



# Introduction to the International Plant Protection Convention e-course

## Lesson 1 – Introduction

### Learning Objectives

At the end of this lesson, you will be able to:

1. Explain the threats of pest to the environment, livelihoods and food security
2. Recall the origins, vision, mission and benefits of the Convention
3. Illustrate with an example how the Convention can assist countries

### 1. The threat of pests to the environment, livelihoods and food security

Sudden introduction of exotic pests into places where they were not present before can cause a severe food crisis. That was the case of a potato disease called “a late blight of potato” caused by a fungus like organism: *Phytophthora infestans*. Its sudden appearance in Ireland in the middle of XIX century resulted in the death of millions of people and mass migration and it became known as the Irish Potato Famine.

Exotic species can have a devastating impact on agriculture, forests, and biodiversity. Therefore, the efforts to prevent the spread of pests and diseases are of vital importance to avoid negative consequences for humans and the environment.

Pests like *Bursaphelenchus xylophilus*, pine wood nematode, and *Anoplophora glabripennis*, the Asian long-horned beetle, are considered a serious threat to forests as well as to urban trees and shrubs. The threat of these pests spreading outside their native distribution area was the driving force for the development of the International Standard for Phytosanitary Measures No. 15 (Regulation of wood packaging material in international trade).

*Agrilus planipennis*, the emerald ash borer, is native to Asia. However, in 2002, the beetle was detected for the first time in North America. Probably it arrived on that continent at least a decade earlier on solid wood packing material carried in cargo ships or airplanes. Since its arrival, it has killed tens of millions of ash trees and continues its spread into new areas. So far it has cost municipalities, property owners, nursery

operators and forest products industries hundreds of millions of dollars causing considerable economic and ecological damage.

The larger grain borer (*Prostephanus truncatus*) is an example of one of these pests which has spread over long distances from Americas and has established itself in the African continent. This has negative impacts on food security and is a serious threat to stored maize and dried cassava which are major staple foodstuffs.

## **2. Origins, vision and mission of the IPPC**

IPPC - the International Plant Protection Convention - is an international plant health agreement that aims to protect cultivated and wild plants by preventing the introduction and spread of plant pests and diseases. The Convention was adopted in 1951 at the conference of FAO - the Food and Agriculture Organization of the United Nations. In 1992 the IPPC Secretariat was established beginning standard-setting programme. Over 180 countries signed the Convention.

The Convention encompasses the protection of cultivated plants, urban trees and shrubs, as well as the protection of natural flora. It takes into consideration vehicles, aircraft and vessels, containers, storage places, soil and other objects or material that can harbour or spread pests. As international travel and trade increases organisms that present risks to plants and plant products travel with people and commodities around the world.

The mission of the IPPC is to secure cooperation among nations in protecting global plant resources from the spread and introduction of pests of plants, in order to preserve food security, biodiversity and to facilitate safe trade in plants and plant products. The IPPC is the standard setting organization, the only one in the area of plant health. The standards are recognized as the basis for phytosanitary measures managing pest risks applied in international trade by the Members of the World Trade Organization under the Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement).

## **3. Benefits of implementing the IPPC**

The IPPC provides a framework for the development and application of harmonized phytosanitary measures and the coordination of global plant health activities. Through the promotion of international cooperation and providing a set of international standards to follow, it gives contracting parties a level playing field in which to safely trade in plants and plant products.

Why do we need a Convention and international standards?

IPPC aims to protect cultivated and wild plants by preventing the introduction and spread of pests. To do this the Convention sets out a way for contracting parties to undertake actions to prevent the spread and introduction of pests of plants and plant products, by using appropriate measures for their control.

With respect to protecting plant resources, the IPPC contributes to:

- protecting farmers and foresters from the introduction and spread of new pests;
- protecting food security;
- protecting the natural environment, plant species and diversity; and
- protecting producers and consumers from costs associated with combating and eradicating pests.

#### 4. The economic and social benefits of the Mexican avocado industry

##### Background

The Mexican Hass avocado (*Persea americana*) industry began exporting to the United States of America in 1993, when a longstanding prohibition on the exportation of avocados was lifted, allowing exports into the state of Alaska. To extend this market access a comprehensive pest risk analysis, in accordance with ISPM 2 (Framework for pest risk analysis), and corresponding risk mitigation analysis were undertaken. This examined the proposed approach offered by Mexico and augmented by the United States Department of Agriculture (USDA) for risk reduction of each mitigation measure in the system (Miller et al., 1995; Jang & Moffitt, 1996). In 1997, this groundbreaking and controversial ‘systems approach’ allowed the avocado trade to expand to 19 Northeastern states during winter months. Restrictions on the period of import – based on seasonal contrasts between origin and destination, combined with other risk mitigation measures within a systems approach – were agreed upon as the means to prevent establishment of regulated pests in the import country (USDA APHIS, 1995 a and b).

To expand market access to the United States, several pest risk analyses were conducted by the Animal and Plant Health Inspection Service (APHIS) of the USDA, to gradually permit imports to more states with less restrictive measures. The appropriate selection of the measures to manage regulated pests of concern within the systems approach has proven effective, with no target pests intercepted since the start of the export programme. This result is due to the hard work of United States and Mexican government officials, Mexican growers, packers and shippers, and other participants. Through several iterations of import rules, exports are now allowed to all parts of the United States, including the island state of Hawaii and the island territory of Puerto Rico, from all Mexican states, under a year-round systems approach (Federal Register, 2016). However, a final operational work plan (OWP) is yet to be agreed upon for all Mexican export states.

Under the current OWP, the revised systems approach includes requirements for orchard certification, traceback labeling, pre-harvest orchard surveys, orchard sanitation, post-harvest safeguards, fruit cutting and inspection at the packinghouse, port-of-arrival inspection and clearance activities (including additional fruit cutting). These activities are required for importation of fresh avocado from all approved areas of Mexico to manage risk of regulated pests of concern (APHIS, 2015). Negotiations continue between the Mexican Government and APHIS regarding the pathway pest list and associated measures, based on outcomes of the most recent PRA and the best scientific evidence available.

##### Associated IPPC activities

The Mexican avocado export pathway to the USA clearly demonstrates the importance of implementing the Convention and its standards. Use of the IPPC principles, as outlined in ISPM 1 (Phytosanitary principles for the protection of plants and the application of phytosanitary measures in international trade) have facilitated the negotiation of market access. The principles of necessity, managed risk, minimal impact, transparency, technical justification, cooperation and particularly modification, provide the basis for both countries to work towards favorable safe trade outcomes.

Other best practices of the Mexican avocado industry in implementing international standards include pest risk analyses in accordance with ISPM 2 and ISPM 11, pest surveillance in accordance with ISPM 6,

application of a systems approach to manage regulated pest risk in accordance with ISPM 14 (The use of integrated measures in a systems approach for pest risk management), export certification in accordance with ISPM 12 (Phytosanitary certificates), and import verification processes in accordance with ISPM 20 (Guidelines for a phytosanitary import regulatory system) and ISPM 23 (Guidelines for inspection). The effectiveness of the Mexican phytosanitary system is demonstrated by the country's highly compliant trade history of export of avocados to the United States.

#### A coordinated approach

The Mexican avocado industry is coordinated by the Asociación de Productores y Empacadores Exportadores de Aguacate de México (APEAM A.C.), the Mexican Hass Avocado Importers Association (MHAIA), and their public interface, the Avocados From Mexico (AFM) brand. With the story of their success as fascinating as it is incredible (AFM, 2016), APEAM is dedicated to ensuring avocados produced by Mexico are of superior quality and are exported with minimal phytosanitary risk through meticulously following the export programme. In addition to phytosanitary and quality responsibilities, APEAM invests in a reforestation programme in Mexico designed to promote a healthy environment. As of 2015, Mexican imports now represent 82 percent of United States avocado consumption, compared with 11 percent in 1990 (USDA, 2015). This significant increase in avocado trade is known as the great Mexican avocado boom.

The strong relationship APEAM shares with the Mexican national plant protection organization (NPPO) – the Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación (SAGARPA), provides an established contact point for engagement between the two organizations. This provides the Mexican avocado industry (growers, packers, exporters) a collective voice for communication of phytosanitary and other compliance conditions to ensure their product meets all necessary requirements for trading. Similarly, this coordination helps minimize challenges that can occur through the supply chain (Coronado et al., 2015). This representation also provides the industry a collective basis to negotiate with the United States when it is necessary to make changes to the pathway phytosanitary measures. This approach provides negotiation at a state and national level to ensure their interests are represented.

#### Related benefits

The benefits of the highly compliant trade in avocados exports from Mexico to the United States are far reaching, going beyond the traditionally expected economic benefits of trade. The benefits include plant protection, international cooperation, economic development, environmental protection and social aspects to both countries.

Environmental awareness and efforts to promote long term sustainability are key considerations of the Mexican avocado industry, as seen in a reforestation initiative overseen by APEAM (AFM, 2016). With increasing avocado production in the Mexican state of Michoacán, 500 000 pine trees were planted in the past several years, with 280 000 more planned in 2017 and 320 000 in 2018. This example of responsible production and natural rehabilitation provides benefits to the environment and to thousands of small farm owners and workers (TPN, 2016).

The social benefits of the Mexican avocado export pathway to the United States has expanded food opportunity and choice (seasonable availability), which has increased consumer demand in the import

country for a commodity that is seen as a good nutritional choice (Huang, 2013). Traditionally, avocados were available only for a limited season, sourced from domestic production. However, since the opening of the Mexican market, United States consumers are used to — and demand — year-round availability of avocados. This, in turn, has resulted in increased avocado production in the United States (as well as Mexico), instead of being a threat to domestic producers (FABA, 2016). The popular avocado based dip guacamole even featured in a Super Bowl advertisement in 2015, emphasizing how engrained the avocado now is in the American psyche, being an always-available ingredient on menus (Polis, 2012).

The economic growth that has resulted from the trade in Mexican avocados to the United States has benefited both countries by stimulating growth along the value chain (FABA, 2016). The rate of import volume has increased dramatically since the export programme commenced, which in turn has generated economic growth and job creation in the United States through various market activities, such as transport services, marketing, wholesale trade, retail trade, infrastructure and manufacturing. Industry analysis using 2013 and 2015 data yields overwhelming evidence that avocado imports have an economically positive effect on the economy of the United States and its component states (FABA, 2014 and 2016). In 2015 the exports of avocados valued at US\$1.5 billion added a cumulative value of US\$3.5 billion in economic output to the United States economy, US\$2.2 billion in GDP, US\$1.2 billion in labor income, US\$594 million in taxes, and 18 695 jobs – thus increasing economic growth and improving the standard of living in both countries (FABA, 2016).

The history of trade negotiations, risk management decisions and modifications is a clear example of how international cooperation benefits two trading partners. Through cooperation and implementation of the Convention and its standards, Mexico and the United States share the benefits of safe trade in avocados and have the peace of mind that there is minimal risk associated with the pathway.

#### Lessons learned

- Implementing the Convention and its standards provides a basis for the coordinated and effective application of phytosanitary measures.
- The coordinated industry approach through representation by APEAM gives a collective voice when negotiating phytosanitary requirements and policy between the two governments.
- Trade can produce many kinds of benefits – not just economic, but also social and environmental effects.
- Imports lead to economic growth and improved standards of living in both exporting and importing countries.