

The History of Salt Production in Japan

Salt has been used for thousands of years as a seasoning and a preservative, reducing dependency on the seasonal availability of foods, and making it possible to transport them over long distances. Salt comes from rock salt (the sodium chloride mineral halite), or seawater. Some countries have large underground deposits of rock salt, and some countries have salt lakes—landlocked bodies of water that were once connected to the ocean, which have largely evaporated, leaving salt deposits on the lake's surface.

Moshio-yaki

Japan is surrounded on all sides by the sea, which is its only available source of salt. Table salt is close to 40 percent sodium chloride, but seawater has a concentration of just 3.5 percent. It takes a large volume of seawater to produce a small amount of salt. Over two thousand years ago, the main method of salt-making in Japan was *moshio-yaki*. Seaweed was dried until salt crystals formed on the surface of the fronds. The salt crystals were harvested and dissolved in more seawater to create a concentrated brine, which was boiled down in earthenware pots. This method was common until the eighth century.

Agehama

Agehama salt production, which is still practiced along the Noto Peninsula, began around the thirteenth century. Water is carried from the sea and sprinkled over sand-covered fields, where it is left to evaporate. The resulting salt crystals are dissolved in seawater to create a concentrated brine, which is boiled down until a thick layer of salt forms over the surface of the remaining brine. The process relies on sunlight to evaporate the seawater, limiting production to sunny days.

Irihama

In areas with a sufficiently large tidal range, salt fields were created close to the sea, with channels to allow the tidewaters to flood the fields. This method, called *irihama*, became common in the Edo period (1603–1867) and is still practiced around the Seto Inland Sea in western Japan. The process relies on sunlight to evaporate the seawater, limiting production to sunny days.

Electrodialysis

In the twenty-first century, various evaporation methods have been tried to reduce the amount of manual labor and the need for sunlight. Now, the most common method is ion-exchange membrane electrodialysis, which uses electricity to separate the sodium chloride particles from seawater to produce a concentrated salt solution. The concentrate is evaporated to collect salt, and the remaining seawater is returned to the sea.