Food and Agriculture Organization of the United Nations

International Plant Protection Convention

Plant health and environmental protection

Key messages

- The IPPC helps preserve biodiversity by protecting plants from pests and diseases.
- Travel and trade can quickly spread plant pests and diseases which damage plants and the environment.
- Climate change is altering ecosystems, changing pests' life cycles and creating new niches where pests and plant diseases can thrive.
- Climate change reduces plants' resistance and resilience to pests and diseases.
- Applying IPPC standards helps reduce the use of pesticides and poisonous substances which kill pollinators, natural pest enemies, and organisms crucial for a healthy environment.

International travel and trade can quickly spread plant pests and diseases around the world causing great damage to plants and the environment. At the same time, climate change is altering ecosystems and creating new niches where pests and plant diseases can thrive. The combined effect of human activities and climate change puts enormous pressure on the environment and consequently on plant health, agriculture and the food systems we depend on.

The International Plant Protection Convention (IPPC) – a multilateral treaty signed by over 180 countries - has thus become more relevant than ever. The convention helps protect terrestrial and aquatic plant resources from pest and disease outbreaks. It does this by setting International Standards for Phytosanitary Measures (ISPMs) and promoting the safe trade and transport of plants and plant products.

How the IPPC protects the environment

Safeguarding biodiversity and fragile ecological systems

Biodiversity is crucial for a healthy environment, and vice versa. The IPPC has many common objectives with the Convention on Biological Diversity (CBD) – the foremost global biodiversity treaty. In particular, the IPPC provides guidance on preserving biodiversity by protecting the environment from plant pests and invasive alien species – one of the main drivers of biodiversity loss. The IPPC directly addresses the CBD's Aichi Target nine of "identifying and prioritizing invasive alien species and pathways, controlling or eradicating priority species, and putting in place measures species to manage pathways to prevent their introduction and establishment". In 2017, the IPPC and CBD Secretariats established a Joint Work Programme.

Did you know?

Plant pests cause the loss of:

40% of all **food crops** globally

USD **220** billion of **trade** in agricultural products annually

Introduced pests cause:

USD **100** billion of **annual environmental losses**

in the United States of America, the United Kingdom of Great Britain and Northern Ireland, Australia, South Africa,India and Brazil

Invasive alien species

are one of the main drivers of **biodiversity loss**

Promoting more environmentally friendly procedures and treatments

The IPPC seeks to reduce the unnecessary use of pesticides which can kill pollinators, natural pest predators, and other organisms crucial for a healthy environment. To do this, the IPPC Secretariat has set standards for, and develops capacity in implementing, environmentally sensitive phytosanitary treatments and procedures. These result in healthier crops with less residues, leading to better human and animal health.

Protecting trees and human health

In recent years, invasive pest outbreaks have caused great destruction to forests and trees with serious repercussions on human health. In the USA, between 2002 and 2007, millions of trees were lost due to the emerald ash borer (*Agrilus planipennis*) — an invasive insect originally from Asia. This rapid tree loss was associated with 15,080 additional deaths from cardiovascular disease and 6,113 additional deaths from lower-respiratory disease in 15 US states.[1] Applying IPPC standards and recommendations helps save trees and forests from being destroyed by invasive pests.

An IPPC Recommendation helps protect the Ozone layer

The IPPC upholds the Montreal Protocol on Substances that Deplete the Ozone Layer. One such substance is methyl bromide which was commonly used to kill pests through fumigation.

The IPPC's Commission on Phytosanitary Measures (CPM) therefore adopted a Recommendation to replace or reduce the use of methyl bromide and endorsed alternative treatments such as heating, cooling, and irradiation; using alternative chemicals; and processing (i.e. grain being milled into flour).

[1] *Donovan, G. et al. (2013). The Relationship Between Trees and Human Health. American Journal of Preventive Medicine.*

Protecting plants from the impact of climate change

Climate change makes it possible for pests to spread and thrive in new areas. Indeed, warmer temperatures allow pests to survive the colder months of the year and increase the number of generations. Furthermore, environmental damage caused by climate change reduces plants' resistance, and resiliance, to pest invasions and diseases. IPPC standards, recommendations and capacity development help stop pests from spreading and thus can help reduce these impacts of climate change.

ISPM 15 on the Regulation of wood packaging material in international trade

In the Republic of Korea, more than 10 million trees were lost to infection from the pinewood nematode (*Bursaphelenchus xylophilus*) that was most probably introduced into the area through wood packaging material (WPM). An IPPC standard on the Regulation of WPM in international trade (ISPM 15) was thus developed to manage this risk.

Implementing the standard not only protects trees, it is also makes economic sense. A study, conducted by Papayrakis and Tasciotti, of exports and imports across 120 sectors in several African countries showed that implementing ISPM 15 increased the volume of trade. Conversely, sectors that did not implement ISPM 15 had less economic growth.

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CONTACT US

Food and Agriculture Organization of the United Nations
IPPC Secretariat
Viale delle Terme di Caracalla, 00153 Rome, Italy
Tel: +39 06 5705 4812
Email: ippc@fao.org | Web: www.ippc.int

FIND OUT MORE:

IPPC Year of Plant Health and Environmental Protection
https://www.ippc.int/en/themes/environment-protection/

Analyzing the benefits of implementing the IPPC
http://www.fao.org/3/a-i7267e.pdf

IPPC e-learning course
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