

Keeping forest pests from moving around the world

M. Keiran and E. Allen

International guidelines for the movement of wood packaging material have been devised to prevent pest introductions.

With increased movement of goods in international trade during the past few decades, forest pests and pathogens now cross oceans as easily and as quickly as ships, planes and people do. Regulations exist to prevent the spread of forest pests through movement of timber and wood products in international trade. But even goods that are not normally subjected to phytosanitary inspection – from cars to clothing to computers – can be packaged using wood, and pests often stow away in wood packaging material.

Asian longhorned beetle (*Anoplophora glabripennis*), emerald ash borer (*Agrilus planipennis*) and brown spruce longhorn beetle (*Tetropium fuscum*) – tree-killing insects invading woodlands and urban landscapes in North America – are believed to have arrived among packing materials shipped from Asia. Sirex woodwasp (*Sirex noctilio*) is likely to have entered Argentina, Australia, New Zealand and South Africa in wooden packaging from Europe or North Africa. The red turpentine beetle (*Dendroctonus valens*) may have found its way to China's pine forests via packaging made from infested North American wood.

Throughout the 1980s and 1990s, the global phytosanitary community became increasingly aware of risks associated with wood packaging material as a pathway for alien invasive species. Research confirmed the threat. A 1997 audit of 50 wooden spools of wire rope shipped from Asia to Canada, for instance, revealed that 24 percent of the spools contained live wood-boring insects of seven different species, while 31 percent

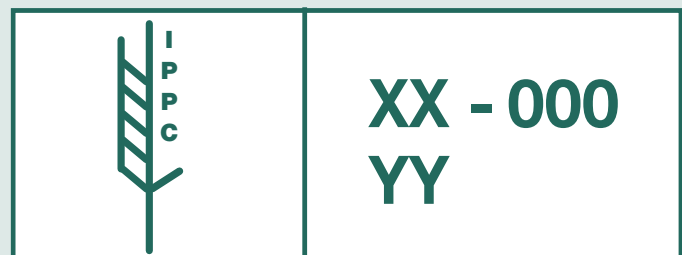
of the spools showed signs of woodborer activity.

In an effort to control the spread of invasive pests, in 2002 the FAO-based Interim Commission on Phytosanitary Measures adopted a global standard for treating wood packaging material: International Standard for Phytosanitary Measures No. 15 (ISPM 15), "Guidelines for regulating wood packaging material in international trade".

Two treatments are recognized under the standard: heat treatment, in which wood must be heated to a core temperature of 56°C for 30 minutes, and fumigation with methyl bromide. The heat treatment was chosen in consideration of its commercial feasibility and the wide range of pests for which it is documented to be lethal, although some organisms may have a higher thermal tolerance. Methyl bromide is recognized to have negative atmospheric effects and is being phased out by 2005 by the Montreal Protocol on Substances that Decrease the Ozone Layer. The Montreal Protocol exempts quarantine and preshipment uses from the methyl bromide phase-out. However, the fumigation of wood

ISPM 15 establishes the use of a mark to certify that treatment of wood-based packaging has taken place; it contains an IPPC symbol, a two-letter country code, the abbreviation for the type of treatment used (HT or MB) and a unique number assigned by the country's national plant protection organization to the producer of the wood packaging material

Monique Keiran is Publications Officer and **Eric Allen** is Research Scientist in the Canadian Forest Service, Natural Resources Canada, Victoria, British Columbia, Canada. Allen is the Chair of the International Forestry Quarantine Research Group. s



packaging using methyl bromide has raised environmental concerns.

ISPM 15 defines wood packaging material as “wood or wood products (excluding paper products) used in supporting, protecting or carrying a commodity ... including pallets, dunnage, crating, packing blocks, drums, cases, load boards, pallet collars, and skids”. The standard does not apply to packaging made of wood material processed using glue, heat and/or pressure (e.g. plywood, particle board, oriented strand board or veneer) or to sawdust, wood wool or shavings, as these products are considered unlikely to be infested.

Although there is general agreement that such a standard is needed from a plant health perspective, there will clearly be costs associated with its adoption. However, the IPPC judges that these will be outweighed by reductions in both inspection costs and expensive pest problems.

Challenges to harmonized implementation at the global level remain. Australia, Canada, Mexico, New Zealand and the United States started to apply the standard in 2004, but implementation in many other countries is delayed by inadequate facilities, lack of import or export certification systems and, in some developing countries, lack of resources both to educate manufacturers and exporters and to implement treatment procedures and enforcement mechanisms.

It is critical that the implementation of the standard have a minimal disruptive effect on trade and a minimal impact on individual countries. There will certainly be short-term problems – including potential shortages of treated pallets – and challenges in developing new, safe and economical treatment methods. However, it is expected that the technologies necessary to treat packaging materials will be available in most countries and that the requirement for treatment may even stimulate economic development in some less developed countries.

Despite the challenges, Jamaica is ready

to implement ISPM 15 and could become a model for developing nations that want to safeguard their forests and export agreements. Jamaica's economy depends on export of such goods as agricultural produce, garments, beer, coffee and rum, which are shipped using wooden packaging. The country's government facilitated ISPM 15 implementation by setting up heat treatment facilities with private pallet manufacturers and adding additional protocols to facilitate methyl bromide fumigation. “We also initiated comprehensive and continuing consultation with stakeholders early in the process, to make them aware of issues and requirements”, says Carol Thomas of Jamaica's Ministry of Agriculture. Thomas estimates that approximately 70 percent of the country's export stakeholders – exporters, manufacturers, distilleries, freight forwarders and customs brokers – are aware of the standards and treatment protocols and are preparing to implement them.

An international coalition of more than 40 scientists and plant-protection officials was recently formed to help ensure that development and implementation of standards like ISPM 15 are based on science. The International Forestry Quarantine Research Group (IFQRG), which met for the first time in Rome in February 2004, aims to coordinate global forestry quarantine research. The group provides scientific advice to the International Plant Protection Convention (IPPC) and is affiliated with working group 7.03.12 of the International Union of Forest Research Organizations (IUFRO), Alien Invasive Species in International Trade, which brings together the broader forest science community to deal with forest quarantine issues. IFQRG is working to refine approved treatments and to develop guidelines for submission and evaluation of new treatments under ISPM 15. New treatments are important to provide more options for the wood packaging industry and to address concerns regarding the heat treatment and

the use of methyl bromide.

In the meantime, workshops are being set up to help all countries prepare for implementation of ISPM 15. The first, organized by the North American Plant Protection Organization, will be held in September 2004 in Mexico and will focus on concerns of North and Central American countries (for details, contact Manuel Mejia, mejiam@inspection.gc.ca). A second regional workshop is planned for South America later in 2004. In February 2005, Canada will host a global workshop in partnership with the IPPC (see www.ippc.int). In addition, a list-serve forum facilitates global discussion and helps identify and address questions regarding ISPM 15 implementation (www.forestry-quarantine.org).



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