



農林水産省
植物防疫所



PLANT PROTECTION STATION
Ministry of Agriculture, Forestry and Fisheries

Plant Protection Station block harmful plant pests diseases for agriculture



Quarantine of fruits in the plant laboratory
(Taisho era)

Plant Protection Station History

1913
Taisho 2

The Ministry of Agriculture and Commerce enacted the “Regulations on Export Phytosanitary Certificate” and established the “Export Plant Quarantine Official Offices” in Yokohama and Kobe.

1914
Taisho 3

The “Import and Export Plant Control Act” was enacted, and import/export plant quarantine began. The “Plant Inspection Office of the Ministry of Agriculture and Commerce” was established in Yokohama.

1924
Taisho 13

Plant Inspection Office was transferred to the Customs Department of the Ministry of Finance and became the “Customs Plant Inspection Section”.

1943
Showa 18

Transferred to the Maritime Bureau of the Ministry of Transport and Communications and became the “Plant Inspection Section of the Maritime Bureau”.

1947
Showa 22

Returned to the Ministry of Agriculture and Forestry and became the “Animal and Plant Quarantine Office of the Ministry of Agriculture and Forestry”.

1948
Showa 23

The “Import and Export Plant Quarantine Act” was enacted.

1950
Showa 25

The “Plant Protection Act” was enacted.

aims to and



Inspection of plants brought in by travelers as carry-on baggage on a passenger ship (Taisho era)



Leaflet from the Showa era



Trap survey for eradicating oriental fruit flies in the Nansei Islands (Showa era)

In Japan, pests such as the arrowhead scale and the phylloxera became a major problem after the Meiji era; they had arrived from overseas, resulting in a threat to agricultural production. In 1913 (Taisho 2), the United States required plant exporting countries to issue Phytosanitary Certificates from the exporting country's government, and in 1914 (Taisho 3), the “Import and Export Plant Control Act” was enacted along with the establishment of the “Plant Inspection Office of the Ministry of Agriculture and Commerce” to begin plant quarantine.

International trade has been increasing. Distribution systems and networks such as sea containers and air-transport are expanding further, supported by relevant technological developments. Accordingly, more varieties and larger quantities of plant products have been imported into Japan. Additionally, with the increasing number of foreign tourists visiting Japan and the increase in international e-commerce mail, the risk of pest introduction is greater than ever.

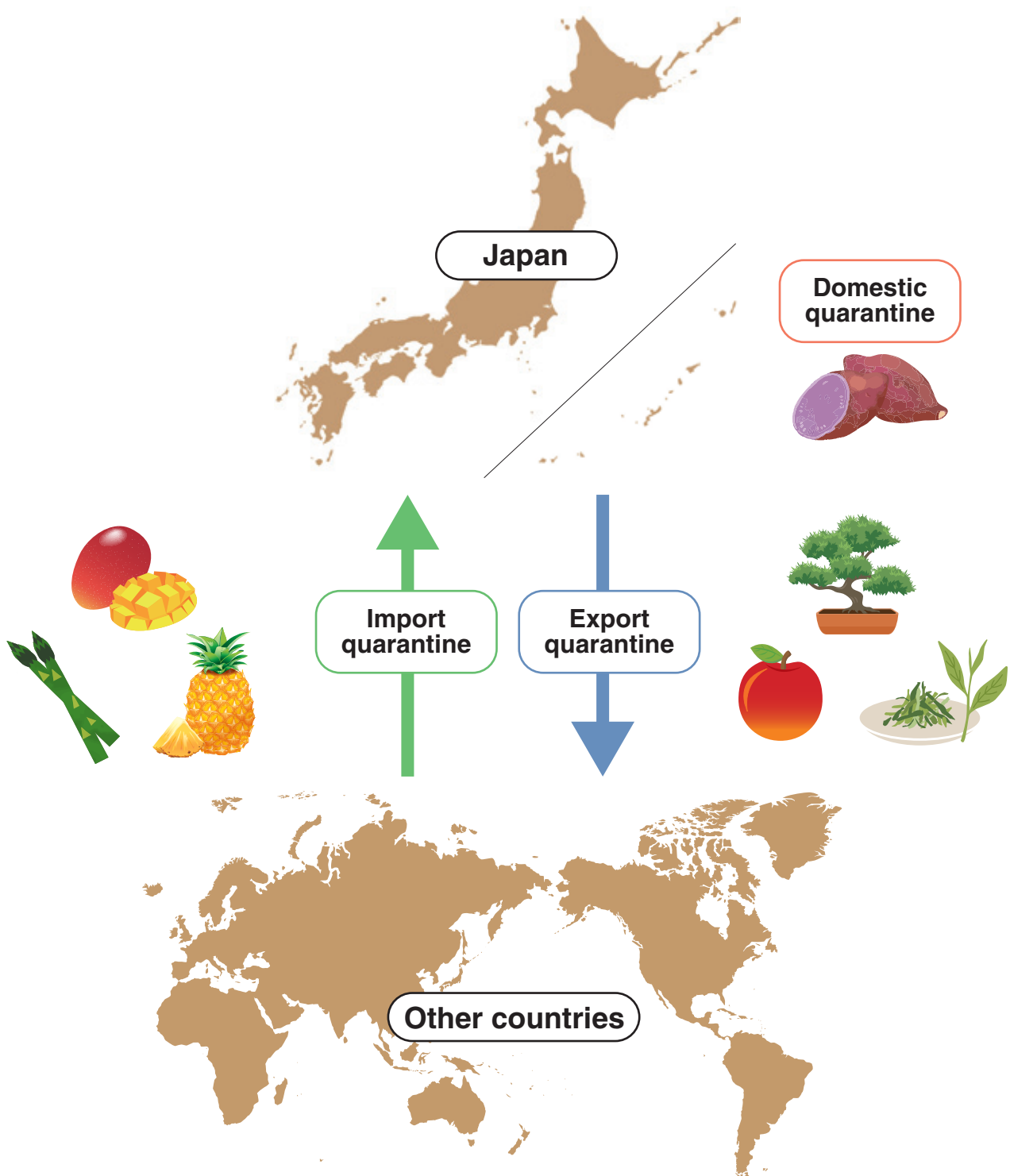
Plant Protection Station focuses on various tasks to protect Japanese agriculture.

1952 Showa 27	1961 Showa 36	1972 Showa 47	1976 Showa 51	1979 Showa 54	1981 Showa 56	1986 Showa 61	1993 Heisei 5	2016 Heisei 28
Animal quarantine was separated, and a three-station system (Yokohama, Kobe, and Moji) was begun as part of the “Plant Protection Station of the Ministry of Agriculture and Forestry”. Joined the International Plant Protection Convention	Nagoya branch was promoted to the Head Office.	Naha Plant Protection Station was established when Okinawa Prefecture was returned to Japan. The five-station system (Yokohama, Nagoya, Kobe, Moji, and Naha) began.	A Inspection Operation Department was established in the Yokohama Plant Protection Station.	A Research Department was established in the Yokohama Plant Protection Station.	A Inspection Operation Department was established in the Kobe Plant Protection Station.	Eradication of oriental fruit flies in Japan	Eradication of melon flies in Japan	A Risk Analysis Department was established in the Yokohama Plant Protection Station.

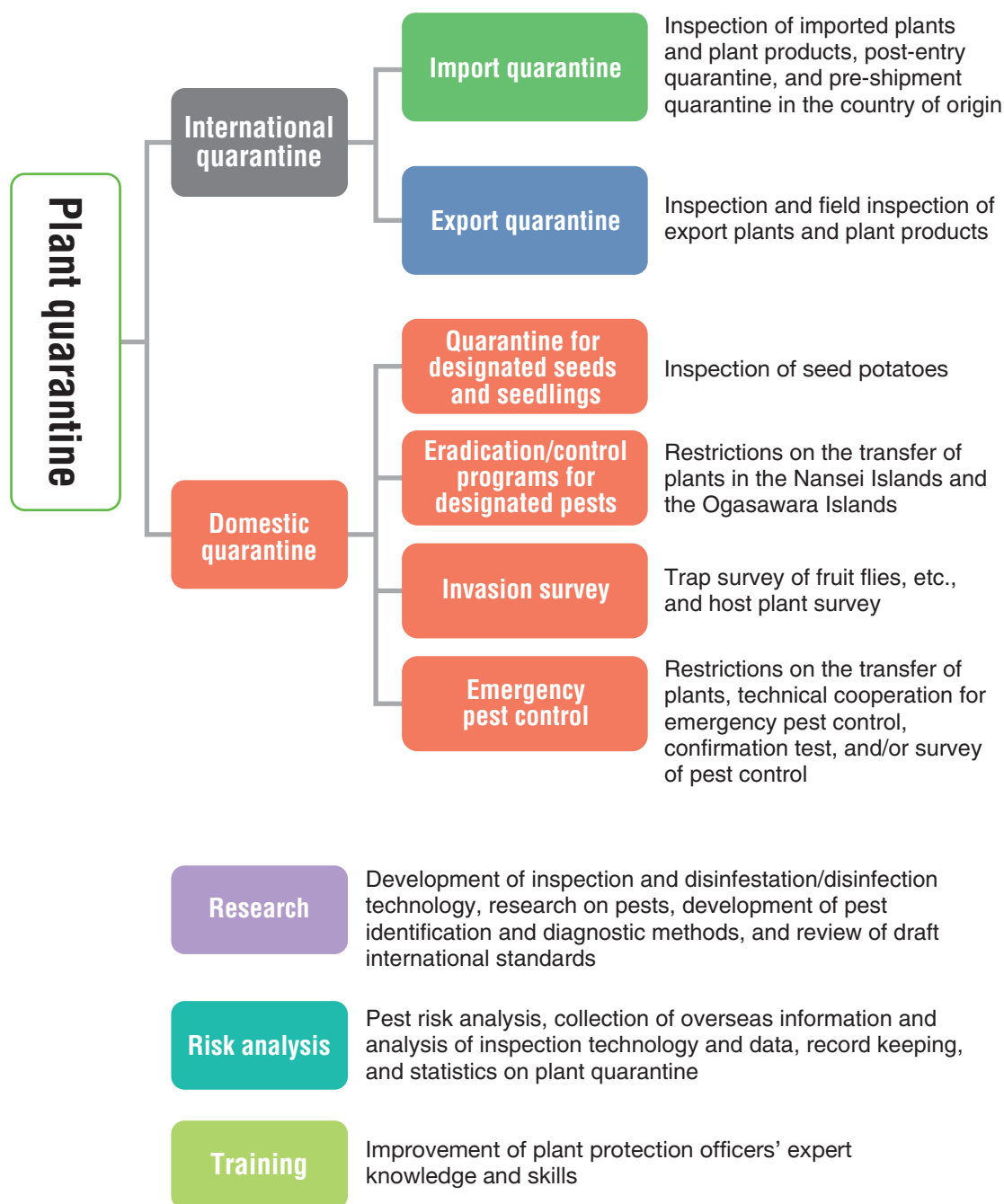
About Plant Protection Station

Plant Protection Station implements “import quarantine” to prevent new plant pests from entering from overseas, “export quarantine” to prevent pests from spreading to other countries through plants exported from Japan, and “domestic quarantine” ensures that pests occurring in some regions of Japan do not enter new regions.

In order to detect and eradicate new pests as early as possible, invasion surveys and emergency pest control are also implemented in cooperation with other prefectures.



Operations of Plant Protection Station

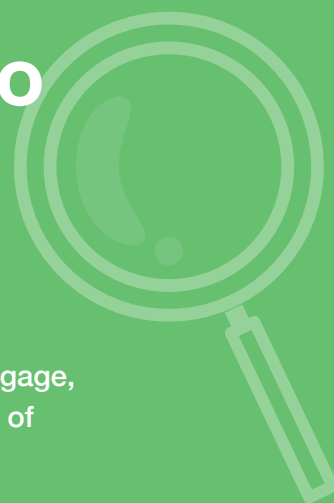


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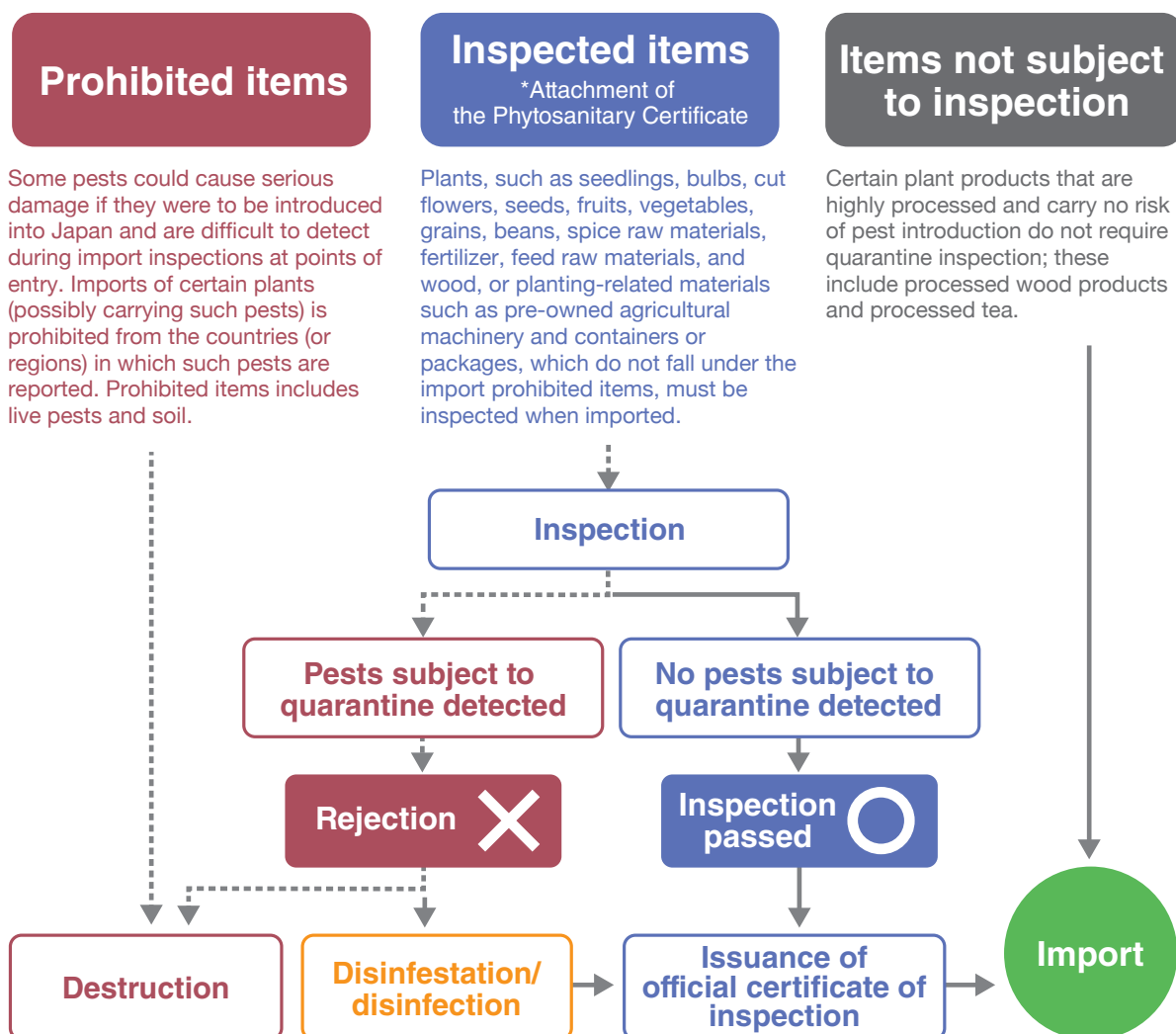
Plant Protection Station conducts inspections to check for contamination of unapproved genetically modified agricultural crops according to the "Act on the Conservation and Sustainable Use of Biological Diversity through Regulations on the Use of Living Modified Organisms" and support the discrimination of foreign organisms regulated under the "Act on the Prevention of Adverse Ecological Impacts Caused by Designated Invasive Alien Species".

Import quarantine aims to save plants from overseas pests



All plants and plant products imported using cargo, hand-carried baggage, or postal mail or package are subject to import quarantine regardless of their quantity or intended use (i.e., commercial or personal use). Importers or travelers are legally required to attach the Phytosanitary Certificate issued by the government of the exporting country for plants and plant products. (Some plants and plant products are exempted from carrying the Phytosanitary Certificate.)

Import quarantine procedures



Cargo inspection at seaports

Cargo inspection is conducted at seaports of entry. Bulk cargo ships carry grains, fruits, vegetables, and wood, while container ships deal with fruits, vegetables, cut flowers, bulbs, seeds, and pre-owned agricultural machinery, among other materials and goods.



In-ship grain inspection



Inspection of fruits transported by container ships

Cargo inspection at airports

Cargo inspection is also conducted at airports of entry. Air cargo usually carries cut flowers, seedlings, bulbs, fruits, and vegetables, among other plant materials. A large variety of small-lot shipments may be imported as samples by air cargo prior to full-scale import.



Inspection of cut flowers



Inspection of seedlings

Inspection of hand-carried baggage

Plants and plant products, such as fruits and vegetables, in the hand-carried baggage of travelers entering Japan are also subjected to inspections. The inspection is conducted at plant quarantine counters located in the customs area, prior to customs clearance. Animal and plant quarantine detector dogs are actively deployed for inspections.



Plant quarantine counter



Animal and plant quarantine detector dog

Inspection of international postal items

Imported plants and plant products are inspected at post offices where customs clearance of international mail is carried out. Animal and plant quarantine detector dogs are also actively deployed.



Inspection of seedlings of succulent plants

Inspection of seeds and seedlings

Seeds and seedlings may be infected with diseases that cannot be detected by visual inspection alone, so detailed inspections using the blotter method and genetic diagnostic method are also performed in the testing room.



Inspection through the blotter method

Post-entry inspection

Imported seeds and seedlings, such as flower bulbs, fruit tree seedlings/scions, and potatoes, for which viruses are difficult to detect by inspection alone undergo post-entry quarantine. The post-entry quarantine involves cultivation for a certain period of time at specific sites; this is managed by the national authority and isolated from other crops.



Sap inoculation

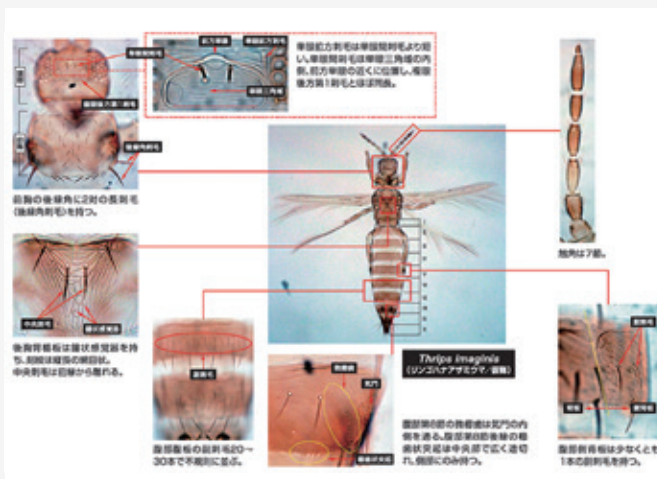
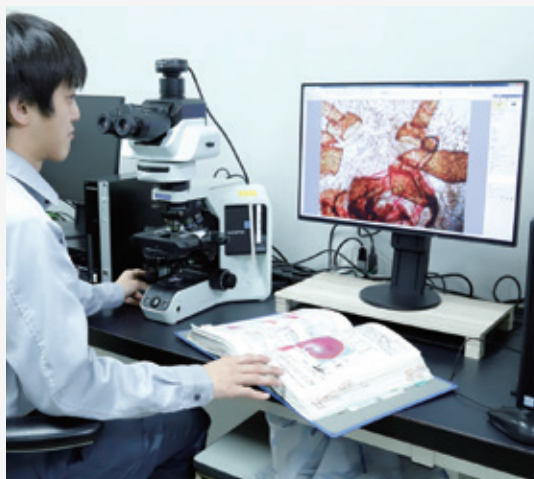


Quarantine greenhouse

Quarantine inspections are supported by sophisticated identification and diagnostic technologies

As there are numerous different pests in the world, it is a vital part of plant quarantine to accurately classify (i.e. identify) the pests detected in inspections.

Various efforts are made to improve the overall level of identification skills. Plant Protection Station archives specimens of the domestic and overseas pests that are collected in inspections. Furthermore, supporting materials for pest identification are developed for the use of plant protection officers; based on these, particular training courses are provided.

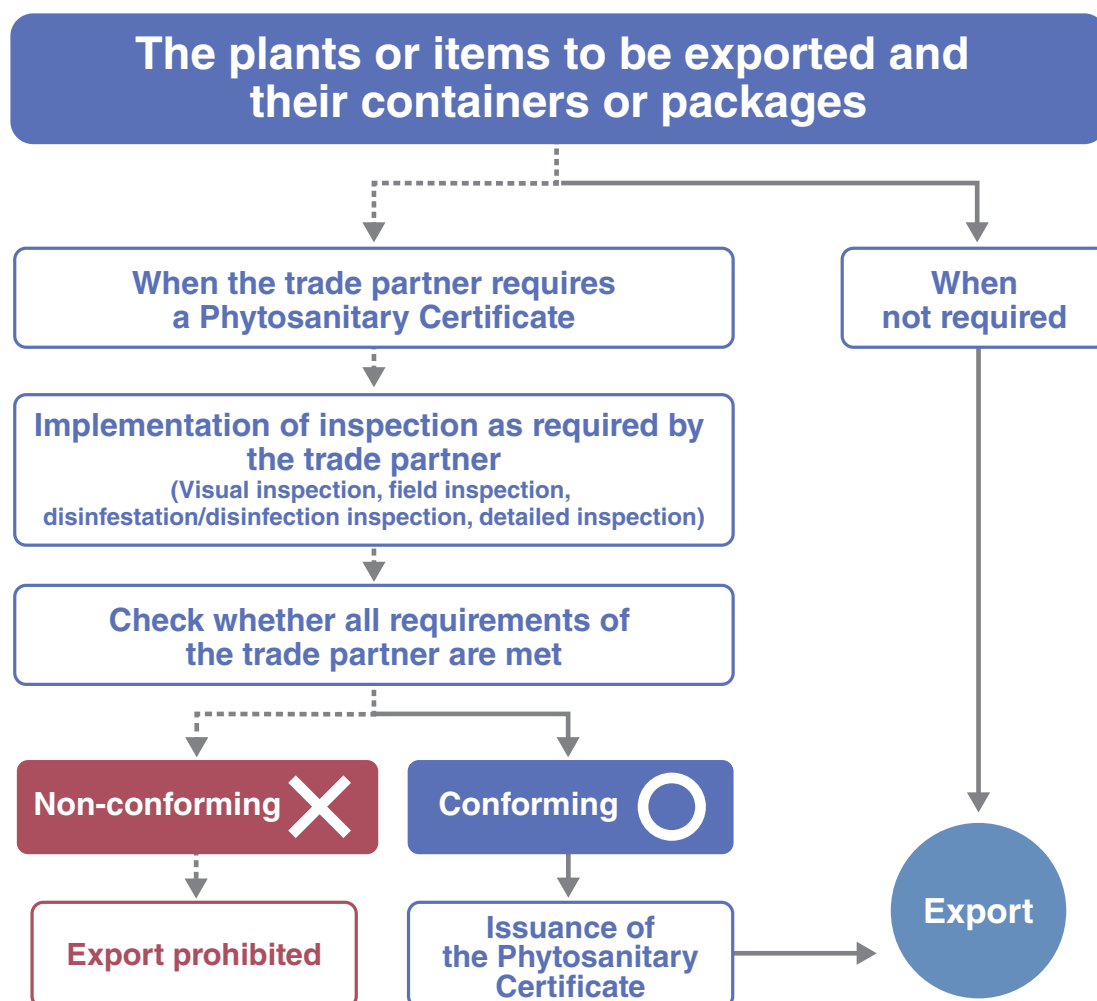


Implementing export quarantine to meet the requirements of Japan's trading partners

Export quarantine inspections are conducted to ensure that exported plants and goods do not have pests, and disinfestation/disinfection is properly implemented as required by the trade partners.

The government is working to promote the export of agricultural, forestry, and fishery products; in order to cope with the increase in inspections, registered conformity inspection body approved by the Minister of Agriculture, Forestry and Fisheries can now conduct some of these inspections. In this case, Plant Protection Station issues a Phytosanitary Certificate after confirming that the registered conformity inspection body is conducting the inspection appropriately.

Export quarantine procedures



Visual inspection

In addition to the presence or absence of the pests specified by the trade partner, the quantity, processing status, etc., are visually inspected. pre-owned agricultural machinery and highly processed products can now be inspected online using information and communication devices.



Inspection of cut flowers



Inspection of strawberries

Field inspection

The presence or absence of the pests specified by the trade partner is inspected in the cultivation place, surrounding areas, etc.



Inspection of bonsai



Inspection of apple orchards

Disinfestation/disinfection inspection

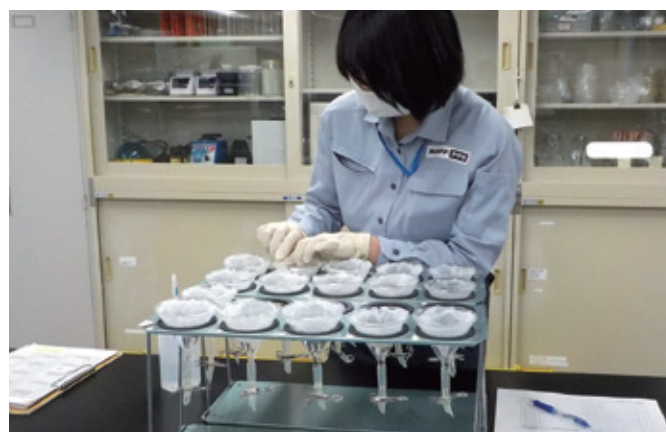
Whether the fumigation, heat treatment, low-temperature treatment, chemical treatment, etc., required by the trade partner have been carried out is confirmed.



Low-temperature treatment warehouse (upper left: confirmation of low-temperature treatment using a temperature sensor)

Detailed inspection

Genetic diagnosis, antiserum assay, Baermann funnel method, etc., are used for the inspection.

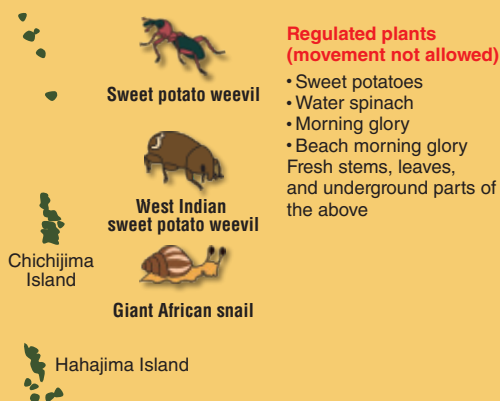


Inspection for nematodes using the Baermann funnel method

Plant Protection Station employs various in-country measures to prevent the spread of pests

Eradication/control programs for designated pests

Ogasawara Islands

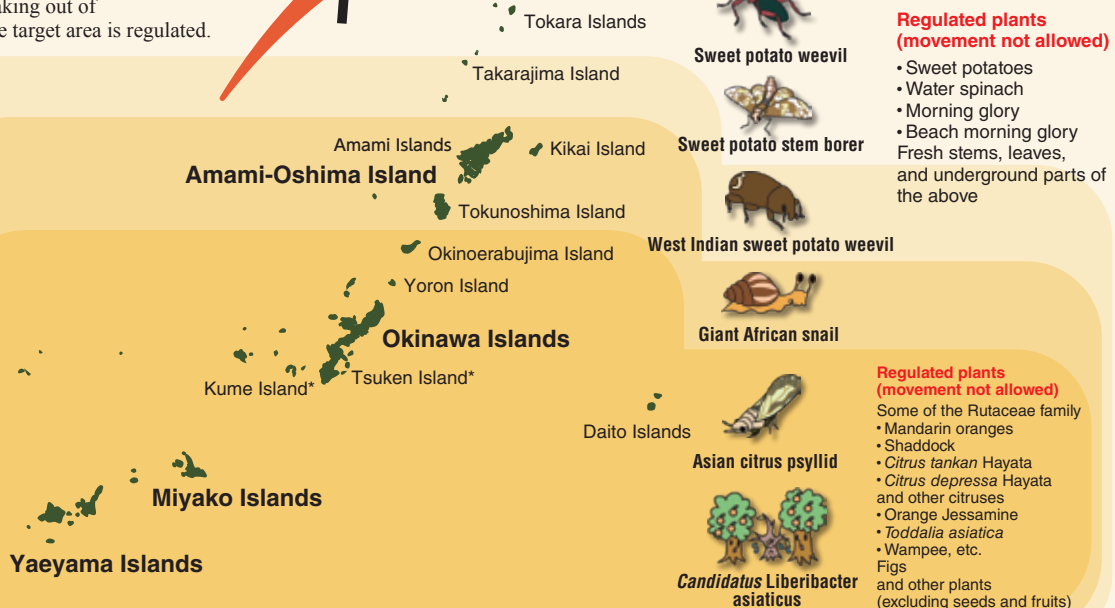


Restrictions on the transfer of plants

Some areas of Japan (the Nansei Islands [the Amami Islands and the Tokara Islands in the Okinawa and Kagoshima Prefectures] and the Ogasawara Islands in Tokyo) are affected by pests and infections causing great damage to crops, such as the sweet potato weevil, the West Indian sweet potato weevil, and citrus greening disease, which do not occur in other areas of Japan. In order to prevent such pests from entering and spreading into new regions, the movement of the pests and their host plants is restricted.

Nansei Islands

Taking out of the target area is regulated.



*Since the sweet potato weevil has been eradicated from the Kume and Tsuken Islands, these regions prohibit the entry of sweet potatoes, etc., that have been produced in or passed through areas where the sweet potato weevil occurs, such as the main island of Okinawa.

Quarantine for designated seeds and seedlings

It is important to use healthy seed potatoes for stable potato production. For this reason, inspections are conducted to ensure the stable supply of seed potatoes that are free from viral diseases and nematodes.



Field inspection



Cyst attached to the root

Invasion survey

It is vitally important to detect pest introduction as early as possible and to take actions including eradication. Due to this, Plant Protection Station implements invasion surveys at seaports and airports, where plants are imported, and post offices where customs clearance is carried out, and central wholesale markets.



Invasion survey



Bactrocera dorsalis species complex

Emergency pest control

If there is a risk of major damage to crops or the export of plants is threatened, emergency actions will be taken to contain and eradicate the pest that has occurred in a certain area. These pest control measures include determining the area and period for control and implementing measures such as restrictions or prohibitions on the planting of pest and host plants, disinfestation/disinfection, and removal and disposal.

Research has been conducted to develop advanced phytosanitary technologies

Development of phytosanitary treatment

In order to accurately and safely disinfest/disinfect plants in which pests have been detected, development of chemical and physical disinfection techniques is underway.

Examples of research

Tests to establish disinfestation/disinfection standards using fumigants to replace methyl bromide, a substance that depletes the ozone layer, are ongoing.



Measurement of the gas concentration of fumigants using gas chromatograph



Administration of fumigants

Research has been conducted to determine the temperature treatment conditions that can reliably kill fruit flies.



Inoculation of fruits with fruit fly eggs before insecticidal treatment



Eggs and larvae of the citrus fruit fly parasite inside the fruit



Assessment of survival or death of the fruit fly inside the fruit after insecticidal treatment

Research on insect pests

Information on pests and nematodes which is required at the plant quarantine sites is collected and analyzed to conduct various surveys on their physiology, ecology, and control and to develop technology for identification methods based on genetic analysis and estimation methods for the origins of invasions.

Examples of research

Since nematodes can have different parasitism depending on the host plant variety, even within the same species, we are checking growth rates on various varieties to determine pathotypes and appropriate control methods.



Surveys of proliferation rates of cyst nematodes using potatoes

Base sequence data on pests are collected and compared with existing information in databases to establish identification technology based on genetic information and to estimate the origin of their invasion into Japan.



Development of identification technology for larvae of weevils

Research on phytopathogens

Various information is collected and analyzed regarding plant diseases that have not yet occurred in Japan. Pathogens may be brought in and studied for their properties in morphology, biochemistry, serology, and molecular biology in order to develop technology for inspection and identification methods.

Examples of research

In efforts to work on a method using an AI to identify spores with high accuracy, an AI that can simultaneously identify beet pollen and the urediniospores and teliospores of beet rust fungi, which are difficult to identify due to their similar shapes, was successfully developed.

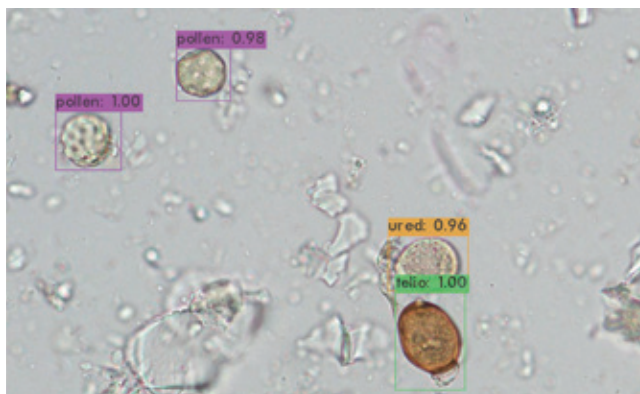


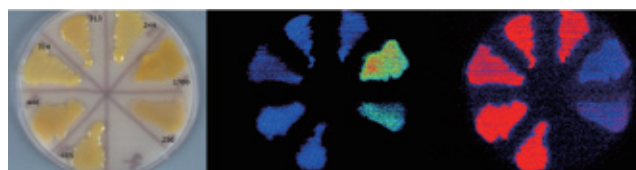
Image of AI detecting rust fungus spores

Plants are infected with plant diseases that have not yet occurred in Japan in isolated greenhouses to develop different testing methods.



Collection of samples for virus assay

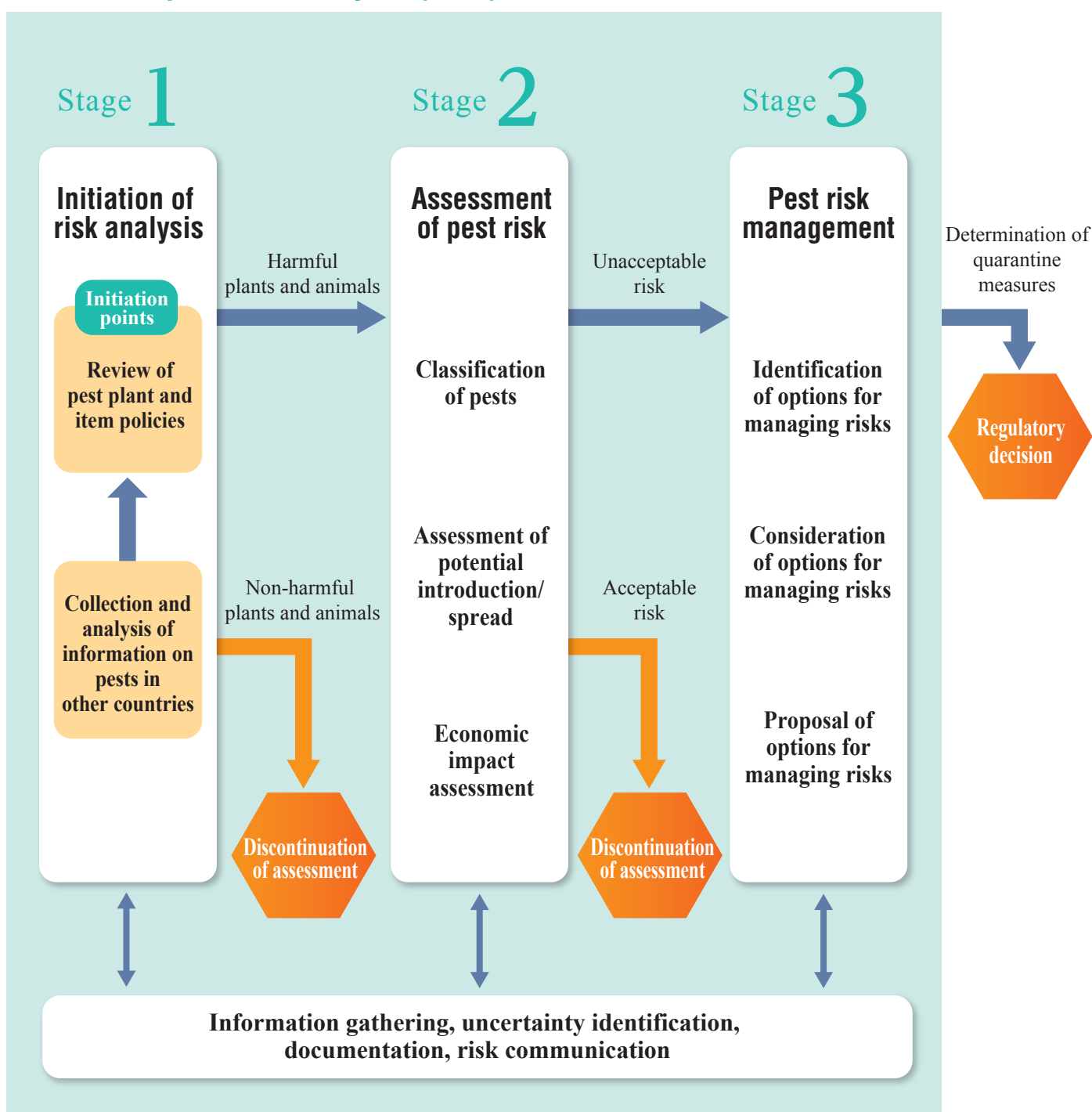
Research is actively conducted to establish a method to identify bacterial leaf streak from isolated colonies of similar colors using a hyperspectral camera that can visualize differences in physical properties that are difficult to distinguish with human eyes.



Images of identifying colonies of bacterial leaf streak in YDC medium (from left: images of RGB, slope analysis, and SAM analysis)

Pest risk analysis and the basis for the development of phytosanitary measures are provided

Process of pest risk analysis (PRA)



Collection and analysis of information on pests in other countries

The latest information on pests occurring in foreign countries is collected and analyzed on a daily basis. If new information becomes available that may adversely affect Japan's agriculture, pest risk analysis will be initiated. Pest risk analysis is based on scientific and economic information.



Assessment of pest risk

The risks posed by pests are assessed from various perspectives such as the possibility of introduction to and spread in Japan and the degree of damage to crops.

Pest risk management

The results of risk assessment of target pests are used to examine options for managing the pest risk and propose candidate phytosanitary measures.

Information system

Operational systems of Plant Protection Station

Plant Protection Station has operational systems and databases to support plant protection officers when they perform quarantine operations.

The "Plant Quarantine Statistics System" and the "Database on Import Conditions", as well as the "Database on Regulations on Live Insects and Microorganisms", which help to check and regulate the import of living organisms under the Plant Protection Act, are available as administrative record information.

Online application system

An online application system has been established; it allows users to submit applications and notifications either at home or in the office.

In particular, the system for export and import plant inspection procedures (NACCS [processing applications for plant quarantine]) is accessible through the internet; this makes the procedures more efficient and faster.

Various training programs are available to plant protection officers for the maintenance and improvement of their inspection skills



To help employees acquire the skills required for plant quarantine operations, the Training Center provides various types of training, including botanical science, insect science, plant pathology, agricultural science, disinfestation/disinfection technology, plant protection administration, and languages necessary for overseas quarantine.

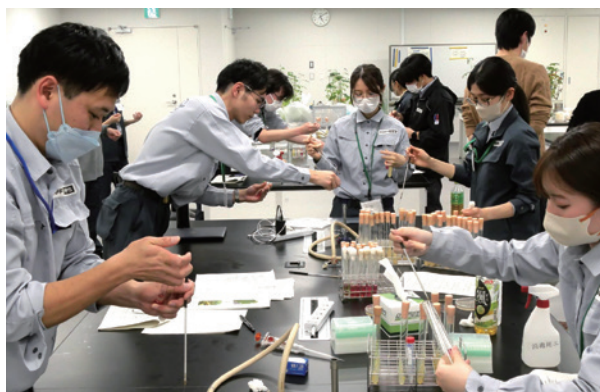
Beginner training

Newly hired employees will learn the basic knowledge, expert knowledge, and skills necessary for plant quarantine.



the Training Center

Follow-up training



Employees with at least one year of experience as plant protection officers will acquire practical expert knowledge and skills.

Specialized training (overseas training)



Employees with at least five years of experience as plant protection officers will learn the languages, knowledge, and skills necessary for overseas quarantine.

Expert development training

Employees with at least three years of experience as plant protection officers and the ability to take courses in specialized knowledge and techniques will acquire extremely advanced knowledge and skills in their respective areas of expertise in pests, nematodes, and plant pathology.

Specialized training (pests, nematodes, and plant pathology)

Employees with at least five years of experience as plant protection officers will acquire the necessary knowledge and skills in pests, nematodes, and plant pathology.

Plant protection officers working globally

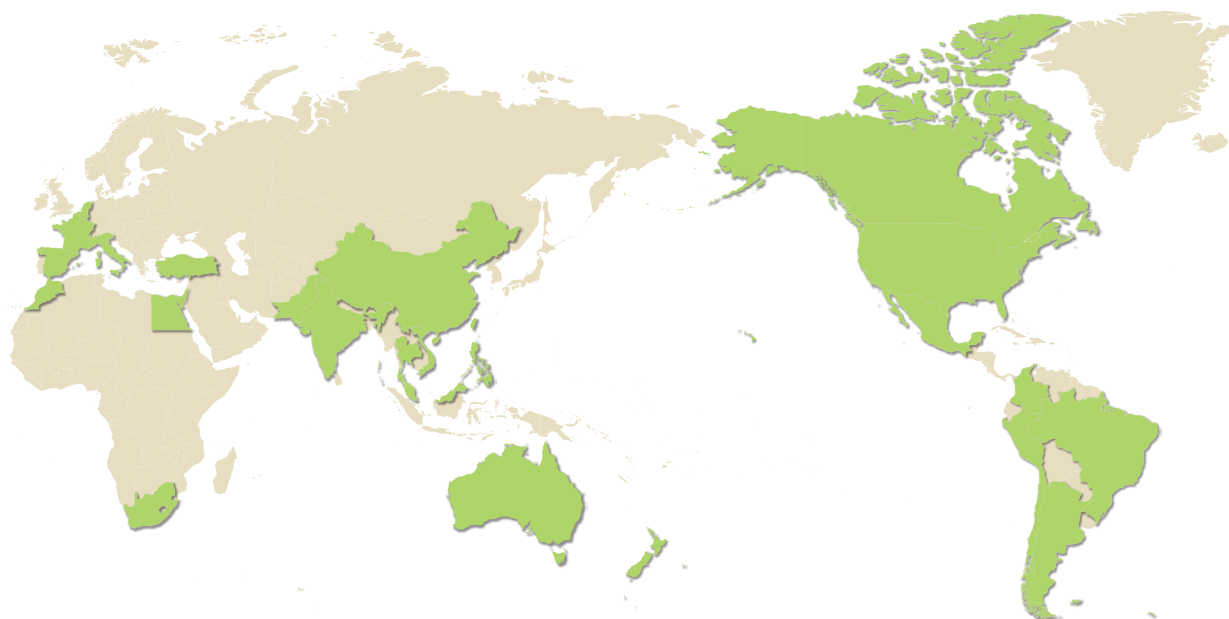
Pre-shipment quarantine in country of origin

The Minister of Agriculture, Forestry and Fisheries may allow the import of prohibited items with certain conditions if the requesting country successfully demonstrates its technical capacity (developing particular methods) to certainly disinfest/disinfect the export items and also establish the proper and reliable framework in the actual operation. Procedures for lifting import ban are as follows: a country makes a specific request for import ban lifting; the country submits scientific data on disinfestation/disinfection measures and pest status, followed by a series of technical exchanges/consultations with Japan; and Japanese experts visit the requesting country for on-site confirmation tests and/or surveys. Once the import ban is lifted, pre-shipment quarantine is conducted, involving the dispatch of plant protection officers to the exporting country to ensure that the agreed conditions are met in the actual operation (disinfestation/disinfection, export inspections, etc.).



Pre-shipment quarantine (Taiwan)

Countries subject to overseas quarantine (29 countries and regions)



IPPC: International Plant Protection Convention

The International Plant Protection Convention (IPPC) entered into force in April 1952 to harmonize phytosanitary measures taken by its member states to prevent the introduction and spread of pests that are harmful to plants, and as of March 2025, 185 countries and regions have joined the IPPC. Plant protection officers are dispatched to the IPPC secretariats in Rome and Bangkok (established within the Food and Agriculture Organization of the United Nations) and serve as members of various IPPC committees to formulate and implement the "International Standards for Phytosanitary Measures" and provide technical support for developing countries.



Commission on Phytosanitary Measures



Uniform

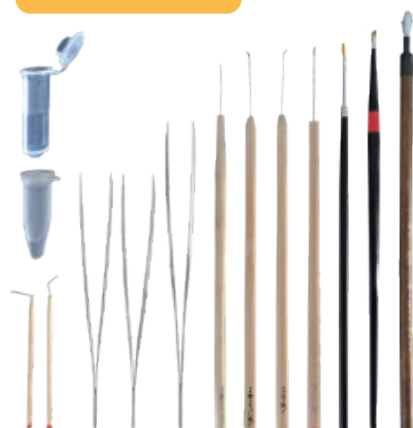
Uniform · Work clothes





Work clothes

Work tools



Plant Protection Station Official Character

"Pi-kyun"

In August 2020, the official character "Pi-kyun" of Plant Protection Station was born. Pi-kyun, inspired by a ladybug, is the face of Plant Protection Station and is active at public relations events and BUZZ MAFF*.



*What is BUZZ MAFF?

BUZZ MAFF is the official YouTube channel of the Ministry of Agriculture, Forestry and Fisheries. Some of the popular content related to Plant Protection Station has been viewed over 600,000 times!

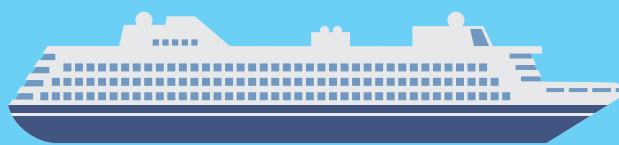


BUZZ MAFF Channel



Locations of Plant Protection Stations

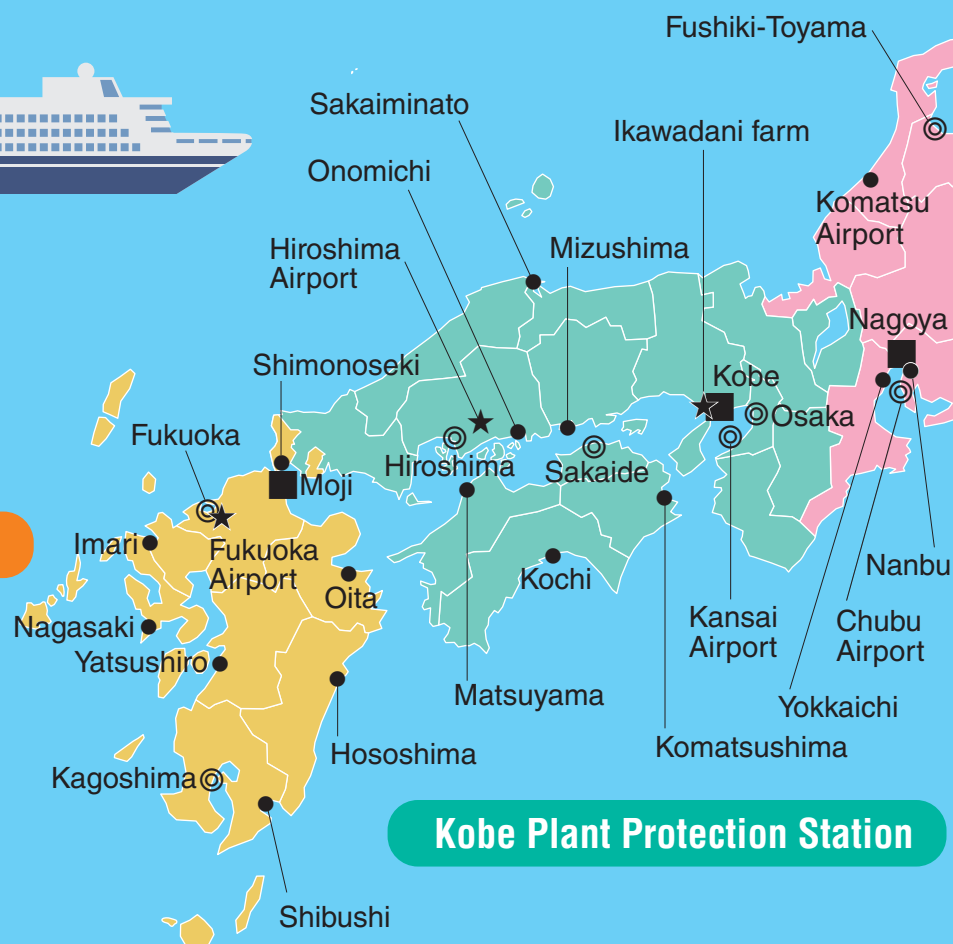
■ Head Office	5	● Branch	34
◎ Sub-station	16	★ Plant Inspectors' Office etc.	6



Nagoya Plant Protection Station

Moji Plant Protection Station

Kobe Plant Protection Station





Otaru

◎ Sapporo

● Shinchitose Airport

● Kushiro

● Muroran-Tomakomai

● Hakodate

● Hirosaki

● Hachinohe

● Akita

◎ Shiogama

● Ishinomaki

◎ Niigata

● Sendai Airport

● Naoetsu

● Onahama

Yokohama Plant Protection Station

● Tsukuba farm

◎ Tokyo

● Kashima

◎ Shimizu

● Narita

● Chiba

● Haneda Airport

● Yokohama

● Shizuoka Airport

◎ Naze

● Naha

● Naha Airport

● Kadena

● Ishigaki

● Hirara

Naha Plant Protection Station



Ogasawara General Office
Ministry of Land,
Infrastructure,
Transport and Tourism



Yokohama Plant Protection Station

5-57 Kitanaka-dori, Naka-ku, Yokohama 231-0003
TEL : 045-211-7150

Nagoya Plant Protection Station

2-3-12 Irifune, Minato-ku, Nagoya 455-0032
TEL : 052-651-0111

Kobe Plant Protection Station

1-1 Hatoba-cho, Chuo-ku, Kobe 650-0042
TEL : 078-331-2806

Moji Plant Protection Station

1-3-10 Nishikaigan, Moji-ku, Kitakyushu 801-0841
TEL : 093-321-1404

Naha Plant Protection Station

2-11-1 Minatomachi, Naha 900-0001
TEL : 098-868-0715



This brochure contains the information available in March, 2025.
For the latest information, contact any Plant Protection Station or visit
the official website (<https://www.maff.go.jp/pps/>).

