

Yokote's Snow-Covered Orchards and the Story of the Sun Fuji

Japan's Fuji apples, known throughout the world for their crispness and sweetness, make up as much as 80 percent of the apples exported from Japan each year. The Fuji apple was originally developed in Aomori Prefecture, which is still known today as the primary source of Fuji apples. However, in Yokote—just some 150 kilometers to the south—Fujis are grown in extreme conditions using techniques that are unique to the region.

The Development of Apple Farming in Yokote

Apples have been cultivated in Central Asia for thousands of years, but the species of apple that is commonly grown in Japan today was introduced from the United States in 1871. Five years later, an agriculturalist named Kenkichi Itō (1846–1908) began cultivating the first apple saplings in Yokote. In 1892, his colleague Rikinosuke Ishikawa (1845–1915) traveled to different areas of Akita Prefecture to host fruit fairs, where farmers gathered to assess each other's apples. During these fairs, Ishikawa recorded information on the characteristics of the different apples and how they were grown. He also began to standardize the naming system for different varieties, which were often named differently from region to region. Ishikawa published his work as *Ringo shinasadame*, a guide that farmers used to supplement their own cultivation work and develop varieties that responded well to the local climate. This book became the basis for apple cultivation in Akita.

The apple orchards in Yokote are nestled along the eastern hills at the foot of the Ōu mountain range, which looks out at Mt. Chōkai in the southwest. The orchards are planted on gentle, west-facing slopes, which ensures that the trees will not be shaded by trees farther up the hill. As a result, the trees receive the optimum amount of daily sunlight throughout the spring, summer, and autumn. The alluvial soil of the hills allows rain and snowmelt to drain, keeping the trees' roots dry and safe from rot. This is particularly crucial in a climate like that of Yokote, where there is an average of 1,740 millimeters of rain each year and snowstorms of up to two meters are not uncommon.

Dawn of the Sun Fuji

First cultivated in 1939, Fuji apples are typically grown inside individual paper bags. The bags protect their skins from damage by pests and prevent overexposure to sunlight, which can damage an apple's surface and harm the luster of its skin (called the

“finish”). Although apples grown inside bags are visually appealing, protecting them from sun exposure affects their flavor. Sunlight causes apples to sweeten, and so the bagged apples are sourer than apples that are left exposed.

The connection between sunlight and sweetness was not understood until 1965, when a member of the Hiraka Agricultural Association (Hiraka Kaju Nōkyō) traveled to the United States as part of a fourteen-member delegation to perform an exhaustive, two-month survey of America’s apple orchards. The delegates were surprised by the sweetness of American Golden Delicious apples, which are grown without bags. Realizing that sweeter apples would give them a competitive edge, farmers in Yokote resolved to adopt the bagless cultivation method that was common in the US. This decision represented more than just a shift in cultivation methods; the agricultural association established an entirely new brand concept that prioritized sweetness and flavor over an apple’s appearance. The Yokote apple farms originally grew the Golden Delicious apples brought from the US, but they spoiled relatively quickly. It was determined that Fuji apples, which kept for longer, were best suited to the market demand. The new, bagless variety was named “Sun Fuji” in recognition of the sun-kissed apples’ sweeter flavor.

Apple Farming in the Snow Country

Apple farmers around the world take measures to protect their orchards from frost and drought, but in Yokote, the apple trees are instead most threatened by heavy snows. The average yearly snowfall in Yokote is almost 800 centimeters, on par with the snowiest major city in the northern hemisphere (Aomori). Accordingly, preparing the trees for the winter season is a crucial step in the cultivation process. Many varieties of apple can survive the freezing temperatures of Akita’s winters, but the heavy snow will snap the trees’ branches without proper preparation.

Many apple farmers utilize a growing technique in which they graft the trunk and fruit-bearing branches of one cultivar of apple onto the roots (called the “stock”) of a smaller dwarf variety. This creates a tree that bears fruit in large quantities but never grows more than a few meters tall. The shorter trees make harvesting the apples much safer and easier. Through selective breeding, apple farmers are able to create dwarf rootstocks that grow deep and strong to prevent the trees from toppling under the weight of the snow.

In addition to using these rootstocks, farmers in Yokote employ a variety of methods to prevent the upper branches from snapping. The branches of smaller trees are directed downward with guide lines. Branches that grow upward from the trunk will snap under the weight of the snow, but branches that point downward will bend without breaking. For the taller trees, support rods are placed under the boughs to prevent them from bending. Keeping the trees healthy through the winter season is not easy work, but the delicious fruit they bear is ultimately worth the labor.