White potatoes are one of the five principal crops of Japan. The crop in Japan generally has increased since 1930. Approximately one-third of the total production is on the northern island of Hokkaido. Hokkaido is approximately the size of the state of South Carolina. The annual production of approximately thirty-five million bushels or twenty-one million hundred weight places Hokkaido with a crop grown comparable to Maine or Idaho. Japan leads all other oriental countries in the production of white potatoes.

White potatoes are grown throughout Japan. The crops are divided into three distinct periods of seasonal production. The early spring crop produced on Honshu from the Kanto Plain (Tokyo area) south and west, on Kynchu and on Shikoku is planted in February and harvested from May to July. This corresponds to the U.S. crop in Alabama, Northern Florida and the Carolinas. The late summer crop of Hokkaido and in the upland plateau regions of Honshu is planted in April or May and harvested during the first 10 days of December.

**Ecological Factors**

1. **Climate**

For the production of white potatoes the climate of Japan compares favorably with the better potato-growing regions of the United States. The mild winter and the early spring provide excellent growing conditions for the spring crop. The climate of Hokkaido and northern Honshu is similar to that in the northern United States. The high plateau regions in many areas are ideal for potato production because of a cool climate comparable to that in Hokkaido. The range between maximum and minimum temperatures is less in Japan than most potato growing regions of the United States. The seasonal rainfall is heavier in Japan and occurs at times when it is needed for optimum growth of the crop. The relative humidity is high, and hot dry winds that cause excessive evaporation are rare.

2. **Soils**

Because of the loose nature of most soils in Japan, some potatoes are produced in every section of the country, particularly during the cool seasons. The abundant Ando, or dark colored volcanic ash, soils are widely used for potatoes. The more productive Podzolic soils produce higher yields of potatoes than do the Ando soils. The Podzolic soils of Japan resemble those adapted to potato production in the United States. Potatoes are grown on alluvial soil only as a late winter or early spring crop on rice paddies or other land used for two crops yearly.

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1. Accepted for publication July 22, 1957.
2. Associate Professor (Research), Michigan State University, East Lansing, Mich.
3. General Geographic Distribution

The climate of Japan affects the geographic distribution of the potato crop more than any other factor. Potatoes are grown throughout the islands during the cool moist season. However, the production of seed potatoes is limited to the areas of the lowest insect population (Figure 1). Potatoes for food are produced in close proximity to the centers of consumption. Potatoes for industrial purposes are grown where high yields are obtained but where population is not concentrated. Such a program reduces the necessity for long freight hauls over the limited transportation facilities.

Varieties

In 1948 about 87 per cent of the potatoes produced in Japan were the early Irish Cobbler and the late "Benimaru". Other varieties grown include Norin No.s 1, 2, and 3, Kentoki, Kaneyoimo, and Early Rose. The Irish Cobbler was introduced into Japan in 1907.

Crop Culture

Crop rotations in Japan are comparable to crop sequence in the United States. Legumes are used only in a few sections. Crop residue and transported compost are the chief sources of organic matter. The legume most commonly grown is red clover. Farmers who generally obtain high yields of potatoes follow a program that includes its use.

All types of seedbed preparation can be observed in Japan at potato planting time. Much of the soil in southern and western Japan is prepared by hand spading where farms average from one and a half to two and a half acres in size. More horse power is used in seed bed preparation on the Island of Hokkaido where farms average from 12 to 25 acres of good land plus a few acres of pasture. Much of the soil is tilled to a depth of only three to five inches. Ridging of the hills is a common practice in areas of high rainfall.

Either whole or cut seed pieces are dropped in furrows or holes made by a hoe and covered by hand. The rate of planting is from 20-25 bushels per acre. The stands generally are so complete that the inspectors of certified seed take a stand count to determine the per cent of diseased hills rogued from certified seed fields. Growers of certified seed potatoes post a sign in their field giving a complete history of the seed field.

Potatoes are dug by hand with the aid of a potato hook (Figure 2). The loose volcanic soils, free of stones, make digging easier than do most soils in the United States. Lack of storage is compensated for by piling the potatoes in the field and then covering them with straw mats (Figure 3). The potatoes are sorted and marketed. The eating and starch potatoes are shipped loose in open freight cars. Figure 4 shows seed potatoes sacked in rice straw bags—each bag containing approximately 125 pounds. Government and cooperative storages are provided for storing the seed potatoes to be planted the following year. The seed potatoes are transported from Hokkaido by ship to southern ports and then distributed to the farmers. One peck of certified seed potatoes usually meets the need for the average farm, the balance of this seed is often locally grown.