

Introduction

Learning outcomes

- Knowledge of the characteristics of sake taste and ingredients
- Knowledge of the relationship between sake and Japanese culture and seasons

1.1 Characteristics of sake

Sake is an alcoholic beverage brewed primarily from rice and water. It resembles white wine in appearance, ranging from almost transparent to slightly yellow. The 13%–17% alcohol content of many sake varieties is slightly higher than that of wine, but sake also has a mild taste with little acidity, bitterness or astringency. In terms of chemical composition, sake extract (consisting mostly of residual sugars) contains a comparatively high percentage of glucose and significant levels of nitrogenous components and amino acids, but little organic acid.

Table 1.1 Composition of sake, beer and wine compared

	Sake	Beer	White wine
Alcohol (%)	13 – 17	4 – 6	10 – 13
Extract (g/100ml)	3 – 6	3 – 4	2 – 8
Glucose (g/100ml)	0.5 – 4.2	0.03 – 0.1	0.1 – 3
Nitrogen (mg/l)	700 – 1900	250 – 1000	100 – 900
Glutamic acid (mg/l)	100 – 250	10 – 15	10 – 90
Titrateable acidity (g/100ml)	0.1 – 0.2	0.15 – 0.2	0.5 – 0.9
pH	4.2 – 4.7	4.1 – 4.4	3.0 – 4.1
Succinic acid (mg/l)	200 – 500	40 – 100	500 – 1500
Malic acid (mg/l)	100 – 400	50 – 120	250 – 5000
Tartaric acid (mg/l)	0	0	1500 – 4000
SO ₂ (total) (mg/l)	0	– 20	– 250

Careful tasting of sake reveals a pleasant taste that cannot be characterized as sweet, acid, bitter or astringent. This is *umami*. Umami is sometimes described as “savoriness.” Compared to wine and beer, sake is richer in amino acids and peptides that produce umami. The type of sake known as ginjo has a wonderfully fruity aroma.

Sake, made from Japanese rice and clear water, is the crystallization of exquisite brewing technology designed to produce umami and fruity aroma from rice.

The growing popularity of sushi and other Japanese cuisine overseas has helped to popularize sake in the rest of the world. The mild flavor of sake also goes well with French, Italian and Chinese cuisine, and it is gaining a following as a new alcoholic beverage that is distinct from wine and beer.

1.2 Cultural background

The term “sake” is often used in Japan to denote alcoholic beverages in general, including wine, beer and whisky. Sake itself is also called “Nihon-shu” or “sei-shu.” The element “shu” in these words is written with the same Chinese character as “sake” (酒). This character has the readings “sake,” “zake” or “shu.” “Nihon” means Japan, so “Nihon-shu” refers to the traditional alcoholic beverage of Japan. The “sei” in “sei-shu” means clear.

Rice, the grain from which sake is made, has been cultivated for more than 7,000 years in China and has long been used in Asia to produce alcoholic beverages. One of the features of Asian brewing techniques is the use of molds instead of malt to turn starch into sugar (saccharification). China is also the birthplace of this technology. The rice and brewing technology used to make sake are thought to have originated in China. However, Japan is now the only Asian country that produces a clear alcoholic beverage with a refined flavor like sake. Japanese sake has a history going back more than 2,000 years, during which time the Japanese have continuously improved the brewing technique.

Historically, sake has also had a close relationship with agriculture and Shinto rituals. In ancient times, people would make sake and offer it to the gods along with agricultural produce and prepared foods, which they would then all drink and eat together. Offerings of sake are still made at Shinto shrines today and it plays an essential role as a gift at festivals and weddings. On the morning of New Year’s Day, families gather and join in drinking sake as they wish each other a long life.

Japan has four distinct seasons and several customs involving sake are associated with these. In spring, people enjoy sake while viewing the cherry blossoms. In autumn, they place chrysanthemum petals in sake cups and drink the sake while admiring the moon. Winter is a time for appreciating snow scenes while enjoying sake. Food ingredients also change with the seasons and *sakana* (dishes to accompany sake) are served to match the season.

Sake can also be drunk heated, a practice that originated in the ninth century when aristocrats would warm sake to entertain guests. By the 18th century, people were drinking warmed sake throughout the year. It was around this time that Kaibara Ekiken, a physician, wrote a book stating that drinking warmed sake improves the circulation of chi (energy flow). Going back 1,300 years, there are reports of the emperor and aristocrats drinking chilled sake in the summer by adding ice that had been stored during the wintertime, a very extravagant way to enjoy it. Since the 1980s, a larger number of sake varieties with a light, fresh flavor have appeared, encouraging the serving of sake chilled.



Figure 1.1 Rice grown in fertile fields