



Plant health and food security

Plants account for over **80% of the human diet**. As such, they are essential for food security, or the **ongoing access to sufficient, affordable, safe and nutritious food for us all** to live active and healthy lives. **Plant pests and diseases pose a threat to food security** because they can damage crops, thus reducing the availability and access to food, increasing the cost of food. Plant pests and diseases may also negatively affect the palatability of foods resulting in changes to the traditional food preferences of populations.

Plant pest and disease outbreaks have caused massive food shortages and famines over the years. In India in 1942-43 a severe outbreak of Brown spot fungus (*Bipolaris oryzae*, syn. *Helminthosporium oryzae*) destroyed 50 to 90% of the **rice crops** in the

Bengal area, which resulted in two million people died because of the famine. The **Potato** late blight disease caused by *Phytophthora infestans*, a pest that is considered native to Central America, caused the great Irish famine of 1845, which killed more than one million people and prompted one million five hundred thousand people to leave their homeland.

Today, due to increasing **global trade** and a **changing climate**, plant pests and diseases pose a **greater threat to food security** than ever before as global trade increases the change of these pests moving from their native environments and changing climates create new favourable conditions for plant pests and diseases. Plant pests and diseases are responsible for losses of 20 to 40% of global food production.

New plant pests and diseases potentially threaten staple crops around the world. To cite an example, *Leptinotarsa decemlineata*, also known as Colorado potato beetle, is a pest severely affecting potatoes. In China, the 'potato as staple food strategy' was launched in 2015 and now potato production is increasingly threatened by the Colorado potato beetle, with current annual economic loss estimated at 3.2 million USD. In addition, the Colorado potato beetle may also affect other food plants in the same Solanaceae family, such as **tomatoes** and **eggplants**.

Trade of **bananas** accounts for respectively 90% and 60-80% of farmers' income in the Democratic Republic of Congo and Rwanda, while households in Tanzania buy an average of 70 kg a month of fresh bananas and 40 kg a month of dessert bananas. Regrettably, serious threats to **banana** production are posed today by *Fusarium oxysporum* f. sp. *ubense* tropical race 4, causing the Banana fusarium wilt, also known as Panama disease. Any reduction in banana production through pests in these countries would have a devastating impact on food security and livelihoods.



People's Republic of China - Colorado potato beetle. © NATEC-China



Kiroka, Tanzania - Woman harvesting a banana cluster. © FAO/Daniel Hayduk

¹ Pest in the IPPC contexts refers to any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products.

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Bactrocera dorsalis is a fruit fly native to Asia but has been found in at least 65 countries. In the African region, it was detected in 2003 and represents a great phytosanitary challenge because of the threat the pest poses to the region's exports, particularly of avocado, banana, guava and mango. It is thought that import trade bans to the region alone are causing around 2 billion USD losses annually.

Another example is the *Rhynchophorus ferrugineus*, better known as Red Palm Weevil, a pest that has devastating effects of on date palm and food security in the oasis ecosystems in the Near East and Mediterranean basin.

The International Plant Protection Convention (IPPC) was established in 1952 to protect the world's plants from pests and diseases. Recognized by the World Trade Organization's Agreement on Sanitary and Phytosanitary Measures (WTO SPS Agreement) as the standard setting organization for plant health, the IPPC Secretariat, hosted by the Food and Agriculture Organization (FAO), is well placed to establish coordinated action against the spread of plant pests and diseases that threaten food security.

Now a global organization with more than 180 contracting parties, the IPPC Secretariat facilitates the setting and implementation of International Standards for Phytosanitary Measures (ISPMs). By using harmonized standards, countries adhering to the IPPC create a common ground to encourage the use of science-based measures, thus facilitating the safe trade of plants and plant products. ISPMs serve as guidelines for nations to plan and implement the control and eradication of plant pests and diseases. They also serve as scientific basis to help avoid trade disputes.

The IPPC Secretariat also supports the global exchange of information to ensure that plant health authorities are aware of the latest outbreaks of plant pests and diseases, and of relevant import requirements to help ensure safe and efficient international trade.

What you can do

Governments, civil society, as well as the corporate world can all play their part in ensuring food security through healthy plants. To help achieve this, all countries should be encouraged to implement the Convention and its standards. Civil society and corporations should ensure that their governments are implementing the IPPC and ISPMs effectively while providing support. All people, when travelling, should be aware of the potential danger of bringing plants, fruits and vegetables picked up abroad, as they could be spreading plant pests or diseases.

More awareness and attention to plants and their health is essential to ensure a better life for many. Each of you can help keep our plants healthy and our food secure.



Chile — Phytosanitary inspectors from SAG (Agriculture and Livestock Service) check a consignment of mangoes imported from Brazil. © STDF

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MORE INFORMATION

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