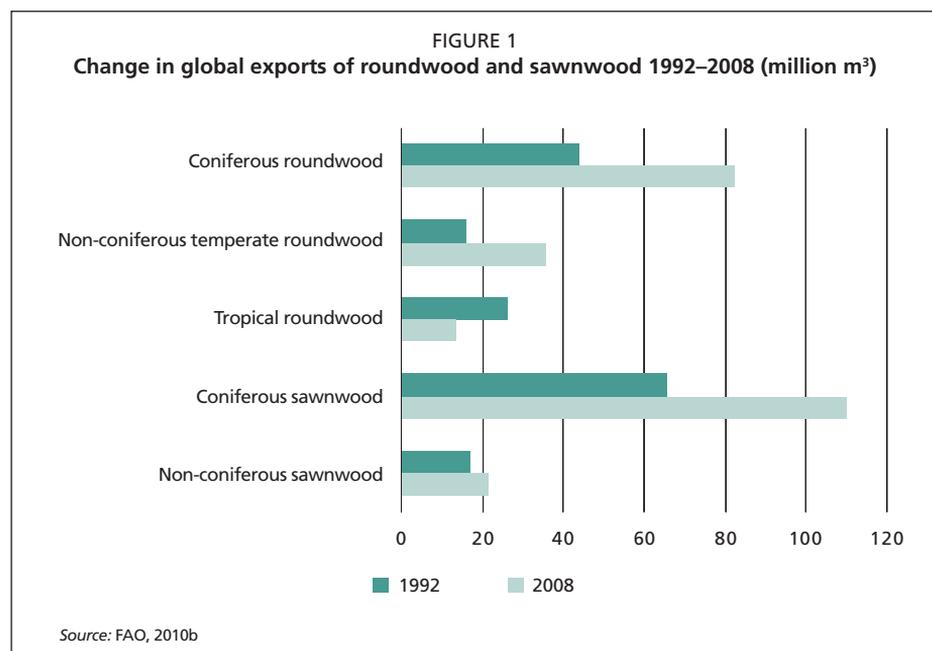


2. Trade in forest commodities

The volume of wood products in international trade increased 125 percent between 1992 and 2008 (FAO, 2010b). Some examples of the changes in volume of exports of particular commodities are given in Figure 1. Many countries want to promote international trade in forest commodities, but also recognize the importance of protecting plants, including forests, from pests.⁴ National plant protection organizations (NPPOs)⁵ should implement International Standards for Phytosanitary Measures (ISPMs)⁶ as part of their national phytosanitary regulations for imported forest commodities. NPPOs also certify, where required, that export consignments meet the phytosanitary import requirements of other countries.

Import requirements for the same commodity may differ from country to country. Usually these differences are the result of variations in countries' assessment of the pest risks associated with the commodity. These variations can be due to differences in forest susceptibility to pests or in the levels of pest risk which the countries accept



⁴ Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products (ISPM No. 05, 2010, *Glossary of phytosanitary terms*).

⁵ The full list of NPPOs and their official contact persons can be found on the IPPC Web site: www.ippc.int

⁶ The titles of all existing ISPMs, and a short summary, are given in Annex 3.

(see Box 1). New ISPMs are currently being developed (see Chapter 5) to assist with the import and export of forest commodities, and to reduce pest spread.

This chapter explains some aspects of how ISPMs and NPPO regulations affect the import and export of forest commodities under world trade agreements. Since import and export are closely linked, it is recommended that Sections 2.2 and 2.3 be read together.

BOX 1

Logs: an example of the relationship between pest risk and phytosanitary import requirements

While wood may contain many kinds of organisms, not all logs pose the same level of risk of movement, establishment and spread of forest pests. Countries may vary in their assessment of the risk associated with the import of logs depending on the area of origin, the tree species and size, the presence or absence of bark, or whether the pest(s) of concern are present and widely distributed in the country in question. Some countries do not have any phytosanitary import requirements for logs; some require phytosanitary certification based only upon visual inspection for pests. Other countries may require or accept a particular treatment and in some cases certification that treatment has been undertaken prior to export. These phytosanitary import requirements are established based upon the assessed risk of pests moving on or in the logs.

For example, logs moving from tropical countries to Canada, a temperate country, might contain pests, but these will be geographically constrained, i.e. restricted to tropical climates and trees. Because Canada has no tropical forests, it also has few phytosanitary import requirements for tropical species. However, if these same logs contained pests that could establish and cause damage to important plants in the importing country, the NPPO may prescribe specific phytosanitary measures prior to export to manage this risk.



A. UZUNOVIC

*Logs – high risk commodity?
Perceptions differ*

2.1 FOREST COMMODITIES

Forest commodities are wood and non-wood products produced from plants and trees grown in forests or other wooded lands. Because of the wide range in the quality of wood and in the processes used to create forest commodities, the risk of pest infestation and the measures that can be used to manage that risk vary with different commodity types. Some examples of commodities ranked from higher to lower risk are given in Box 2. Further details on opportunities to reduce pest risk in forest commodities are given in Chapter 3.

BOX 2

Forest commodities, their pest risks and risk management options

Plants for planting, excluding seeds

Plants for planting (nursery stock including bonsai and rooted Christmas trees) are increasingly recognized as carriers of pests, which could be associated with stem (wood and/or bark), branches, foliage, fruits/cones, roots and sometimes soil or growing media. Bonsai plants, potted Christmas trees and large trees for planting present higher risks as they have most of these plant parts. A variety of pests may move with plants for planting, including: aphids, scale insects, adelgids, bark beetles, weevils and moths; nematodes; foliar, seed, cone, root-rot and canker fungi; pathogenic oomycetes; and bacteria, viruses, viroids and phytoplasmas.

Importing countries generally conduct a pest risk analysis (see Section 4.2) to identify pests of concern and ways to reduce the risks.

Pest management measures that may be applied include surveillance, pest-specific surveys, identification of pest-free areas, treatments, pre-shipment inspections, and post-entry quarantine or prohibition, among others. Additional opportunities to inspect for pests could occur during handling plants for planting (including pruning, harvesting and packaging) by appropriately trained personnel.

Cut branches

Cut branches, including Christmas trees without roots, may carry many of the same pests as plants for planting but the risk of pest transmission to living host trees is less because they are most often used indoors. This limits their pest risk to natural environments. However, when they are discarded they may contain insects that are strong fliers or rust spores which may be easily spread by air currents and rain splash.

Christmas trees are a widely used commodity and are often grown as a monoculture which increases the potential for pest outbreaks and spread. These trees are often moved during a limited portion of the year and if properly discarded may not present a risk for pest movement.

Pest management measures that may be applied include pest surveys, harvesting from pest-free areas, treatments, pre-shipment inspections, safeguarded disposal after use, or prohibition, among others.

continues

Roundwood/logs (related names: poles, posts, timber, pilings)

Roundwood with bark is considered higher risk than roundwood that is debarked or bark-free. Both commodities can carry pests, however debarked wood is less likely to have pests that colonize bark or the portion of wood immediately below the bark.

To manage insect pests living in or just under the bark of logs, bark removal, heat treatment or fumigation is generally used. For deep wood-boring insects, heat treatment or fumigation is the primary pest management measure. Irradiation could also be used where applicable. For fungal pathogens, fumigation, heat treatment and end-use processing can reduce pest risk. Visual inspection during post-harvest grading helps to selectively remove infected logs, although in some cases it is not sufficient to identify early stages of decay.

Fumigants only penetrate a portion of the outer surface of the logs, and are considered less effective on logs with bark, particularly with wet bark.

Sawnwood (related names: boards, lumber, timber, squared wood)

Sawnwood has less risk than roundwood because sawing removes most of the bark as well as some of the outer wood thus eliminating most wood pests living in or just under the bark.

The risk management measures suggested for roundwood are equally effective for sawnwood. The risk of infestation by blue-stain fungi and some wilt organisms may be managed by reducing the moisture content of the wood, e.g. kiln-drying.

Wood chips

The risk from wood chips depends on their size and especially on how the chips will be stored and used. Wood chips used as landscape materials could spread small insects, nematodes or fungi. Where wood chips are used for pulp production or energy generation, the processing will kill the pests. But poor conditions during transport, storage and handling prior to use may still present a risk.

The smaller the wood chips, the lower the risk of most insect pests, however chipping may not lower the risk of pathogens surviving. Pest risk can be managed by heat treatment, moisture reduction of the chips, fumigation, and safeguarding during transport and storage.

Fuelwood

Fuelwood is often produced from low quality wood or from trees infested with various pests (i.e. bark beetles, deep wood-boring insects or fungi). Consequently, the transportation of fuelwood both domestically and internationally often spreads pests. In-country transport of fuelwood, which is often unregulated, is an efficient pathway for the spread of introduced species once they have become established in localized areas.

Heat treatment or fumigation as well as proper safeguarding during transport and storage could reduce pest risk.

Bark

Bark can carry a number of pests (e.g. insects, fungi, nematodes). Bark may be used for fuel, as landscape mulch, as a growing medium, or to produce processed wood products. Pest risk depends much on the intended use. Infested bark used as mulch or growing media presents the highest risk. Some of the measures to manage pest risk include: heat treatment, irradiation, moisture reduction, fumigation, composting, safeguarding during transport and storage, and prohibition.

Wood packaging materials

Wood packaging is sometimes made from low quality boards that may contain pests, either in the wood or associated with bark remnants. These have been internationally recognized as high risk. Therefore the packaging materials must be made from debarked wood (with specified tolerance), heat treated or fumigated, and marked with a specific internationally accepted mark (see Section 4.3).

Wood-based panels

Wood-based panels, such as veneer sheets, plywood, particleboard (including oriented strand board) and fibreboard (including medium density fibreboard), are assembled with the use of heat, pressure and glue and are generally free of primary wood pests. Check with your NPPO to see if newer processes that use cold temperatures, environmentally friendly glues and pressure are acceptable as a phytosanitary treatment.

Termites or dry wood borers can infest almost any wood products after manufacture, even if heated. Inspection can be used to detect infestations.

Manufactured wood products

Manufactured wood products, such as handicrafts and furniture, are diverse and their risk is dependent on the origin of the wood, the species of wood, the degree of processing and the intended use. If the processing methods used are not likely to kill pests, further treatment, such as heat treatment, fumigation or irradiation, may be needed.

Forest seeds

Seeds can carry pests either on the surface or internally. The degree of pest risk depends on the seed pest type, origin of the seed, pest detection reliability, and storage conditions in the place of the end use.

Some of the measures to manage pest risk include: monitoring at the place of origin, recognition of pest-free areas, and seed testing for pest detection. If infestation of seeds is detected, appropriate measures, such as destruction, heat, chemicals or irradiation, may be needed or the export should not be carried out.

Tissue culture plants

Tissue culture is generally considered the safest way to move plant propagative material. However, even these tiny plants are not completely sterile, as some have been shown to carry latent or dormant fungi, bacteria, viruses, viroids and phytoplasmas.



FAO/FO-6387/M, KASHIO

High risk commodities such as nursery stock often need to be accompanied by a phytosanitary certificate

ISPMs and national regulations apply to any item that may be infested or contaminated by pests. These regulations also apply to any organism that can serve as a vector, or could be a potential pest itself. Regulated articles may also include any equipment used to process or transport goods. Examples of such articles include logging trucks, wood handling equipment, shipping containers, barges, ships, railway cars, wood packaging materials and other storage units that are necessary to move forest commodities.

2.2 IMPORT OF FOREST COMMODITIES

Contracting parties – countries that are members of the IPPC – have the sovereign right to make regulations to protect their resources, including forests, from the introduction and establishment of pests. For pests of concern, each country's NPPO may establish regulations that specify their phytosanitary import requirements for commodities through the use of an evaluation process called a pest risk analysis (PRA, see Section 4.2). Forest sector personnel can play an important role in assisting the NPPO to determine pest status and keep regulations up-to-date and effective by sharing pest information, supporting survey activities for pests, and providing information about new pests.

NPPOs of importing countries establish phytosanitary import requirements based on an evaluation process that carefully considers all aspects of a pest's risk, including:

- its biology and association with the commodity;
- its potential to be moved in association with the trade of commodities;
- its potential to enter, establish and spread in the importing country;

- its potential to cause economic and/or environmental harm if it becomes established and the resulting consequences.

This process, commonly referred to as a PRA (see Section 4.2), requires an evaluation of the existing scientific evidence and technical information and may take several years to complete. Simple PRAs which take less time and resources may still provide a good understanding of the risks and enable trade with the application of appropriate pest management measures.

Once the PRA is complete, the importing country may establish regulations and appropriate phytosanitary import requirements to manage the risk or prohibit the import of a consignment from a specified origin. Import requirements are decided by the importing country's NPPO, but can often be negotiated bilaterally between the NPPOs of importing and exporting countries. Import requirements may include activities to be carried out in the exporting country, in transit, or upon entry to the importing country (Box 3).

BOX 3

Examples of phytosanitary measures that may be applied to forest commodities

Prior to export

- Assurance that the commodity originates from an area or a place of production that is free of specified pests
- Commodity production based on specific requirements (e.g. debarking)
- Inspection during growing season and prior to shipment
- Appropriate treatment or post-harvest handling
- Prohibition of imports

During transport

- Phytosanitary treatments (e.g. in-transit fumigations, chemical sprays)
- Safeguarding (covering or enclosing the commodity in containment)
- Transport within a specified period (e.g. Christmas trees may only be shipped during pest dormancy)
- Restrictions on transport through or storage in pest-free areas

After arrival in the importing country

- Inspection
- Processing in a particular way
- Entry and use within a specified period or season
- Post-entry treatment
- Post-entry quarantine

This is not an exhaustive list and many of these examples may be used singly or applied in combination to manage a single pest or group of pests.

Industry must comply with import and export requirements, so importers wishing to import forest commodities should initially contact the nearest office of their NPPO.

Imported consignments of forest commodities, especially those considered high risk (e.g. nursery stock, seeds, untreated roundwood with bark or Christmas trees), are often required to be accompanied by a phytosanitary certificate which is issued by the NPPO of the exporting country (see Section 4.10). A phytosanitary certificate is a document certifying the health of the plants, plant products or commodities, or confirming treatment. It is a written statement that the consignment is compliant with, or meets, the importing country's requirements. It certifies that any measures that are required to be taken prior to export have been satisfactorily completed or that appropriate provision has been made for any measures to be applied during transport.

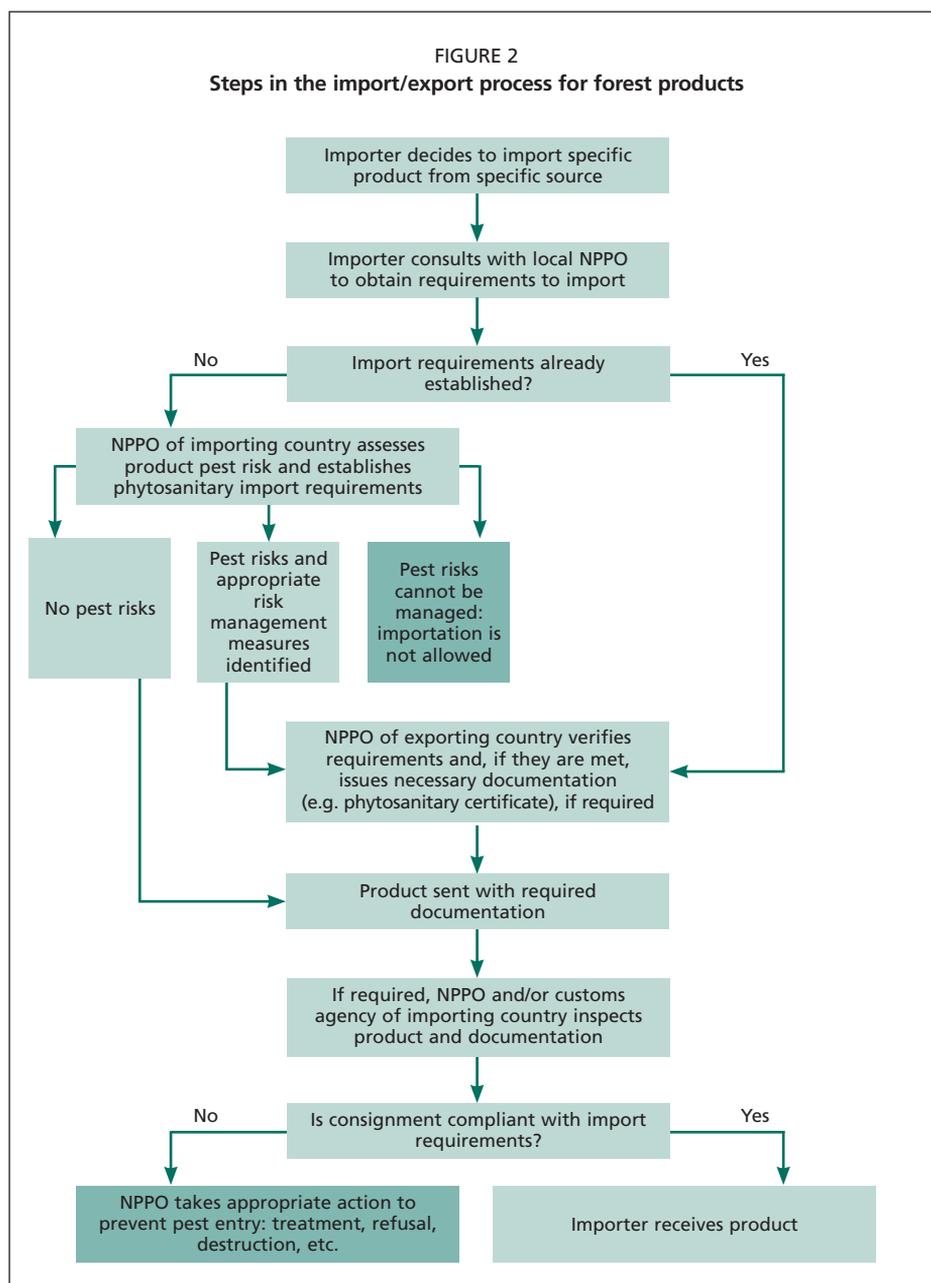
Commodities that fail to meet the phytosanitary import requirements may be treated at the point of entry, rejected from entry to the importing country, destroyed, redirected to another country that will accept them, or returned to the exporting country. When consignments are rejected because they fail to meet the import requirements, NPPOs should notify the exporting country so that corrective actions may be taken to avoid repeat rejections (see Section 4.11). Rejected consignments may result in significant costs to both the importer and the exporter.

Most countries make special arrangements to permit the entry of normally prohibited articles for academic or industrial testing, some limited industrial applications, or for small quantities of imports. These arrangements are usually developed on a case by case basis and are determined by the NPPO of the importing country. Usually the NPPO of the importing country provides a special written permit (import permit) or letter to authorize this type of limited import. Figure 2 shows the steps that may be followed to import or export forest commodities.

2.3 EXPORT OF FOREST COMMODITIES

To export forest commodities, the exporter should first contact its NPPO. NPPOs have cooperative relationships with the NPPOs of countries with which they trade. Ideally, the exporting country's NPPO should have information about the phytosanitary import requirements of different countries and the steps that need to be followed in order to export goods. The exporter may also obtain details about requirements directly from the importing country's NPPO, or through the importer, who can obtain the requirements from its NPPO. Exporters should be aware that different countries may have different requirements for a commodity, even if those different countries appear to be geographically related. It is in the best interest of exporters to ensure that commodities comply with requirements prior to export.

If the importing country has not developed specific phytosanitary import requirements for a particular commodity there may be a need to initiate a PRA, as



shown in Figure 2. For that PRA, the NPPO of the importing country may request information and technical data on potential pests associated with the commodity from the NPPO of the exporting country and may even request a description of potential measures that could be applied to manage the risk of pest movement.

Often the NPPO of the exporting country has more information about the forest pest issues associated with the commodity, and can cooperate with the importing

country's NPPO. This cooperative process between NPPOs may aid in the possible development of bilateral arrangements that can establish specific import requirements for a commodity from a specific region. These arrangements may also provide a mechanism for deciding whether to permit normally prohibited or regulated items to enter for scientific or industrial testing, with an alternative phytosanitary measure.

For many imported forest commodities, a phytosanitary certificate is required, which must be issued by the NPPO of the exporting country. The NPPO of the exporting country makes arrangements with the exporter to verify that the import requirements (i.e. treatments, production practices) have been met and to conduct any required inspections. Some activities required in support of phytosanitary certificates, such as periodic inspections during the production cycle and integrated pest management activities, may be more effectively carried out by foresters, under the NPPO authority, during the handling and processing of harvested wood (see Chapter 3).

The NPPO of the exporting country may conduct inspections or it may delegate them to an authorized organization or individual under the NPPO's control and responsibility. In some cases, where commodities move from one country to a second country and then to a third country, a re-export phytosanitary certificate may be issued by the NPPO in the second country to meet the requirements of the final destination country (see Section 4.10).

Under bilateral agreements, other certificates, such as treatment certificates or manufacturer's declarations, are sometimes used as an alternative, or in addition to, the phytosanitary certificate. These certificates often contain only a portion of the information required on a phytosanitary certificate, such as when, where and how a specific treatment was applied.

NPPOs of some countries require an import permit which specifies their phytosanitary import requirements and authorizes the importation of the commodity. Usually, the importer is responsible for obtaining an import permit and providing the details to the NPPO of the exporting country through the exporter.

Certain processed forest commodities (e.g. plywood, fibreboard) are recognized to pose less pest risk, and so may be exempted from certain requirements. The NPPO may require certification of the kind of processing completed for the product that qualifies for these exemptions. Some general guidance to NPPOs is available on the types of forestry commodities that may not require a phytosanitary certificate as a result of processing and the intended use.⁷

In addition to the phytosanitary regulations of an importing country, there may be other requirements including those arising from the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Biological Diversity (CBD) and other international agreements. In some cases, these separate requirements may be administered by an authority other than the

⁷ Annex 1 of ISPM No. 32 (2009), *Categorization of commodities according to their pest risk*, provides guidance on the risks associated with certain processed commodities according to their pest risk.



FAO/CP/000566/R, FAIDUTTI

Trucks loaded with logs and semi-processed wood are transported by ferry in Brazil

NPPO. Some exporting countries may also require permits for the export of viable materials, such as those with potential to provide useful medicinal drugs.

In addition to forest products themselves, equipment used to harvest or transport forest commodities may pose a risk for the movement of forest pests. Increasingly NPPOs are establishing import requirements for the entry of such equipment. Containers and other storage units could also be contaminated with pests, soil or forest commodity waste (i.e. branches, leaves, plant debris). These should be cleaned after use and the contaminant materials disposed of in a manner that effectively manages risks such as burning, deep burial, or reprocessing into other commodities. Note that in some countries, local environmental or waste management regulations may influence decisions on how material may be treated or disposed of. The relevant authority should be consulted before proceeding.

