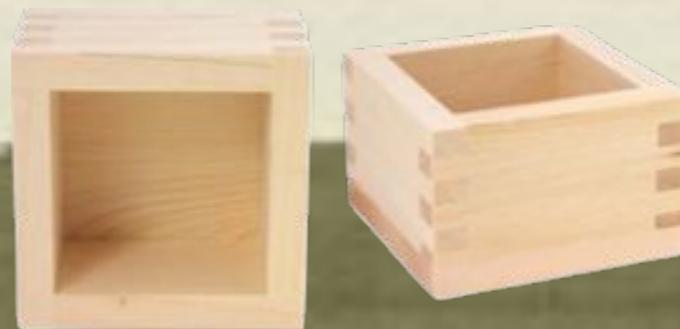


AN INTRODUCTION TO NIIGATA SAKE



Jonny Woodward



WHAT IS SAKE?

酒

- The word sake in Japanese is a generic one for alcoholic drink.
 - The sake that non-Japanese refer to is called nihonshu in Japan - (日本酒) which literally means “Japanese alcoholic drink.”
- It was the dominant alcoholic drink in Japan from the Asuka period (538-710) until the 1960s, when it was surpassed by beer.
- Sake is made from only two ingredients - rice and water - under the action of an fungus called *k ji* and yeast (*saccharomyces cerevisiae*).
- Sake is typically sold at about 15% alcohol by volume. This is typically a dilution from about 18-20% at the end of the brewing process.

MAKING SAKE



Wine

Flavour largely comes from the grape

Grapes
(sugars)

Yeast

Wine
(alcohol)

Beer

Flavour largely comes from the added hops

Two-step fermentation

Malted
barley
(starch)

Enzymes developed
during malting (amylase)

Wort
(sugar)

Yeast

Beer
(alcohol)

Sake

Flavour largely comes from incomplete oxidation of proteins / lipids

Parallel fermentation

Cooked Rice
(starch)

kōji mold (麴)

Kōji rice
(sugar)

Yeast

Sake
(alcohol)

MAKING SAKE



- There are no flavoured ingredients in sake, so the flavour comes primarily from esters and amino acids formed by oxidation of any remaining proteins in the yeast and other incomplete oxidations.
- After fermentation, the sake is pressed to separate the liquid. In many cases, distilled alcohol is added to help extract aromas and flavours that would remain in the solid.
- For mass market sake, distilled alcohol is added on a greater scale to increase the volume of sake produced.
- Finally the sake is filtered, carbon filtered, pasteurized, matured and diluted.

NIIGATA SAKE



- As the ingredients of sake are very simple, the flavour and quality of sake depends largely on the skills of the brewer and on the nature of the water and rice used.
- Water - Mountainous regions of Niigata regularly get over 30 feet of snowfall each year. The snow has three benefits for sake making
 - The snow melt and run-off have led to very pristine paddy fields, perfect for producing premium grade rice.
 - Melted snow gives very clean ground water which when used in Sake brings out even very subtle flavours and aromas.
 - The snowfall also purifies the air, meaning that brewing takes place in an atmosphere that is relatively pollutant and microorganism free.

NIIGATA SAKE



- The Niigata region is famous for its rice - both food and sake varieties
- Koshi-hikari is the name of the rice produced in the Uonuma region and rice from this region is typically the most expensive rice in Japan.
- Excellent sake is typically prepared from two strains of rice - “gohyakumangoku” (Niigata) and “Yamada Nishiki” (Hyogo and parts of Western Japan)
 - Gohyakumangoku suffers from easily cracking when polished. High levels of polishing are needed for the highest grades of sake.
 - To address this issue, sake experts in Niigata have developed a cross breed of gohyakumangoku and Yamada Nishiki called Koshitanrei, which combines the advantages of its parents. It is expected to feature heavily in the future of Niigata sake.

In 1997, the Niigata Brewers Association introduced a set of standards for sake-making.



To be officially designated as "Niigata Sake," the sake must:

1. Use rice produced only in Niigata Prefecture.
2. Be brewed in Niigata.
3. Use a water source in Niigata.
4. Be a Special Designation Sake with a polishing ratio of less than 60%.
5. Receive approval by the Quality Control Committee.

GRADES OF SAKE

There are two main types of sake



futs -shu
“ordinary sake”

tokutei meish -shu
“special designation sake”

74%
38%

Japan average
Niigata

26%
62%

Honj z -shu
(17.4%)

A small amount of distilled alcohol is used to extract flavours from the pressed mash. Max pure alcohol = 116 litres / 1000kg rice

Junmai-shu
(8.8%)

“Pure rice sake” made from only rice, water and k ji (no added alcohol).

Ginj -shu

Rice is polished to 60% or less of its original weight

Daiginj -shu

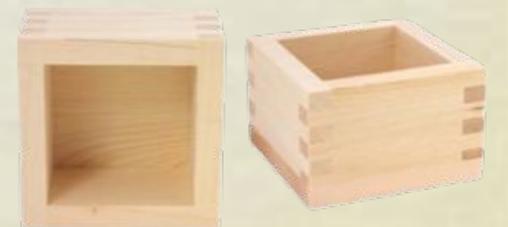
Polished to less than 50%

Total (5.8%)

DRINKING SAKE



- Sake is typically served chilled, at room temperature or warmed, depending on the season and sake type.
 - Heating is only common in winter and masks the flavour so is generally not done for special designation sakes
- Sake is generally served in small cups called *choko* and poured from ceramic flasks called *tokkuri*.
 - In recent years, footed glasses have become popular for premium sakes
 - Sake is sometime also drunk from a *masu* - a wooden box made from Japanese cypress or Japanese cedar.



SAKE TASTING (NARROW BANDWIDTH)



Fragrance

none to fragrant

Many sakes have virtually no fragrance, others can be highly aromatic (commonly daiginjos)

Impact

quiet to explosive

“kuchi no atari.”
Initial tasting impression - some sakes are very gentle, others have a strong impact on the mouth.

Sweetness

sweet to dry

Sake Meter Value (SMV) - density relative to water
typically -5 (sweet) to +10 (dry)

Acidity

soft to puckering

Measured by the number of ml of a standard alkali needed for neutralisation
typically 0.8 to 1.7

Presence

unassuming to full

Also referred to as body or richness
smooth and airy
rich and creamy

Earthiness

delicate to dank

“koku ga aru”
“bitter”, “dank”, “dark” etc

Compare with whisky

Tail

quickly vanishing to pervasive

Both can be good - sometimes nice to savour the flavour!

THANKS FOR LISTENING!

Enjoy Sake Tasting at the welcome party and poster sessions.
Blind tasting matching challenge on thursday evening!

5 different local breweries

3 different sakes from each brewery

All special designation sakes!

Also gift from Hiroshima University

 **KAKUREI**
AOKISHUZO, The Sake Brewery in Nigata

 **HAKKAISAN**


Midorikawa

 **白瀧酒造** Shirataki Brewery co.,ltd.

 人と風土が酒を育てる
株式会社 松乃井酒造場

Matsunoi