

Ice House (Fūketsu)

This mossy, stone-lined depression in the hillside is the site of a traditional cold-storage structure that combined human ingenuity with a natural refrigeration effect: a *fūketsu*. In summer, as the higher parts of the mountain are warmed by the sun, cool air inside the mountain is forced downward, where it seeps out through cracks in the porous lava of the hillside. A structure was built to enclose the escaping cool air, and fallen snow was placed inside and tamped down to form ice. Cold air continuously seeps out from the mountainside, keeping the structure's interior chilled throughout the summer.

Fūketsu (literally, “wind caves”) have been employed since at least the early seventeenth century, but an important new aspect of their use was discovered in Nagano Prefecture in 1866. After an exported shipment of silkworm eggs failed to sell overseas, it was returned and stored in a local fūketsu. When a late spring frost devastated the year's silkworm crop, farmers brought out the stored eggs and found that the time spent in cold storage had not affected them. That discovery revolutionized Japanese sericulture by allowing silk farmers to store batches of eggs and produce multiple crops per year.

This Daisen fūketsu was created around 1911. Each year in late spring, silkworm eggs stored here were loaded onto horses and transported to Yonago to be sold. Even the snow from this fūketsu was sold; labeled “Daisen ice,” it was a prized local commodity. By the mid-Taishō period (1912–1926), use of fūketsu had declined as commercial refrigerators became commonly available. The structure here was abandoned around that time.

Fūketsu saw a brief resurgence, however, following the catastrophic tsunami in Fukushima Prefecture on March 11, 2011. After wide-scale electricity shortages led to planned power outages, farmers once again turned to fūketsu to preserve their silkworm eggs.