

## Agriculture on Fukue

Fukue Island's complex geological makeup obliges farmers to tailor their crops and techniques to each location. Soil type, proximity to the ocean, and the grade of the land all influence what can be grown where. Historically, sociopolitical trends also had an impact by raising the value of certain crops. Rice, for instance, was used as a currency for many centuries, encouraging farmers to expand rice cultivation on the island. More recently, advances in technology—not only in farming but in land reclamation, food preservation, and transportation—have also determined what Fukue farmers produce.

### *Sweet Potatoes and Barley: Filling Bellies*

Around 11 percent of the southwestern Goto Islands (called the Shimogoto area) is cultivated. Sweet potatoes, barley, and rice are the three main crops.

Given the limited land suitable for rice production, nutrient-dense sweet potatoes have long been a staple crop on Fukue. They were likely introduced in the early seventeenth century by traders from the Americas who came to barter in the Ryukyu Kingdom (present-day Okinawa). Sweet potatoes are eaten in a variety of ways, including mixed with glutinous rice to make a local sweet called *kankoro mochi*.

Barley has a longer history, having arrived in Japan from mainland Asia some 1,800 years ago. Rich in fiber and vitamins, it was often added to steamed rice as a cheaper nutritional filler. Barley is also roasted for tea, fed to livestock, and used to make barley miso. Both barley and sweet potatoes can be used to make *shochu*, a spirit first produced in southern Japan.

Sweet potatoes and barley do best in well-drained soil. Beginning around a million years ago, lava flows on Fukue formed peninsulas in Miiraku, Kishiku, Fukue, and Tomie (roughly the island's four corners). The basalt and ash deposited in these areas provide excellent drainage and nutrients that are replenished by mineral-rich runoff from the island's mountainous interior. These conditions make the volcanic peninsulas ideal for growing sweet potatoes and barley.

To protect the fields' valuable soil from erosion, farmers in these areas ring their circular plots (*maruhata*) with low stone borders that retain the soil while allowing excess water to drain. Because the island's peninsulas are often exposed to strong sea winds, stone walls and camellia groves are used as windbreaks to shield both the soil and crops.

### *Rice: Filling Coffers*

The short-grain rice common in Japan is a "wet" variety, meaning it is grown in flooded paddies that must retain water. Rice, therefore, was traditionally grown in the island's interior, where the sedimentary rock that makes up the island's oldest geological layers allows for good water retention. The land there is uneven, however, and hills and mountains limit the number of flat spaces that can be used for rice cultivation. For much of the island's history, all but the wealthiest residents supplemented their rice with other starches.

At various times in Japanese history, rice has been used as a currency. During the Edo period (1603–1867), rice was a standardized unit of trade and the fundamental commodity underpinning the shogunal economy. Each domain's wealth, and thus its power and prestige, was generally measured by how much rice it produced. Most domain lords collected taxes from their farmers in the form of rice. This created pressure on lords and farmers to increase rice yields.

As farming and land-reclamation technology advanced, Fukue rice farmers responded by creating more flat land for rice cultivation. Shallow areas around the island, such as the many narrow inlets in Kishiku, were filled in and former seabed turned into farmable fields. Today, however, these low-elevation paddies are threatened by climate change. Rising sea levels cause both flooding and "salt degradation," a condition where salt accumulates in the soil until nothing can grow.

### *Farm to Table*

In addition to staple crops, the farmers of Fukue produce an array of fruits and vegetables—including broccoli, daikon radishes, tomatoes, watermelons, and kumquats—that arrive fresh to local markets and restaurants. The Goto Islands have an exclusive brand of pork called Goto Biton, which is raised on wheat grain and mineral water. The islands also have a 2,000-year history of raising wagyu beef,

as recent archaeological digs have attested. These days, most of the calves born on the islands are sent to other regions to mature, but a small number are still raised on the island to be served as highly prized wagyu steak.