

SUKOYAKA

For Life-Long Health

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— For the sound growth and wellbeing of our children —
The role of milk and dairy products in school lunches



Photo: Kodaira 6th Elementary School, Kodaira

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(Titles omitted, Japanese syllabary order)

The recent registration of Japanese food, *washoku*, as UNESCO's Intangible Cultural Heritage spurred debate in conferences and in the media over the role of milk in Japanese food, *washoku*, served in school lunches. In this volume, experts discuss school lunches and the role that milk and dairy products play in Japanese menus in an effort to evaluate the roles they played. This volume is dedicated to all those who have concerns regarding school lunches.

The role of milk and dairy products in Japanese school lunches

[Nagashima]



- Historical context of milk and dairy products in Japan and their nutritional significance
- Value from the nutritional point of view
- Value from the medical

point of view

- School principals' perspective
- School dietitians' perspective

- In 1946, the Japanese government announced its national school lunch program policy, and on the advice of late Professor Shoji Kondo of Tohoku University, powdered skim milk taken from the international aid supplies was introduced to school lunches in 1947.

Since UNESCO decided to include Japanese food, *washoku*, in its Intangible Cultural Heritage portfolio, debate emerged in the media related to milk's role in Japanese food, especially as it related to school lunches.

With this in mind, we would like to take a fresh look at the role milk and dairy products play in school lunches.

After the Pacific War a School Lunch Program policy was announced in a vice-ministerial decree by the Ministries of Health and Welfare, Agriculture and Forestry, and Education in 1946. Shoji Kondo, then professor emeritus of Tohoku University, recommended milk be included as desirable for children's sound development. This was duly realized by serving powdered skim milk along with school lunches. The milk was sourced from international aid supplies.

School lunches have evolved since that beginning.

Dr. Nakamura will talk about the role milk and dairy products play in school lunches, and about their nutritional role.

[Nakamura]



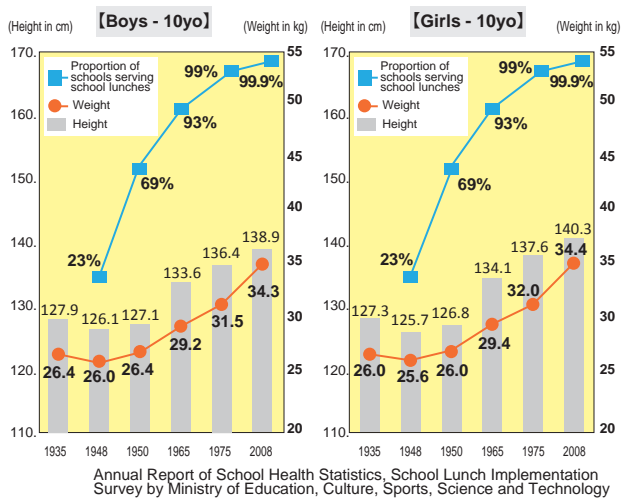
- *Homo sapiens* was the only primate to survive through the human evolutionary stages and was an "omnivorous feeder."

- Milk and dairy products in school lunches made significant contributions toward the improvement of children's physical development.

I will start with a very basic aspect related to the human diet. It is believed that there were 27 species of primates that had the potential to evolve into humans, but only one species survived, and that was *homo sapiens*, our ancestor. *Homo sapiens* was believed to be of a feeble and weak constitution compared to its counterparts. I imagine that this primate succeeded perhaps because it loved to eat and ate almost anything. They had the ability to survive no matter where they happened to be on Earth in any age. They would have their offspring eat without being fussy about what they ate. This is the essence of education. Deriving from this core human nature is the idea that, in principle, we should not restrict what we eat as long as it is not detrimental to our health.

In pre-war Japan, people ate simple foods typically consisting of rice, miso soups, and pickled roots and vegetables. This diet was not nutritionally well-balanced. The national life expectancy in those days was much shorter than today owing to deficiencies of various vitamins. In comparison, diets in the post-war period rapidly grew in variety, with the introduction of many European and Asian ingredients and dishes. One result was that these nutritionally balanced meals contributed to a significant improvement in people's sound physical development. One of these, milk and dairy products, played a particularly important role in this post-war dietary transformation. School lunches, in my opinion, played a major role in the wider distribution of milk and dairy use. There is much data to show that Japanese have become taller, physically stronger, and much healthier since they began to consume milk and dairy products. Today, Japanese have become world competitors in sports, elevated from being only a dream 55 years ago.

Fig. 1: School lunch program participation rate and physical development of children



[Nagashima] That was an intriguing account of the fundamental human attitude to dietary culture. Now, Dr. Tsukahara will talk about the value of milk and dairy products from the perspective of nutritional science.

[Tsukahara]



- Milk and dairy products are well-balanced nutritional food items rich in the three essential nutrients and calcium as well as other minerals and vitamins A and B2.

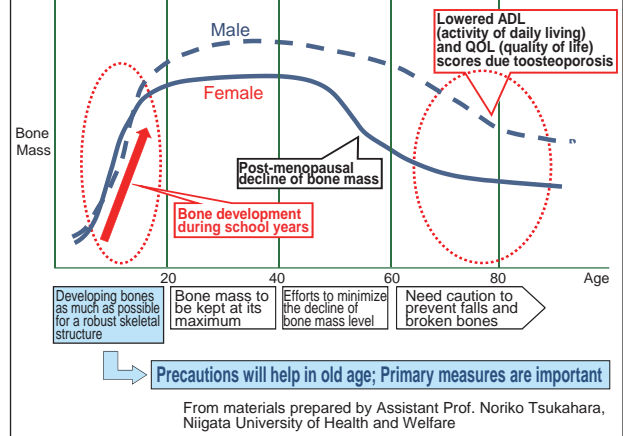
- Children's calcium intake is noticeably low on the day school lunches are not served.

Milk contains the three essential nutrients* that are indispensable for humans to maintain internal and vital functions. It is also rich in calcium and other minerals, as well as vitamins A and B2, which tend to be deficient in the typical dietary style of the Japanese, so milk makes a very well-balanced supplement.

As seen in the graph related to bone mass, bone development takes place during the period of physical growth along with height and weight. During this period, it is very important to ensure sufficient intake of calcium, protein and other minerals and vitamins, all of which contribute toward increasing bone mass and support formation of sound, strong bones.

* The three essential nutrients include carbohydrate, fat and protein, while the five essential nutrients also include dietary minerals and vitamins.

Fig. 2: Aging and bone mass (lumbar vertebra)



A comparison of the nutrient intake among school children on school lunch days and days without reveals that they tend to have enough protein, but lack calcium, vitamin B1/B2 and iron on the days without school lunches. Calcium intake, in particular, fluctuates greatly, because the major source of daily required calcium intake for the children is the milk served with school lunches. This already suggests the significant role milk and dairy products play in children's diet.

Fig. 3: Calcium intake (comparison of days with and without school lunches)



From Survey on school children's eating habits 2010, by Japan Sports Council

[Nagashima] How are milk and dairy products significant from a medical point of view?

[Nakamura]

- Milk and dairy products effectively help to reduce the risks of hypertension, arteriosclerosis, osteoporosis, and many lifestyle-related diseases.

- There is evidence of medically valuable prop-

erties in milk such as lowering contributory factors of chronic illnesses.

There are about 40 kinds of nutrients necessary for humans, and milk can provide most of them in good proportions. Some medical research has found evidence that milk and dairy products are effective in reducing the risks of some lifestyle-related diseases such as hypertension, diabetes, arteriosclerosis, and osteoporosis. Lifestyle-related disorders are internationally defined as “noncommunicable chronic diseases.” In recent years, studies have been conducted on the roles of the superb attributes of milk and dairy products in reducing contributory factors of these chronic diseases. It can, for example, slow down blood sugar levels after meals, while casein, a type of protein contained in milk, is decomposed into peptides that help to prevent hypertension. These are only a few examples of the many positive attributes of dairy products.

Data 1: Major nutritional properties of milk

High nutritional concentration

- Milk is an excellent basic food group for any generation group

Milk helps to prevent chronic disorders, particularly those associated with lifestyles (osteoporosis, hypertension, etc.)

From materials prepared by Assistant Prof. Noriko Tsukahara
Niigata University of Health and Welfare

[Nagashima] Mr. Osawa, from a school principal’s viewpoint, what are your views?

[Osawa]



-To give children the opportunities to think about what we can do to stay healthy helps them to improve their lifestyles.

-School lunches in Japan are a learning tool and part of our cultural heritage, well worth being a world heritage.

-Removing milk from school lunches may dampen children’s awareness of nutrition in meals.

Unfortunately, I have a great concern about children’s eating habits and the food they eat at home.

Every household has their own situation and it is difficult to change their ways instantly. I think a school can give children within its educational framework the opportunity to think about what is necessary now in order to be and stay healthy in the future. The children will then reflect on their own lifestyles, and become capable of making changes for themselves. School lunches provide an opportunity to make them aware that eating is closely linked to their future health and wellbeing. In this sense, school lunches are an invaluable learning tool. I strongly believe that school lunches are a valuable cultural heritage and should be a world heritage as well.

School lunches consist of a staple, main course, side dishes, and milk, occasionally accompanied by a desert dish. If you take the milk away, I fear that children and their parents will become less aware of the nutritional values in school lunches. The importance of milk in school lunches is crucial in this sense.

[Nagashima] Ms. Shirai, how do school dietitians view milk and dairy products?

[Shirai]



-Milk and dairy products serve a great purpose under strict nutritional conditions in preparing school meals.

- Children and their parents take it for granted that school lunches are served with milk.

Considering that children come from diverse home backgrounds, school lunches must provide them with a meal that provides sufficient nutritional value. There are various conditions to be met on top of that, such as the seven aims of the school lunch program (see Data 4 on page 11), and they must be prepared within the limited resources of facility, equipment, utensils, time, and budget. Given this, milk is an invaluable player in school lunches. Children and their parents take it for granted that milk is served with school lunches. Parents may even think that their home meals only need to supplement the nutrition that is not sufficiently provided at school.

[Nagashima] We have heard four very interesting points of view. Dr. Tsukahara will now summarize her views on milk in terms of its health implications and nutritional values.

[Tsukahara]

- There is believed to be a third dimension to the functions of milk and dairy products, after the attributes hitherto recognized in terms of their nutritional values.
- Milk and dairy products are highly nutritional foods of excellence from a comprehensive point of view.

Milk and dairy products are an excellent source of calcium. In addition, they bring about various benefits through their protein and its byproducts, peptides and so on, that manifest a range of desirable effects inside the body. There are discoveries that suggest the third dimension to dairy consumption apart from the nutritional values. Viewed comprehensively, it is important to know that milk and dairy products are nutritionally highly concentrated foods of excellence.

[Nakamura]

- Milk has a potentially new functional component of nutrients.
- Milk whey helps to lower blood sugar levels.

Functional components of nutrients refers to the functions of the five known essential nutrients, but there are also other functions. Milk is a potential source of these other functions. A variety of proteins are found in milk, one of which is whey protein. This protein is known to have a unique effect of lowering blood sugar levels in the body.

Normally, food is evaluated in terms of its nutritional content. Some, however, merit reevaluation in terms of their new components. Food also retains both beneficial and harmful components. In the USA, there are research groups engaging in the evaluation of food from this point of view.

[Tsukahara] So, there is evidence that suggests the positive effects of milk and dairy products around the world.

Data 2: Milk and dairy products help to tone up the body and maintain good health

| | |
|--|--|
| (1) Protects the body from pathogen → Protein (immunoglobulin, lactoferrin) and oligosaccharide | (4) Relaxing and sleep-inducing effects → Essential amino acid (tryptophan) and opioid peptide |
| (2) Normalization of the inner-gastric environment → Lactose and oligosaccharide | (5) Anti-hypertensive effect → Whey protein |
| (3) Preserve bone health → Calcium, lactose and casein phosphopeptide (CPP) | (6) Regular intake of milk will help to reduce body fat → As a preventive measure of the metabolic syndrome |

Data quoted from the Japan Dairy Association website

[Nakamura]

- Milk and dairy products (yogurt in particular) rank among the highest in food index scores.
- We should not exclude ingredients that are highly recommended around the world.
- We should listen to the opinions of the next generations.

Food experts around the world rate milk and dairy products very high. In particular, many researchers are looking at yogurt and its lactic effect on intestinal bacteria.

Given this high acclaim around the world, it would be inadvisable to remove milk from school lunches. I imagine it would raise more than a few eyebrows among scientists abroad if someone delivered a speech announcing that such a highly nutritional item would no longer be served with school lunches in Japan. A central meaning of cultural heritage is that it is something to be passed on to generations to come. I entirely agree with the opinion that school lunches should be recognized as a cultural heritage. In this way they will stay forever.

[Nagashima]

Calcium in school lunches

- What is required to meet the high standard of calcium intake through school lunches?
- Some examples of ways to provide calcium in school lunches.
- Is it possible to consume milk outside school lunch hours?

In 2013, the Ministry of Education, Culture, Sports, Science and Technology of Japan issued

revised school lunch nutritional standards based on calculations to promote good health and sound development among school children. In this revision, calcium intake through school lunches is set very high at 50% of the daily recommended amount. Dr. Tsukahara, what ways are there to meet this high requirement?

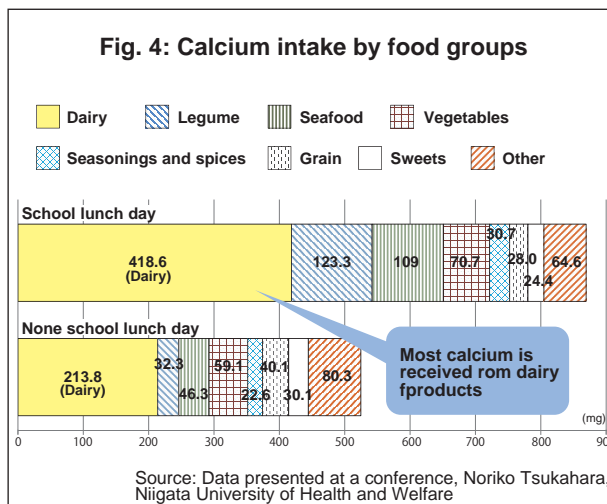
[Tsukahara]

- It makes a big difference if we know about milk and other food items and their nutritional importance, and actively seek to have well-balanced meals and serve food that is rich in calcium.
- It is important to teach children so that they understand that ensuring enough calcium intake and having a balanced diet will help them develop strong bones that will not break easily in adulthood, by showing them data in effective ways.

It is important that through everyday diet, children understand the role of dairy products and other items with high calcium content, so that they will be able to make intelligent choices for calcium-rich food and nutritionally well-balanced diets. The amount of calcium intake makes a big difference and thus is important to good food choices. I conducted a survey on dietary habits before in tandem with an epidemiological survey on osteoporosis through regular medical checkups. The average calcium intake at the baseline was under 600 mg. I spent five to ten years with these patients, periodically measuring their bone mass and giving them advice, and through the bi-directional communication they gradually changed their perceptions, which led to changes in their behavior resulting in enough calcium intake.

As Mr. Osawa mentioned, it is very important for children to familiarize themselves with milk drinking as a daily practice, through which they develop the awareness of the value and benefits of milk and dairy products, and continue drinking milk as a life-long habit. It is also important to have children understand that sufficient calcium and a well-balanced diet will help them develop sound skeletal structures, which then help them maintain strong bones in adulthood and old age. They also need to understand that we are prone to calcium deficiency in our every-

day diet, and calcium is not easy to obtain unless actively sought after. For such understanding, we must find effective ways to teach our children.



[Nagashima] Do you have any advice on how to ensure enough calcium intake in school lunches, and how to make it easy for children to drink milk during cold seasons, when many of them tend not to drink milk? We would also like to hear about some menu ideas that use milk and dairy products.

[Shirai]

- Prepare little games to habituate children to think about what they eat from a nutritional point of view.
- Give children an incentive like an empty jar prize.
- Involve classroom teachers to create an environment and mood that enhance appetite.
- Develop menus that ensure required calcium intake using dairy products.

It has been eight years since our school was designated a community school, which aimed to involve local communities and businesses in the school management. So far, we have implemented many projects in collaboration with various local supporters. For example, we brought a mother cow and her calves to the school for children to experience milking. We also arranged a rice field for the children to engage in growing rice. These programs are intended for the children to raise awareness of nutrients in food in a natural hands-on-way through the year. At our school, children do not quit drinking milk even during winter. We encourage children to learn about

diet by using an empty jar prize and other incentives. We also tell classroom teachers about the importance of lunch hours and ask for their participation in an effort to create an environment that enhances the children's experience. The ambiance in the room can drive children to eat even for foods that they are not keen on eating or drinking, like milk, legumes, and some vegetables. So, we ask the teachers to make the eating experience as enjoyable as possible.

As for menus using dairy products, children today tend to like dishes with cheese toppings. Saying this, food preferences change over time. We keep our eye on trends and situations, and adjust our menus accordingly, for example, by adding yogurt as a desert, to ensure sufficient calcium intake.



Photo 1: Foods life-giving force
(Source: Kodaira 6th Elementary School, Kodaira)

[Nagashima] Some have suggested that milk could be served outside of school lunch hours, like during a short break about an hour before lunch time or after the last lesson. How feasible would this be from the viewpoint of school administrators? I heard that there was a school that put this to the test.

[Osawa]

- Serving milk outside school lunch hours is not very practical considering the time and effort required in preparation.

It would be difficult to implement. Class hours may not be the same across the different grades. Also, a 15-minute break is not long enough to serve the milk, have the time to drink it, then collect, clean, and prepare the cartons for recycling.

[Nagashima] So there are some practical issues. What nutritional challenges do children in modern society face today?

[Nakamura]

Nutritional challenges for today's children

- Dietary disorders that place double burden (malnutrition and overnutrition) simultaneously, becoming a complex social, as well as individual, issue.
- Individually-tailored tutoring on nutrition is necessary to foster the ability to make appropriate self-judgment.

Today, the problem of double burden malnutrition (DBM)* is debated globally. At the global level, some populations in developing countries undernourished and populations in developed countries are overnourished. Most people in affluent countries tend to be overnourished but there are those who cannot afford rich food and suffer from undernutrition. In the past, problems related to nutrition were related to mostly undernutrition. Today, however, many people eat well, and it has given rise to problems of overnutrition together with undernutrition. This situation is not limited to national boundaries. In developed countries, for instance, there are obese children alongside anorexic malnourished children. Many young girls experiment with extreme diets. There is also a rise in low birth weight babies. Conversely, countries such as China and Vietnam are now faced with a sharp increase in the number of obese children in the shadow of these countries' rapid economic growth. The situation in Japan is also complex. Middle aged people used to be encouraged to eat moderately to prevent metabolism-related disorders, but now expert opinion is reversed, and they are encouraged to eat more in order to prevent weakening and undernutrition, as a precautionary measure to reduce the rising need for nursing care.

In order to resolve this situation, it is necessary to provide individually tailored nutrition tutorials to educate the nation so that everyone can exercise his or her own judgment on appropriate nourishment. In this context, nutritional education and *Shokuiku* (education on food and dietary practices) are vital in children's healthy development.

*DBM=Double Burden Malnutrition

[Nagashima] This is precisely the purpose of school lunches.

In addition, children today enjoy far less exercise and spend more time playing indoors, notably with computer games. These factors are key contributors in the increasing number of lifestyle-related diseases in children along with insufficient bone mass. These are serious issues today.

Advice on providing tutorials about Japanese culinary culture through school lunches

- It is important to provide a correct view and understanding of *washoku* as a culture that is now internationally recognized and appreciated as a worldwide intangible cultural heritage.
- There is as yet no officially accepted definition of *washoku*.
- Are milk and dairy products incompatible with *washoku*?
- How do schools evaluate school lunches?
- Educational purpose of school lunches.
- Desirable guidance to be given through school lunches.
- *Washoku* as appreciated in the world is not just about food consumption, it is a comprehensive package of food appreciation encompassing sensitivity to seasonal changes, preparation methods that enhance the flavors of raw materials in season, and other preparatory techniques. Gratitude and hospitality underlies the *washoku* experience.

[Nagashima] The word *washoku* seems to be used freely among those who believe that milk does not go with *washoku*, or that school lunches should all be *washoku*. I feel the urgent need to provide children with a view of what *washoku* stands for.

Washoku, as understood in the world, is not just the name of a type of food for consumption, but includes food appreciation, sensitivity to seasonal changes, and ways of preparation to enhance flavors of raw materials in season, and other preparatory techniques. Gratitude and hospitality underlies the *washoku* experience. So, it misses the point to argue that milk does not go with rice or other traditional Japanese dishes. Given this as the starting point, we would like to hear views on how to educate children

in culinary culture through school lunches. What approach is desirable, and what should we keep in mind in providing such information? To start with, are the two approaches really incompatible; serving milk in school lunches, on the one hand, and promoting *washoku* on the other? What is your view, Dr. Nakamura?

[Nakamura]

- There is no inconsistency between serving milk at school lunch and promoting deeper understanding of culinary culture; school lunches with milk and promotion of *washoku* are not incompatible.
- There are emerging initiatives to evaluate the health implications of *washoku*.
- The inscription in the Intangible Cultural Heritage signifies the world's appreciation of the mental aspects in the *washoku* experience as a whole.
- *Washoku* is recognized for its ability to incorporate the awareness of seasonal changes while maintaining environmental integrity, as opposed to antagonism against nature.
- *Washoku* is a wonderful culture that allows us to respect nature, and bring it into our everyday practice through eating. We must ensure that it will be passed on to our children.

There is no contradiction between having milk with school lunches and learning about Japan's traditional culinary culture through the acquisition of healthy dietary habits. It is through the beauty of *washoku* that a wide variety of foods may be incorporated in any combination to accompany the staple of rice. For this reason, I think there is no incompatibility between serving milk with school lunches and promoting *washoku*.

There is no official definition of *washoku* or Japanese-style food as yet, including dishes like ramen and curry rice, at the time of the inclusion in the cultural heritage list. Currently there is a national initiative based at Kyoto University to research the health implications of *washoku*.

Data 3: *Washoku* and food culture of Japan, UNESCO's summary

1. *Washoku* is a social practice based on a set of skills, knowledge, practice, and traditions related to production, processing, preparation, and consumption of food.
2. It is associated with an essential spirit of respect for nature that is closely related to the sustainable use of natural resources.
3. The basic knowledge and the social and cultural characteristics associated with *washoku* are typically seen during New Year's celebrations.
4. Many Japanese make various preparations to welcome the incoming year, pounding rice cakes and preparing special meals and beautifully decorated dishes using fresh ingredients, each of which has a symbolic meaning. These dishes are served on special tableware and shared by family members or collectively among communities. The practice favors the consumption of various natural, locally sourced ingredients such as rice, fish, vegetables, and edible wild plants.
5. The basic knowledge and skills related to *washoku*, such as the proper seasoning of home cooking, are passed down in the home at shared mealtimes. Grassroots groups, school teachers, and cooking instructors also play a role in transmitting the knowledge and skills by means of formal and non-formal education or through practice.



UNESCO Intergovernmental Committee

However, the point is that *washoku* has been registered as an intangible cultural heritage. That is, the world recognizes the intangible cognitive benefit of *washoku*, rather than for its health benefits. What the recognition really refers to is the culinary cultural practice that does not antagonize nature. Japan is such a country where mountains edge close to seashores, richly expressive of seasonal transitions, and where the nation appreciates such things as moon gazing with a modest decoration of pampas grass on a table. Here, nature is an integral part of people's lives rather than an object to be conquered. The same applies to the culinary culture which embraces nature. I think the world finds the value of *washoku* in this aspect, which could contribute to furthering prosperity of humanity. This is why I think it imperative that *washoku* and its cultural aspects, which now earn high acclaim in the world, are passed on to our children. To reiterate, it is the nature of *washoku* that respects and integrates, and never contradicts nature that its value lies.

[Nagashima] I agree.

According to Ms. Shirai, children seem to enjoy milk without worrying about whether it goes with rice or not. Have there been complaints in this regard by parents?

[Shirai]

- There have been no complaints that milk does not suit rice-based meals from parents.
- Parents' want to provide what their children need even at a cost. They are content with school lunches and they each have the opportunity to eat one on open-house days.

I have never been aware of any complaints since I became involved in school lunches. At the Kodaira 6th Elementary School, we serve locally-produced pasteurized milk, which is costly. We had to appeal to parents for their consent to raise school lunch fees, and there were no reservations. I take that as a sign that parents wish to provide for their children the things that they really need in their school lunches.

If there is no established definition of *washoku*, I wonder what is the argument about certain things not going with steamed rice. Children must be allowed to experience various things. Here, adults should not impose limitations for the sake of their own values. In fact, no opinion has been expressed either by the children or their parents that milk does not suit rice-based dishes. At our school, we welcome children's parents and guardians, including fathers and grandparents, who usually do not have a chance to come to the school, on the Sunday open-house day. They eat our school lunches, and they all seem happy with what is served.



Photo 2: Menu consisting of steamed rice, grilled salmon fillet, miso soup, boiled spinach and radish, milk and a mandarin orange

(Source: Kodaira 6th Elementary School, Kodaira)

[Nagashima] Has anyone complained that milk is not suitable for school lunch menus?

[Shirai]

- They feel comfortable with the idea that school lunches are served with milk. No complaint was heard.
- The importance of calcium is always conveyed to them.

I do not hear any complaints in this regard, as parents feel comfortable with the idea that school lunches are served with milk. The school dietitians around me, too, face no such complaints.

We teach children about the importance of taking necessary nutrients not only during school lunch hours, but also in physical education, science, and home economics classes. We convey the message to parents, too, emphasizing the importance of calcium.

[Nagashima] I ask Mr. Osawa, whether school lunches are included in the items for school evaluation.

[Osawa]

- School lunches are regarded as a part of the educational curricula, as having opportunities to give advice. School lunches are considered in school evaluations.
- If a three-minute guidance at lunch time is given structurally every day throughout the year (a total of 12 hours), children will change their behavior.

School lunches are implemented as part of school curricula. This provides another opportunity for guidance besides regular classes. Where guidance is given, there will be evaluation. So, school evaluations take it into account. If three minutes are dedicated to guidance at lunch time every day, it would amount to 12 hours a year. Children will definitely grow through the school lunch hours given that structural guidance is provided daily by the school.

[Nagashima] I see that the continued efforts in education and responses are important. I now ask Dr. Nakamura, how do school lunches serve educational purposes?

[Nakamura]

- School lunches provide an excellent philosophy of equality by sharing meals with classmates.
- This philosophy became a great contributor in resolving the prevalence of malnutrition in about 10 years in post-war Japan.
- The number of diabetes patients is in decline today, and Japan may be the first in the world to resolve the problem of overnutrition.
- The influence of education based on school lunches is remarkable.

I believe that children acquire the Japanese value of dietary experience in classrooms when they share meals with their classmates. In Europe and America, doctors, directors, CEOs and other executive-class people have their own rooms to have their special meals in that are different from meals provided for hospital workers or corporate employees. In Japan, presidents, professors, assistants, CEOs and employees alike, everyone eats the same meal in the same room. There is a Japanese sense of equality expressed in a phrase “to share one pot of rice,” and I think this is a wonderful philosophy that derives from school lunches. Starvation never disappears from the world as people exploit others, despite international aid delivered to poor countries. Whereas in Japan, people shared among themselves, and did not exploit, even in the post-war struggle, thanks to the school lunch program. School lunches helped solve undernutrition among children in a short period of time.

Recent data suggest that obesity is in decline in Japan. There is no other example in the world that obesity is under control, and yet Japan is also seeing a decline in the morbidity rate of diabetes. The world suffered from a serious problem of starvation during the first and second world wars, but Japan managed to move the nation out of the state of undernutrition in the post-war period in about 10 years. Today, there is encouraging signs that Japan may be the first in the world to resolve the modern problem of overnutrition. The data provided by the Ministry of Health, Labour and Welfare last year shows that the incidence of diabetes is also beginning to decline. I take this as a result largely owing to the education given through school lunches. When I told this to some non-Japanese people, their responses

were positive, that Japan should disseminate to the world such a social system and educational program that bring about longevity. I believe this is Japan's important responsibility in the future.



Photo 3: Enjoying lunch together
(Source: Kodaira 6th Elementary School, Kodaira)

[Nagashima] Splendid. There are many points that are also encouraging to people who engage in providing school lunches.

Mr. Osawa will share with us his expectations of school lunches and the way they nurture children and as well as educating them so that they will become capable of making appropriate dietary decisions as adults who embody hope in the future for Japan.

[Osawa]

- Provide school lunches with confidence and in a responsible manner appropriate to educators who are responsible for the children and their future, and the children will respond with remarkable growth and attitudinal changes.

I often relate to my fundamental belief that teachers are responsible for the future that awaits the children they teach. Looking after the educational duties of children for one year is in itself a serious responsibility. In the last eight years as a school principal I always encouraged teachers to take great pride and joy in being involved in the growing process of each pupil during the year, which is an invaluable time for the children.

Menus may be diverse, consisting of a staple, main course, side dishes and milk. The staple may also be either steamed rice, noodles or bread, depending on the day. I would like, however, for school dietitians to always be prepared with an underlying rationale for menus on any particular day. Without clear rea-

soning for menus each and every day, the lunch will merely be food for consumption. So, I strongly desire that educators have the confidence and sense of responsibility in providing school meals and guiding children through this means. Children will then grow soundly and develop surprisingly well.

[Nagashima]

In conclusion: we need to maintain a broad perspective to consider how school lunches contribute toward the future of our children.

- Milk and dairy products are indispensable for children's growth.
- School lunches must be an educational medium to teach about Japanese-style food, *washoku*, and general culinary culture.
- The School Lunch Program Act must always be respected, as it aims to maintain and enhance the health and wellbeing of school children through appropriate nutrition intake, taking into account the developmental stages of growing children.

Data 4: Article 2 of School Lunch Program Act (Aim of School Lunch Program)

1. To maintain and enhance health and wellbeing of school children through appropriate nutrition intake.
2. To provide school children with opportunities to learn appropriate diets in the everyday context, develop the ability to make sound judgment about healthy diet, and adopt desirable dietary habits.
3. To enrich school life and foster sociability and cooperative spirits in children.
4. To facilitate the understanding of a dietary practice as being based on the natural providence, thereby fostering the respect for life and nature as well as a positive attitude towards environmental conservation.
5. To facilitate the understanding that a dietary practice is supported by a diversity of people who engage in food production and preparation, thereby fostering the sense to appreciate hard and diligent labor.
6. To facilitate deep understanding of varied culinary cultures of excellence throughout Japan and in various regions.
7. To guide school children to gain appropriate understanding about production, distribution and consumption of food.

It is important to adhere to the basic principles of school lunches in practice. Thank you for your input.

We have had many valuable opinions and established that milk and dairy products are an indispensable item for children in their developmental stages.

School lunches play a vital role in realizing national longevity in a true sense, by fostering children to maximize the bone mass during their physical de-

velopment period, which prepares them in adulthood to resist osteoporosis. Meanwhile, we have reviewed that school lunches also serve as an important educational opportunity for children to learn and comprehend Japanese traditional diet and culinary culture.

While there are debates about *washoku* as world heritage, Japanese-style food and culinary culture, it is important to convey correct understanding of the cultures through school lunches as an educational tool, so that such debate will not result in skewing their perception. We must clearly recognize the important function performed by school lunches.

The most important point of all is that school lunches aim to maintain and enhance health and wellbeing of school children undergoing physical development through appropriate nutrition intake, as provided in the School Lunch Program Act. In conclusion, we need to maintain a broad perspective to consider how school lunches contribute toward the children's future, and elucidate the role of milk and dairy products in school lunches, which was the main theme of today's discussion. Thank you all for your participation.



Ms. Hideko Shirai Dr. Noriko Tsukahara Dr. Teiji Nakamura Ms. Mihoko Nagashima Mr. Masanori Osawa

[Editor's Postscript]

The discussion encompasses some important points: The educational function of school lunches, re-acknowledgment of wonderful Japanese culture of *washoku* that is an integral part of Nature, and the irreplaceable value of milk and dairy products as an indispensable nutritional source for children's sound growth for their bright future.

Spreading Japanese *washoku* and the art of Japanese lunches worldwide, we may be able to facilitate sound growth and development of all children across the world, who will be making the world in the future. We have high hopes that the realization of Japanese *Shokuiku* will be a high-level international exercise for the good health and wellbeing of children, by actively introducing many superb culinary cultures of the world into Japan.

The English edition or the Japanese edition of this volume is available for distribution (with a supplemental pamphlet on Japanese school lunches). Please inquire at the Association Secretariat by FAX or E-mail, with your name, telephone number, E-mail address, and the number of copies required as well as the postal address to which the copies should be sent.

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