

Japan's Use of Flour Began with Noodles, Part 3

By Hiroshi Ito,
owner of Nagaura in Ginza

Wheat Cultivation Led to the Independence of Small, Powerless Farmers

Flour Food Culture

In the introduction to this series, the author stated that wheat flour (hereafter, the general term “flour” refers to wheat flour unless otherwise specified) was first introduced into the Japanese diet during the Nara period (710–784) but failed during the Heian period (794–ca. 1185) due to the lack of one of the three elements necessary for its establishment—a means to grind wheat grain into flour. The two other elements necessary for establishing flour as a mainstay are the ability to produce wheat and ways of using flour in foods.

One long-held theory is that flour was used during the Nara and Heian periods in dishes such as wontons and vegetable stews that included thick, flat noodles. The Empress Gensho (680–748) encouraged the cultivation of both wheat and buckwheat. This theory holds that even before the reign of the Empress Gensho, hydraulically driven quern-stones known as *tengai*, which helped to make flour foods so popular in Tang-dynasty (618–970) China, were introduced to Japan during the reign of the Empress Suiko (554–628). This would indicate that flour foods were well established in the Japanese diet during the Nara period. The author, however, feels that this theory is in error. His reasons will be detailed later in the article, but the key points in his argument against flour foods having been established during the Nara period are as follows.

First, the thick, flat noodles used in vegetable stews were made from rice flour rather than wheat flour. Second, while the literal meaning of *tengai* is “rotary grinding tool,” the devices themselves were actually mortars in which grain was pounded using a pestle. Finally, government policy, including that of the Empress Gensho, encouraging wheat cultivation failed because its only result was to inflict hardship and suffering on the farmers. Therefore, it seems highly unlikely that flour foods became an established part of the Japanese diet during the Nara period.

The three essential elements in establishing flour foods in the diet—the means to cultivate wheat, grind wheat, and use the resulting flour in food—must all be present simultaneously. Furthermore, there are a number of factors supporting each of these essential elements. In order to grow wheat, farmers must have steel plows

and hoes. The stonemasons who make quern-stones must have steel chisels to carve stone. Knives, seasonings, pots and pans are needed to prepare food. Tradesmen who produce all of these tools are needed, and so on. Just as a plethora of cells and organs make up the human body and sustain life, a great variety of closely interlinked items and people must interact in order to establish flour foods in any diet. When flour foods are recognized as a basic part of the diet, they constitute a culture. Just as a living organism dies when a necessary part is damaged or lost, the flour food culture dies if any one of its essential elements is lost or removed. Due to insufficient means for grinding wheat into flour, an essential element in the establishment of a flour food culture, the short-lived foray into wheat cultivation and cooking using wheat flour during the Nara period failed, and seems far too insignificant to be called a true culture.

Flour Foods Spur Wheat Cultivation

If we look at flour foods of the Kamakura period (ca. 1185–1333) from the perspective indicated above, we find that Japan had developed the means to grind wheat into flour using quern-stones called *ma*, as well as ways of using flour in foods, primarily noodles. This would imply that wheat was being cultivated. However, historical documents regarding wheat cultivation are as scarce as those regarding quern-stones. After the proclamation encouraging wheat cultivation issued in 840, edicts related to wheat production and the uses of wheat simply ceased to be issued.

Volume 23 of *Engishiki* (a 50-volume book of laws

Hiroshi Ito

Born in Mukojima, Tokyo in 1938. He graduated from the Faculty of Business and Commerce, Keio University, in 1963. He is the second-generation owner of Nagaura, a *terakata*-style soba (buckwheat noodles) restaurant in Ginza, Tokyo. *Terakata* refers to a style of soba dish prepared using the traditional method of the Myokoji Temple in Aichi prefecture. Ito is the author of *Tsurutsuru Monogatari* (published by Tsukiji Shokan), and in addition to working at his restaurant, he devotes his life to the study of food and diet of the Edo period, using historical materials and diaries collected by his father from noted temples throughout Japan. Ito has had the great honor of preparing Myokoji soba for His Imperial Highness, Prince Mikasa, during a visit to Myokoji Temple.

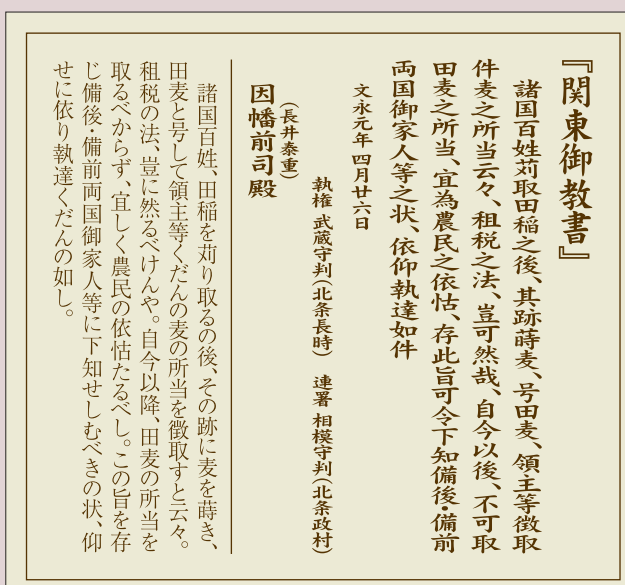


compiled in the early 10th century) is a rare document that tells us that wheat was cultivated in five provinces. These provinces were four of the five provinces, collectively known as Kinai, in and around the ancient capitals of Kyoto and Nara, and Awa province (present-day Tokushima prefecture). The four Kinai provinces were Yamashiro province (present-day southern Kyoto prefecture), Yamato province (present-day Nara prefecture), Izumi province (present-day southwestern Osaka prefecture) and Settsu province (present-day eastern Hyogo prefecture and northern Osaka prefecture). The wheat grown by these provinces was primarily used in making *hishio*, a fermented seasoning, with a small portion used to make *sakubei*, a confectionary of fine wheat noodles.

The Kamakura period, however, witnessed changes in the five major grains used in Japan. During the earlier Nara and Heian periods, the five major grains were rice, foxtail millet (*Setaria italica*), millet (*Panicum miliaceum*), soybeans and wheat. As mentioned in Part 2 of this series, however, the five major grains became rice, barley, wheat, green beans and sesame during the early Kamakura period. In addition, differences in the way foods were prepared, depending upon whether they used barley or wheat, arose and wheat became an important grain.

On May 4, 1225, a dispute over wheat taxes arose in Niimi-no-sho in the province of Bicchu (present-day Okayama prefecture)¹. During a survey for tax purposes on a Saishokoin temple estate, a low-ranking officer of the Kamakura shogunate was attempting to survey wheat fields registered as rice paddies and impose taxes on them. Tadakuni, an influential farmer responsible for the rice paddies, refused to allow the officer to include the wheat fields in the survey, claiming that wheat fields were not to be taxed. At that time, wheat grown in rice paddies that had dried up after the rice harvest and that grown in upland fields was considered tax exempt. This may have been a legacy of the Nara and Heian periods when wheat production was encouraged. While farmers of the Nara and Heian periods refused to take advantage of various policies that encouraged wheat production, wheat was frequently grown at the farmers' own initiative during the Kamakura period. This often resulted in taxation disputes between the farmers and estate lords and administrators. As noodles and steamed buns quickly became popular foods not only among Zen monks, but also at older, more established sects of Buddhist temples, and in the Kinai region, the demand for wheat increased. It seems likely that taxation disputes also increased throughout the nation.

Part 2 of this series introduced Rikio-maru's list of



The April 26, 1264 entry in *Kanto Migyosho* (reproduced from *Nihonshi Shiryō 2—Chusei*, edited by The Historical Science Society of Japan, Iwanami Shoten)

household assets from 1261. This list indicates that quern-stones had already become common tools of ordinary people. Three years after this list was made, a mandate issued by Regent Hojo Nagatoki (1230–1264) and his assistant, Hojo Masamura (1205–1273), was sent to vassals of the Kamakura shogunate in the Bingo province (present-day eastern Hiroshima prefecture) and Bizen province (present-day southeastern Okayama prefecture). This mandate, found in the April 26, 1264 entry in *Kanto Migyosho*, stated that the imposing of taxes on wheat grown in rice paddies after the rice had been harvested was prohibited, and that the wheat grown in these fields should be kept by the farmers as income. This record clearly shows that farmers in many provinces were growing wheat in rice paddies after the rice had been harvested. As with the aforementioned case of Tadakuni in Niimi-no-sho, this seems to prove that many taxation disputes between farmers and estate lords and administrators were occurring. In these disputes, the shogunate ruled that wheat grown in rice paddies, as well as that grown in upland fields, was exempt from taxation.

Kanto Migyosho is a valuable record as it clearly proves that both quern-stones and the methods for producing foods from flour introduced by Zen monks Eisai (1141–1215) and Dogen (1200–1253) spurred wheat cultivation to establish a flour food culture.

Flour Foods Trigger Social Changes

The emergence of any new culture leads to some degree of social change. The establishment of the flour food culture meant that new foods were born and was a significant matter that inevitably became a social issue. Researchers of medieval history are aware that the rural area of the Kinai provinces began undergoing

changes during the mid-Kamakura period. Mr. Toshio Kuroda detailed these changes in *Nihon no Rekishi* 8 (Chuokoron-sha).

Until the mid-Kamakura period, lower-class farmers on many estates were not listed as the official payers of land taxes in estate lord's ledgers. From the mid-Kamakura period to early Muromachi period (ca. 1336–1573), however, farmers' names began to appear in many records; some in the ledgers as payers of land taxes or as co-signers in village documents. This is most prominent in socially and economically advanced areas in and around the Kinai provinces. This makes the assumption that the area had undergone some social change reasonable.

Prior to the mid-Kamakura period, estate lords imposed taxes only on rich, influential farmers who owned their own rice paddies, with the taxation of small farmers who did not own their paddies left to the discretion of the rich farmers. This gave the rich, influential farmers a life and death hold over small farmers. Researchers of medieval history pay close attention to the changes in the status of these small farmers. Kuroda introduces events that occurred in the village of Taga in present-day Tsuzuki county, Kyoto prefecture, to develop his discussion.

In 1272, villagers enjoyed the comical performance of a sarugaku troupe [similar to a traveling circus] from central Kyoto to celebrate completion of the rebuilding of the old Taka shrine. At that time, the costs of rebuilding the shrine, the necessary Shinto rituals, and the fees for the sarugaku troupe came to roughly thirty-nine kanmon. Twenty kanmon was paid by twenty-seven rich farmers and the remaining nineteen kanmon by 132 villagers.

In 1301, a new bell was made and installed to replace the broken bell at the village's Zenjo-ji temple. Thirty-five kanmon was collected from temple monks and three kanmon from the poor villagers to cover costs. The bronze kanmon were then melted and cast to complete the bell.

Kuroda proposes the following:

Until the early Kamakura period, farmers were self-sufficient with their only purchases being those of iron products and salt. However, poor subsistence farmers who did not own their own paddies contributed money on roughly the same scale as rich, influential farmers. How did the poor farmers acquire this money?

Rice paddies were not easily developed and poor farmers could not afford to purchase existing paddies. Their only option would have been to convert forested uplands into fields, even inches at a time,



Scene from an estate market (Ippen Hijiri Emaki, property of the National Diet Library)

or to grow rice in the paddies available to them in the summer and alternate cultivation with wheat or other crops from autumn to spring. (Remaining omitted.)

Kuroda further asks:

As selling field crops was the only means of acquiring money, what sort of crops could have earned so much money?

The question for medieval researchers is whether or not changes like those pointed out above indicate that rich, influential farmers had lost their life and death hold over the poor farmers. Did the ability of the poor farmers to acquire a monetary income during and after the mid-Kamakura period represent independence from the rich farmers? The author feels that these social changes are the expected consequence of the establishment of the flour food culture, and agrees with Kuroda that the source of monetary income for poor farmers must have been crops grown in reclaimed upland fields, making wheat a major crop secondary only to rice. The emergence of wheat flour foods was a major turning point as these foods began to replace rice.

Flour foods have become so embedded in the modern Japanese diet that wheat consumption has surpassed rice consumption. As a result, modern farmers suffer from forced reductions in rice acreage implemented by the Japanese government. The distress of today's farmers represents a marked contrast to the joy small farmers of the mid-Kamakura must have felt at the



opportunity to earn monetary income by growing wheat. The spread of noodles spurred a great new demand for wheat and enhanced the marketability of wheat to the point that supply shortages often occurred.

In his book, *Chusei no Shogyo* (Yoshikawa Kobunkan), Mr. Ginya Sasaki points out that monetary economies affect not only cities but also farming villages, and that markets began to be established on estates from the mid-Kamakura period. Sasaki also illustrates the rapid expansion of monetary economies in rural areas, beginning around 1250. This growing trend in monetary economies roughly coincides with Rikio-maru's list of household assets that attests to the spread of quern-stones.

The Independence of Small Farmers

The Kamakura shogunate did not impose taxes on wheat crops grown in dried rice paddies or upland fields. As a result, small farmers who did not own their own rice paddies began growing wheat in paddies dried after the rice harvest, or in wheat fields reclaimed from upland forests. In addition to the economic advantages this presented, wheat could also be harvested twice a year. What's more, wheat crops sold at good prices. However, the reclamation of forests often resulted in border conflicts between neighboring villages, a problem that increased around the mid-Kamakura period.

Kuroda wrote that in one boundary dispute, the villagers around the aforementioned Zenjo-ji temple raided a neighboring village in 1303. For the poor Zenjo-ji temple farmers, such disputes were serious struggles for their only source of income and all were united in their determination to confront their counterparts in the neighboring village. Prior to this period, territorial disputes were fought between estate lords. The 1303 dispute represents the first in which farmers played the leading roles. This is worth noting as the behavior of the farmers in acting on their own, without the intervention or approval of estate lords and administrators, is heretofore unprecedented. This indicates a revolutionary change in the self-awareness of poor farmers and marked the beginning of their complete independence from the rich, influential farmers in terms of both economy and consciousness. From this point on, it became the norm for poor farmers to act according to their own discretion.

Some of the poor farmers who had acquired money and gained an awareness of the merits of solidarity took up arms and created militias known as *jizamurai* (local samurai). Through coordinated activities with neighboring villages, these *jizamurai* achieved leadership status and organized movements for reduced taxes against estate lords, administrators, and high-ranking farmers. From the end of the Kamakura period to the Muromachi period, society experienced an upheaval characterized by a profits-first mindset, a lack of respect for tradition, and forceful conflict with the ruling class. The tax exemption on wheat cultivation had the same effect on society that a leak has on a great ship, and finally led to the collapse of the Kamakura shogunate.

Both the shogunate and estate lords were so focused on the management of rice paddies that they completely overlooked the significance of wheat crops. There are many documents and records concerning the taxation of rice remaining from this period, but those concerning nontaxable wheat are extremely scarce. Similarly, the history of rice has been researched extensively and various achievements in the field are well known, but there has been significantly less research of wheat and flour foods. The author considers this a serious negligence as grave as that shown by the Kamakura shogunate.

An Error in *Nihon Shoki*

Now let's return to the argument surrounding the establishment of the flour food culture in Japan. Conventional theory holds that flour foods became a part of the Japanese diet during the Nara period based on descriptions in *Nihon Shoki* (The Chronicles of



Reproduction of a mizu-usu or sozu (courtesy of Arita town office, Saga prefecture)

Japan, completed in 720). This record tells us that in 610, Doncho, one of two monks sent to Japan by the Goguryeo dynasty (ca. 37 BC–668 AD) of Korea, made Japan's first *tengai*. *Ten* refers to a mortar used to husk and polish grain and *gai* refers to a quern-stone used to grind polished grain into flour. *Tengai* are quern-stones driven by a waterwheel that made mass flour milling possible in China during the period from the Sui dynasty (581–618) to the Tang dynasty (618–907). Thus, the availability of cheaply produced flour fully established flour foods in China during the Tang dynasty. *Nihon Shoki* states that Doncho reproduced this *tengai* in Japan.

A passage from the first volume of *Ryo no Gige* (833), official explanations of *Yororyo* or the Yoro Code (701), states:

One person will head the treasury bureau. He shall be responsible for warehouses, accounting, polished rice, tengai, and taxes on rice paddies.

This passage shows that a government official was appointed for the administration of *tengai*. Furthermore, a passage regarding water intake and irrigation in the tenth volume of *Ryo no Gige* includes an instruction to secure irrigation water and specifies that when several *tengai* will be installed, installation should begin downstream and move upstream. This would indicate construction of a considerable number of *tengai*. The long-held assumption is that the *tengai* mentioned in these records were the same sort of quern-stones used in Tang-dynasty China, thus leading to the conclusion that watermill-driven quern-stones were built and operated in Japan. However, there is another description of *tengai* in the fourth volume of *Ryo no Shuge*² (859–877):

Tengai refers to a suitai or mizu-usu [hydraulic mortar with pestle; sui and mizu both mean “water” and tai and usu both mean “mortar” in Japanese]. The device used for rice is called ten and consists of a stone mortar and wooden pestle. The device used for wheat is called gai and both the mortar and pestle are made of stone.

This reference clearly explains that the *tengai* used in

this document is not a rotary grinder that pulverizes grain with a circular motion, but rather a device that crushes grain with an up and down motion. Conventional theory seems to have overlooked this passage.

Tai (usu), also known as *kara-usu*, was a mortar with which a pestle was leveraged for up and down motion like a seesaw. It was a foot-powered device in which the pestle was attached to a long beam placed over a fulcrum. The beam was then pumped up and down. *Suitai*, or *mizu-usu*, refers to a device in which foot-power was replaced by the weight of water. The pestle was attached to one end of a leveraged beam while the other end was hollowed out to serve as a reservoir for water. As water was added, the pestle rose. Once the reservoir was full, the water would spill out, emptying the reservoir and causing that end of the beam to rise quickly, lowering the pestle to pound the grain in the mortar. The reservoir would then begin filling again. Clearly Doncho did not make any sort of rotary grinding device. Nor did he build waterwheels for hydropower. He must have made a pounding type of device that he mistakenly called *tengai*. It seems quite possible that there were no quern-stones or waterwheels during the reign of Empress Suiko, the time that Doncho arrived in Japan. The author believes that the lack of quern-stones led to the failure of wheat cultivation before the Kamakura period.



Sketch of a Yuan-dynasty (1271–1368) Chinese water mill (Otei Nosho, property of the National Diet Library)

- 1 From *Bicchū-no-kuni Niimi-no-sho Shiryō 1—Zō-Todaiji Yotoku Hoshō-an*.
- 2 *Ryo no Shuge* is an unofficial collection of commentaries on *Yororyo* (the Yoro Code), compiled by legal scholar, Koremune Naomoto. Of fifty volumes, thirty-five are still in existence. The collection was likely completed between 859 and 877. In addition to commentaries, it also covers historical matters. (Explanation from the second edition of Daijirin, Sanseido Co., Ltd.)

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