consumption with production areas.

## History of milk in cartons

In 1956, milk was sold in cartons for the first time in Japan. These cartons, which were a triangular pyramid in shape, were lighter and easier to handle, so many manufacturers started to adopt them.

They were adopted for the 1964 Tokyo Olympics and for Osaka Expo in 1970. In line with the development of supermarkets and the spread of milk for school meals, carton milk spread rapidly.

Today, the major types of carton packaging are rectangular in shape, with gable-top and brick-type cartons the most popular.



Gable top type

Brick type

Source: J-milk website

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# 1970s–1990s

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## Expansion of Dairy Products and the Era of Excessive Eating

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### Dissemination of Yogurt and Cheese

From the 1970s, not only milk, but also yogurt and cheese, came to be commonly consumed in Japanese homes.

#### Yogurt

Previously, sweet, set yogurt had been the mainstream, but Osaka Expo in 1970 provided the impetus for the birth of real genuine yogurt in Japan. At that time, plain yogurt was presented at the Bulgarian Pavilion, and this triggered research and development for the launch of the first Japanese plain yogurt in March 1971.

Unsweetened soft yogurt that had never been seen in Japan before brought authentic flavor to Japan, but on the other hand, judgment of its taste was

harsher, such as that it was “too sour”. However,

thanks to the health-consciousness and natural food booms, this kind of yogurt became increasingly popular.

Drinkable yogurt and frozen yogurt were also launched in the 1970s.



#### Cheese

In 1963, processed cheese started to be served in school meals, and this led to processed cheese quickly making inroads into the home. In 1966, cheese overtook butter to become the top dairy product in terms of volumes of production and consumption in the home. Processed cheese was the mainstream for a long time after that, but in the mid-1970s, an American-style pizza boom occurred through family restaurants and similar establishments. Frozen pizza and pizza toast were consumed even at home, and the volume of natural cheese consumption increased.

Cheese also advanced into the sweets domain. In the 1970s, cheesecake became a mega hit and its ingredients, cream cheese and cottage cheese, became well known. In 1990, tiramisu, a dessert containing mascarpone cheese, generated a huge boom in popularity, to the extent that it was described as a social phenomenon. After that, cheese-based sweets boasted permanent popularity.

### The Dawn of the Health-Conscious Era

In this way, the Japanese diet had become richer than it had ever been and milk and dairy products had also become widespread.

However, rapid economic growth also meant rapid nutrition growth. As a result, the 1970s saw an increase in obesity and lifestyle-related diseases due to over eat. It was around this time that the term *ishoku dōgen*, meaning “a balanced diet leads to a healthy body,” was born and a boom in natural foods occurred.

In the mid-1990s, there was a succession of fad diets based on a single type of food. These diets claimed that all one had to do was eat (or drink) that type of food to cure this or that ailment or to become healthier, thinner, or more beautiful.

On the other hand, clouds began to gather over the “myth of milk” that had contributed to nutritional improvements after the war. In 1969, contamination of milk due to residual agricultural chemicals in rice straw used to feed dairy cattle (“BHC milk”) became a major social problem. Prompted by this incident, in the 1970s, suspicions began to erupt about contamination of milk with hormone drugs and antibiotics, and about their carcinogenicity. From the 1980s onward, books rejecting milk started to be published. This was the emergence of the anti-milk movement, which espoused claims such as that milk was harmful and that milk was unnecessary. (Refer to Page 14 for details.)



# History of the Anti-Milk Movement

Since the Meiji period, while milk has become firmly embedded in Japanese daily life, theories that milk was harmful, namely that it was unhealthy or caused illness, have risen time after time. This section will trace the history of this anti-milk movement.

## 1870s– (early Meiji period)

Because milk had disappeared from the Japanese diet for a very long time, Japanese people at that time initially had a strong aversion to milk, but they gradually accepted it as they became aware of its high nutritional value.

The anti-milk camp used the term “white blood” to show their revulsion for milk. It is believed that the origin of this term came from a translated book\*1 of the time, but it was actually used in that book with the opposite meaning to describe the benefits of milk, saying that milk had a similar composition to blood and was highly nutritious.

## 1890s– (mid-Meiji period)

In the mid-Meiji period (around 1890s), the kind of criticism of milk that can still be found in the modern age started to emerge. As if going against the tide of excessive westernization, folk cures such as “food nationalism” were born and spread. The shokuyō (food for health) theory espoused by Sagen Ishizuka,

who was born into a family of traditional Chinese medicine doctors in the Fukui Domain and was the army’s chief medical pharmacist and medical doctor, is the origin of this trend. He claimed that the causes of mental and physical illness could be found in food and that all illnesses could be cured by improving the constitution with proper meals centered on brown rice and vegetables, a theory that gained wide support. This shokuyō theory was passed down to the fasting and diet boom that lasted from the Taisho Period to the pre-war period, and to the natural foods and austere diet boom, and macrobiotic trend from the post-war period until modern times. Meanwhile, based on this theory, in his paper, Gyūnyū Nōdoku Ron\*2, Sagen rolled out the claim that, if Japanese people, whose traditional food is grain, were to consume milk, which does not match Japanese food culture, it would impede their physical growth, cause illness and early death.

## 1910s– (Taisho period)

Masanori Inoue, who wrote many books related to health in which he criticized modern medicine and nutritional science, called himself a milk exclusionist.

His view was that milk was something that calves drink and that nothing was better for nurturing infants than the mother’s (or wet nurse’s) breast milk (he claimed that, if animal milk were to be used, dog’s milk would be a better choice because dogs are friendly toward humans and have a similar diet to humans).\*3 Books in the 1910s referred to the milk exclusion theory born in Germany at that time, which espoused “human milk for human, cow’s milk for cow” and argued against feeding cow’s milk to infants.\*4

## 1980s– (Showa to Heisei Period)

The Westernization of the Japanese diet after the war brought about improvements in nutrition, but on the other hand, when the age of plenty arrived, it became a cause of increases in obesity and lifestyle diseases due to over eat nutrition.

As health concerns spread, rejection of Western-style meals gained traction once more, which led to fierce criticism of milk, a symbol of Western food. Gyūnyū o Nomu to Gan ni Naru? (Does drinking milk cause cancer?) (Keiichi Morishita), published in of subsequent books that rejected milk.



Kagakuteki Shokuyō Chōju Ron [Chemical scientific theory of food for health and longevity] by Sagen Ishizuka, 1896

It denounced milk protein and fat as causing inflammation in the human body. Soshoku no Susume (A recommendation of austere diet) (Hideo Makuuchi, 1995) held to the “milk is unnecessary” theory, claiming that milk calcium is destroyed through pasteurization and that Japanese people are lactose intolerant. Byōki ni Naranai Ikikata (How to live without getting sick) (Hiromi Shinya, 2005) in particular, completely rejected milk, claiming that milk causes various illnesses.

These anti-milk claims are characterized by the fact that they are masquerading as scientific explanations, but in fact, their proponents merely cherry-picked research findings that supported their views and developed their theories from those findings. To counter these anti-milk claims that appear repeatedly even today, the milk and dairy products industry continues in its efforts to communicate accurate information to consumers based on scientific foundations.

\*1 Kensuke Yoshida (translator), Butsuri Kunmō Chūhen [Physical Education Vol. 2], 1872; Sadakichi Shinoda (translator and editor), Tsūzoku Inshoku Yōjō Kagami, Shokuji no Bu [Health by food and drink for the masses—meals edition], 1879

\*2 Published in Shokuyō no Shiori [Food for Health Guidebook], by Kichishiro Sasaki, 1917

\*3 INOUE, Masanori, Shizen Ikujiho, Kyōken Muni [Natural child care methods for the ultimate healthy body], 1914

\*4 Jikken Shokuryōhō [Experimental diet therapy], compiled by the Shokuyō Kenkyūkai (food for health research association), 1916



# From 2000s to Present

## (Focus on Functionality of Milk components)

Future Made Visible by Scientific Evidence

Even in the 2000s, confusion about food generated by pseudoscience has not stopped; rather, it has accelerated, with a constant succession of different mini-fads emerging. The information sources for these fads include health entertainment TV programs, and it is not unusual for a certain food presented on a TV program to completely sell out nationwide the following day.

As such exaggerated, ephemeral information has spread, however, people have started to look for something more certain. Scientific evidence has started to be re-evaluated, and progress in research in recent years has boosted this trend. As a result, there have been many cases in which new functions have been confirmed in long-familiar foods and those foods are being revisited.

Milk and dairy products are one such food.

Recent research has found that milk works to prevent lifestyle diseases such as hypertension and diabetes, as well as being an important source of calcium.\*1 Moreover, there has been a succession of reports that milk fat has no impact on the promotion of arterial sclerosis or increases in body weight.\*1

※\*1 J-milk press release material, “Gyūnyū/Nyūsei hin Sesshu to Seikatsu Shūkanbyō Hasshō ni Kansuru Saishinjōhō” [Milk and dairy products consumption and incidence of lifestyle diseases update] (December 2017)

※\*2 J-milk website “Milk Recipes” <http://www.j-milk.jp/recipes/index.html>

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Her publications include *Karisuma Fūdo Niku, Nyū, Kome to Nihonjin* (Charismatic food: meat, milk, rice and the Japanese) (Shunjusha Publishing), *Fasshon Fūdo Arimasu: Hayarino Tabemono Chronicle 1970–2010* (There is Fashion in Food—Chronicle of Food Fads 1970–2010) (Kinokuniya Shoten / Chikuma Bunko), *Karada ni Ii Tabemono wa Naze Korokoro Kawarunoka* (Why do foods that are good for you keep changing?) (Best Shinsho), *Museum Restaurant Guide* (The Asahi Shimbun), *Shichifukujin Meguri, Tokyo Goriyaku Sanpo* (Touring the seven gods of fortune, a stroll of Tokyo's blessings) (Heibonsha), *Oyaji Recipe* (Recipes for dads) (Office SNOW, Heibonsha)



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