

# Sake-making that Takes Advantage of the Best of Japan

## ➤ Role of the toji, chief sake maker

Toji is the person responsible for leading the team of sake brewery workers called "kurabito". In sake making, there is a saying that loosely translates into English as, "first, koji, second, moto (starter), and third, fermentation mash," which means that even if the same rice is used, different flavors will be produced depending on how the koji, moto, and fermentation mash are made. Sake-making techniques have been passed down and improved through workshops and competitions held by toji associations.



## ➤ Sake-making environment

High-quality water and air are required for sake-making. Water is needed as an ingredient for sake brewing as well as for washing and steaming rice, and cleaning bottles. Therefore, sake breweries are typically located in areas where high-quality water is readily available. Clean air is also needed to cool the steamed rice. Sake breweries collaborate with local residents to protect the mountains and rivers where clean water and air can be sourced.



## ➤ Connection with the community

The brewery consults with the farmers about the quantity, variety, and quality of rice to be used, and purchases the cropped rice. Many residents work at the brewery, performing various tasks such as brewing, bottling, shipping, and selling sake. Sake made in the community is an essential part of local festivals and events. The sake is also brewed to pair well with regional cuisine. Recently, historical breweries have been leveraging their history as a local tourist attraction, drawing visitors from both Japan and abroad.



## ➤ Culture and history

Sake, mirin, miso, and soy sauce are commonly used in Japanese cooking. Koji is used in the production process of all of these items. Koji has long been associated with the Japanese diet. Sake making using koji has a history of over 1,000 years, as recorded in documents written in the Heian period. Sake is also used in everyday life as it is offered to shrines and served to people at festivals, weddings, and other events.



## UNESCO Intangible Cultural Heritage

We will continue to promote its appeal to the world!

Traditional knowledge and skills of sake-making with koji mold in Japan is a proud part of Japan's food culture that has been honed through supreme sensibility and superior techniques. The traditional sake-making technique was registered as an Intangible Cultural Property by the Japanese government in 2021, and in December 2024, it was inscribed on the representative list of UNESCO Intangible Cultural Heritage of Humanity.



Illustrations and photos shown here are for illustrative purposes only.  
You must be 20 years old to drink alcohol in Japan. Do not drink and drive.  
Women should not drink during pregnancy or breastfeeding due to the risk of harmful effects on unborn children and babies.

## Koji and Sake-Making



Publisher: Preservation Society of Japanese Koji-based Sake Making Craftsmanship  
1-6-15 Nishi-Shimbashi, Minato-ku, Tokyo 105-0003  
Phone: +81-3-3501-0103 Fax: +81-3-3501-6018  
Production/printing: TOPPAN Holdings Inc.

Editing/creation: ICM  
Illustrations: Yuko Harada

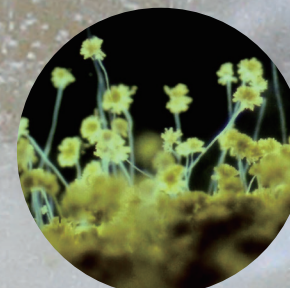
Photographs: Kiyasho Sake Brewery, Tadayoshi Onishi, Akita Konno Co., Ltd., Tsutomu Sato



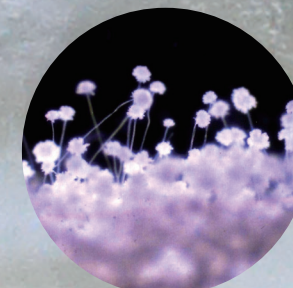
Agency for Cultural Affairs Grant for Traditional Arts and Culture Promotion 2022 (amended in 2025)

# Koji and Sake Making

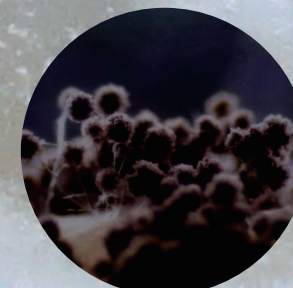
What is *koji*?



Yellow koji mold



White koji mold



Black koji mold



# Traditional Japanese sake-making: Continues through the work of koji and the efforts of people

## > The importance of koji

In traditional Japanese sake-making, two microorganisms, koji and yeast, play essential roles. Sake-making with koji mold is a unique process, rare anywhere in the world.

### | What is koji? — The role of koji —

Koji is a rice used in sake making that has been steamed, and koji mold is then added to the rice. It is an indispensable and vital element in traditional Japanese sake making.



To make koji, koji mold is sprinkled onto steamed rice.



This is the finished koji. The hyphae of the koji mold resemble cotton.

Koji mold includes yellow koji mold, white koji mold, and black koji mold. Yellow koji mold is primarily used for sake, white koji mold for honkaku shochu, and black koji mold for awamori.

### | What does koji do?

#### Converts starch into sugar

Rice, an ingredient used in the production of sake, lacks the sugar necessary for yeast to grow. Therefore, koji breaks down the starch in the rice into sweet sugar, allowing the yeast to multiply and generate alcohol and carbon dioxide from the sugar.

#### Promotes fermentation

Supplies nutrients, such as vitamins, to the yeast, promoting fermentation.

#### Enhances the flavor of sake

Koji breaks the proteins in rice down into amino acids. This process enhances the flavor of the sake.

### Did you know that amazake is also made with koji?

Amazake, a sweet rice drink commonly consumed in daily life, is actually a beverage made by fermenting rice and koji mold\*. "Amazake" literally means sweet sake, and as its name suggests, amazake is characterized by its sweetness, which is the result of koji converting the starch in rice into sugar. Additionally, koji transforms the proteins in rice into substances like amino acids and peptides, which are the source of umami flavor. Amazake also contains various other components, including dietary fiber and B vitamins, making it a beverage considered beneficial for both beauty and health.

\*There is also a type of amazake made from sake kasu (lees).



### | The making of koji

About 50 hours are spent carefully making it in a special room called the koji-making room.

#### Hikikomi (bringing steamed rice into the koji-making room)

The steamed rice is allowed to cool slightly, and then it is transferred to the koji-making room.

Koji temperature  
34-36°C

#### Tanekiri (Inoculating koji spores)

Koji mold is sprinkled over steamed rice.

Koji temperature  
31-33°C

#### Kirikaeshi (Re-breaking up of koji)

Koji is loosened to eliminate temperature variations.

Koji temperature  
30-32°C

#### Mori (Transfer of koji into shallow trays)

Koji is divided into smaller portions in boxes or similar containers.

Koji temperature  
32-34°C

#### Naka-shigoto (Intermediate mixing)

Indentations are made in koji to increase its surface area.

Koji temperature  
34-36°C

#### Shimai-shigoto (Final mixing)

The koji is mixed to increase the surface area further.

Koji temperature  
37-39°C

#### Dekoji (Completing the koji making process)

The koji is carried out of the koji-making room.

Koji temperature  
42-43°C

To eliminate temperature variations, the boxes are turned upside down mid-way through the process.

## > Sake-making with koji

Sake making with koji is said to have begun over 1,000 years ago. The brewing process has continued to evolve across Japan, adapting to each region's climate and natural environment, which has given rise to a wide variety of sake. Here we introduce a typical brewing method.

### | The Making of Sake

Sake is made with heartfelt dedication over a period of about 60 days. (Highlighted terms are traditional methods)

#### Rice polishing

#### Rice washing

The rice is rinsed thoroughly and soaked in water.



To enhance flavor, the surrounding proteins and fats are trimmed off.

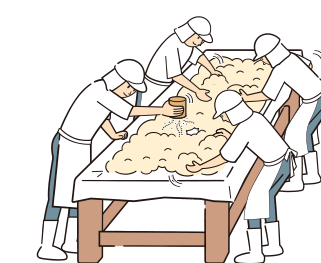
#### Steaming

The rice is steamed to make it easier for koji mold to grow and dissolve within the fermentation mash.



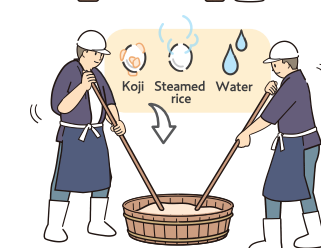
#### Making koji

Koji mold is sprinkled over the steamed rice to grow the mold. (See "The making of koji" on the page to the left)



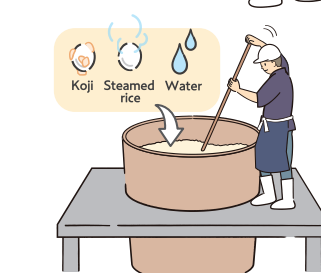
#### Making the moto, the starter

Koji, steamed rice, water, and yeast are added to make the moto.



#### Making the fermentation mash

Koji, steamed rice, and water are added to moto to create the fermentation mash and are allowed to ferment.



#### Pressing

Sake kasu (lees)



#### Filtering/pasteurizing

#### Storing/bottling

### | How to make honkaku shochu and awamori

Shochu is made by first combining water, koji, and yeast to create the primary mash. Steamed sweet potatoes, barley, rice, buckwheat, and water are then added to this to form the secondary mash, which is fermented before distillation. Awamori, conversely, is made by distilling the primary mash.

Water + Koji + Yeast  
Making the primary mash

+

Water + Main ingredients  
Sweet potatoes, barley, rice, and buckwheat  
Making the secondary mash

#### Distilling

Shochu

#### Distilling

Awamori

### | How to make hon-mirin

Like sake, hon-mirin uses steamed rice and koji as ingredients, but in hon-mirin production, it is brewed together with shochu instead of yeast. Consequently, there is no yeast fermentation, and the sugars and amino acids that are broken down by koji remain, resulting in a sweet flavor.

Koji + Steamed glutinous rice + Shochu  
Making mash

#### Pressing

#### Aging

#### Bottling