

## ■ Vol.7 How Bananas Reach Your Table



### How Bananas Reach Your Table

#### Overview

In this Supply Chain Highlight, we provide an overview of the supply chain of each product we handle. This fiscal year, we are focusing on the banana, a fruit that is familiar to all of you and the mainstay product of Dole, which is an ITOCHU Group company.

For our bananas, many people are involved in the process, which takes nearly two years from growing seedlings to putting on display in stores and delivering to customers. This time, we visited Mindanao in the Philippines, where around 90% of the bananas consumed in Japan are produced.

We will report on how the bananas that are familiar to us are grown and transported, what considerations are given to employee and the environment in the process, and other matters.

**Farm: Tawantawan Farm in Calinan**  
**Visited: 2 March 2015**



#### About the Dole business

Bananas are displayed in fresh produce sections all over the world. They enjoy enduring popularity due to their high nutritional value and stable price. In Japan, bananas have ranked first among fresh fruits in terms of consumption amount since 2004. Of the total import volume of bananas, which exceeds one million tons per year, the volume of bananas produced in the Philippines accounts for more than 90%. The largest market share of around 30% is held by Dole Food Company Inc. of the United States. In April 2013, ITOCHU Corporation acquired the fruit and vegetable business in Asia and the global processed foods business held by Dole Food Company Inc., which is the largest fruit and vegetable company in the world.

## From the division to the rearing of seedlings

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### The banana is not a tree, but a type of herbaceous plant.

The banana is a plant which grows up to ten meters tall. Because of its size, people often call it a “banana tree.” To be accurate, however, the banana is a type of herbaceous plant. The varieties of bananas we usually eat are seedless, and their seedlings are created by means of division. Dole takes pups (growth points) from outstanding banana canes selected from a number of fields and grows them in the clean environment of its dedicated facility, thereby growing healthy seedlings. Within about ten months, more than 1,000 plantable seedlings are created from a single pup.

\* A nursery facility in Panabo



Growth point of a pup



Division of incubated tissues



Grown in flasks for seven months



Each individual seedling is planted in its own pot and grown for two months.

## Planting, growing and harvesting

### 200 bananas in a single bunch!

On the farm, banana seedlings are planted manually, one by one. They thrive in the sunlight and the stems, which have about 200 bananas each, keep growing until they are harvested about one year later. (The number of bananas and the growing period differ according to the variety, altitude and other factors.) During the growing period, farmers cover the bananas with bags to protect them from harmful insects and place cushioning materials into each individual bunch to prevent scratches. These and other care tasks are all undertaken manually. At the time of harvest, new bulbs emerge around the base. Several generations of bananas are harvested in this way.



Bags for preventing diseases, harmful insects, and damage from birds, and for heat retention



Adhesive tape for catching bugs



Sheets for preventing scratches



Stems



The buds at the tips are cut off to concentrate the nutrients in the fruits. In this process, only one fruit is left at the tip. This one banana is sacrificed for the other approx. 200 bananas if a bacterial infection occurs at the cut.



After harvest, the pups are left for a while, rather than being cut off immediately. The nutrients stored in the pups are absorbed by new bulbs which emerge around them, and are used for the growth of the next generation.

## Environmental considerations

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In order to prevent environmental risks such as non-point source pollution into waterways, Dole manages and inspects the use of chemicals, has obtained ISO 14001 environmental certification for all the farms managed by the headquarters and the company, excluding some new farms for which applications for certification are currently being made, and has the farms checked periodically by third parties. In 2008, Dole commenced employee volunteer activities involving the planting of local natural trees. By 2014, a total of one million trees had been planted in areas around farms in different regions by thousands of employees and other volunteers.

## Consideration for employee

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Approximately 9,000 employees work at farms in the Philippines directly operated by Dole. The number of people in managerial (salaried) positions associated with banana production is about 1150 (the gender breakdown is approximately 70% male and 30% female). A large number of employees, irrespective of gender and age, enjoy working on banana production, recognizing it as the core local industry. While giving full consideration to human rights and labor is an important task, Dole takes employee safety and health into consideration by, for example, making it mandatory to wear protective gear while working. The company also complies with ILO standards and has obtained certification under SA8000, an international standard for work environment assessment. It undergoes regular third-party audits.



**Ms. Marianne**  
(Dole Philippines  
Inc. Human  
Resources Director)

As part of its efforts to continue providing better products, Dole is committed to training its employees and encouraging the people on the front lines to make suggestions. In its training system, which is called the Dole University Master Training Plan, Dole provides 31 programs including those on the philosophy of the company, skills for specific operations, and management skills. Workers, site supervisors and managers receive training in programs that are appropriate for their duties. In the Dole Kaizen Program, suggestions for improvements are made regularly by small teams consisting mainly of farm workers. This has resulted in many good suggestions that have led to improvements in overall work efficiency, including the development of work tools and a system for controlling the temperature to minimize raw material waste.



## Washing, sorting and packing

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### Ensuring traceability to the area of production

Harvested bananas are washed and sorted at a packing plant adjacent to each farm. They are then cut in accordance with the sales standards, packed, and boxed. In this process, a number called a Box Code is stamped on each box. This number enables the identification of the farm where the bananas were harvested, the facility where they were boxed, and the time and date when they were boxed, for example. This ensures the traceability of the bananas, which makes it possible to trace them back to the area of production immediately in the event of a quality problem or the like at the sales destination.



## Pickup, shipment and departure from the port

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### More than 100 million bananas are imported to Japan every month.



Boxed bananas are shipped from ports in Davao and transported to Japan. The voyage takes around five days.

Bananas from the Philippines are shipped to Japan twice a week.

Each ship transports 170,000 to 180,000 cases of Dole bananas.

Because each case contains around 80 bananas, each ship transports approximately 14 million bananas, and 115 million bananas are imported to Japan every month. This means that the number of bananas imported to Japan by Dole every month is nearly as large as the population of the country.

## Force-ripening and shipment

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### Bananas are still green when they arrive in Japan.

Bananas are still green and inedible when they arrive in Japan. They are force-ripened (ripened until they become edible) in a temperature-controlled room called a *muro* for five to seven days by carefully controlling the level of ethylene gas, which triggers ripening, as well as the temperature, humidity, carbon dioxide concentration, and other conditions. This is how the green bananas are ripened into the yellow, soft, sweet bananas that are familiar to you.



## From the storefront to your table

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### Responding to consumer needs

The bananas are inspected, stored, sorted and delivered using the latest distribution system, which is linked to the ordering systems of retailers throughout the country, before they are displayed in stores all over Japan and delivered to your home. In response to Japanese consumers' demand for a high level of taste and quality, we produce bananas that are grown at high altitudes and that have a high sugar content. In addition, we often undertake human interactions between the production areas and consumption areas in our efforts to produce bananas that are appropriate for the markets.



## Harmonious coexistence with local communities

We employ a large number of people on farms and in factories, and promote business activities with many people, including those from local governments and companies. A harmonious coexistence with the local communities is therefore an extremely important factor for us. In the areas around our farms, we have engaged in activities such as the provision of tanks for water for domestic use and the provision of chairs and educational materials including textbooks to around 50 elementary schools.



An elementary school to which we donated educational materials



By 2014, we donated 173 water tanks (each tank benefits about 60 households) of this type to local residents.

## Summary



**Presenter:**

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Business, Rikkyo  
University  
Professor Takaoka  
studied at graduate  
school at the University  
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areas of specialization  
include consumer  
behavior and distribution  
systems.

By following the supply chain of bananas, you will find that bananas undergo many processes before they are delivered to consumers, and many people are involved in these processes. In other words, bananas need careful management with respect to food safety, environmental conservation, occupational health, human rights and other factors.

Dole aims to maximize the economic performance and efficiency of the supply chain to maintain its market competitiveness in terms of price and quality, and strives to develop high value-added products through market research. At the same time, the company takes safety, environmental conservation, and human rights into careful consideration. I give the company high marks for this high degree of awareness of its corporate social responsibility.

I was most impressed by the fact that local employees find their jobs worthwhile, and that many female managers are demonstrating their capabilities. While the creation of employment is an important mission of a company, it is also important for a company to provide a motivating work environment, rather than simply employing people. I look forward to the further strengthening of such efforts by Dole.