

Saltpeter Production

Traditionally, one of the main industries in Shirakawa-go was the production of saltpeter (potassium nitrate) from the mineral niter, an essential ingredient in gunpowder. The required techniques were introduced from nearby Gokayama, where the industry had grown exponentially after the introduction of European matchlock guns in 1543.

Villagers made saltpeter in a hole up to 2 meters deep under the irori fireplaces of the gassho-style houses. The hole was filled with a mixture of materials including straw, soil, mugwort, and silkworm excrement, then left to ferment for three to four years. Over time, calcium nitrate formed in the soil through the nitrification of bacteria. This soil was sold to one of the three licensed refineries in Shirakawa-go, where it was mixed with water, concentrated through heating, and refined into liquid potassium nitrate. The liquid was then filtered, boiled down and condensed, and then cooled to obtain saltpeter crystals.

The refineries sold the saltpeter to domains and traders as far away as Osaka. The saltpeter industry flourished until the Meiji era (1868–1912), when a cheap alternative was imported from Chile, resulting in a decline in local production.