

BUG BUSTER

Will Pest Issue Turn the Pallet Lumber Market Upside Down?

By Chaille Brindley

What goes on across the world may be of little interest to you. But tiny bugs causing chaos half-way around the world may take a big bite out of the U.S. hardwood lumber market and in the process require profound changes in the pallet industry. Recent outbreaks of pests have been traced back to transport packaging, which has led governments around the world to start cracking down on solid wood packaging including pallets, dunnage and crates.

The International Plant Protection Organization (IPPO) has brought the world one step closer to a global standard for solid wood packaging. The IPPO, a division with the United Nations, recently settled on a draft standard that would require all solid wood packaging - both hardwood and softwood -- to be heat treated at the core to 56 degrees Celsius for 30 minutes and be marked indicating the proper treatment.

The decision has been hailed as a partial victory for the hardwood lumber industry because the initial draft standard called for lumber used in wood packaging, such as pallets and crates, to be kiln dried to less than 20% moisture content. By removing the 20% moisture content requirement, the treatment time would drop from weeks to days for cants and days to hours for pallets. Still, the creation of a heat treatment requirement for lumber used in international packaging may cause market shifts and changes in cutting practices in the hardwood lumber market and, at a minimum, minor changes in the pallet industry.

According to the National Hardwood Lumber Association (NHLA), approximately 4.5 billion board feet of hardwood lumber is used annually for containers and pallets, which is almost 40% of all hardwood produced in the U.S. About 72% of all pallets are manufactured using hardwood lumber, most of which is low-grade material. The heat treatment requirement would create an opportunity for softwood lumber to grab more of the pallet market because a significant amount of softwood pallet lumber is already kiln dried and therefore meets the draft standard. No one really seems to know how much hardwood lumber is used for export packaging, which has made it difficult to estimate the potential market impact of the proposed regulations.

The draft IPPO standard must still go through a number of steps, including review by each country, before being adopted. The goal for the approval date is April 2002, according to Mike Hicks, the U.S. Department of Agriculture's trade policy coordinator for the solid wood packaging issue. Implementation would take place after formal adoption of the global standard.

Europe's Emergency Measures -- Get Ready

In addition to the IPPO standard, the European Union (EU) is imposing emergency measures on coniferous-based solid wood packaging in order to stop the spread of the pinewood nematode. The emergency measures in Europe do not cover hardwood lumber. Outbreaks have become a problem in Portugal, France, Finland and Sweden, forcing other countries in the Common Market to react. The EU has expressed intentions to require heat treatment (56/30 standard) for all coniferous-based solid wood packaging starting Oct. 1, 2001. He went on to indicate that although the implementation date is Oct. 1, implementation is expected to be gradual over a 9-12 month period. Strict enforcement is not expected until October 2002. But this does not mean that the U.S. industry can ignore the situation. The EU measures indicate that pressure treating and fumigation may also be allowed in certain circumstances.

Shipments that do not comply may be refused at the border. More than likely, loads would be transferred to an approved shipping platform, and the non-compliant packaging would be destroyed, all at the shipper's expense.

According to John Mead, a European pallet industry consultant, requirements limiting the presence of bark, the size of bore holes and the moisture content of solid wood packaging have been in place across the globe for many years. Many of these restrictions have not been enforced. But the pinewood nematode outbreaks have raised concern, mobilizing the entire region to act. Restrictions may vary from country to country. For example, Germany has laws restricting the entry of chemically treated pallets for some years.

Pallets must be marked to indicate proper treatment; the NWPCA is working with other organizations to develop a marking system that can be used. The tight deadline has everyone involved scrambling to implement a system. The mark will identify the country origin, the mill, and the treatment method. Also, it will include some commonly recognized symbol indicating that the packaging is pest free. "We are probably a year late to be looking at this," John said at a recent NWPCA meeting. Both new and repaired pallets are covered by the emergency measures. Any repairs to pallets must be done with lumber treated according to the standard. Pallets originating in Canada, China, Japan and the U.S., -- countries where the pinewood nematode has been a problem - are covered under the emergency measures.

The spread of pests poses a great threat to plant health worldwide according to experts. For example, the Dutch elm disease spread to the United Kingdom in 1972, and it wiped out the entire elm tree population in a 12 year period.

Impact on the Pallet Industry

What does all of this mean for the typical wood pallet company? Look for the development of two different classifications of pallets -- one for domestic use and one for international shipments. The international pallet will be made of heat treated lumber and properly marked according to specifications outlined by the new rule. Expect these pallets to fetch a premium on the market.

"Interaction with customers will change because pallet suppliers will need to know what customers plan to do with pallets," said Monte Lowe, chairman of the National Wooden Pallet &

Container Association (NWPCA). Typically, most pallet suppliers do not keep tabs on customer use. But the new standard would require occasional audits for sawmills and paperwork for pallets. The standard will be overseen by the American Lumber Standards Committee.

Lumber Market Impact

The lumber market may experience a paradigm shift because much of the softwood lumber is already being treated according to the standard while most hardwood lumber is not. The initial draft standard requiring low moisture content would have given softwood lumber even more of an advantage because it is easier to dry. "The difference in heat treatment between hardwood and softwood lumber is small if you are only talking about heat treatment and not drying," said Dr. Fred Lamb of Virginia Tech's Department of Wood Science and Forest Products. Therefore, the market transition from hardwood to softwood may not be as great as initially predicted if hardwood producers can respond with treated product. Some alternative materials, such as corrugated, plastic and engineered wood products, may also increase market share. But it is still too early to tell how drastic any market changes will be.

Many countries, including the U.S., lack the kiln capacity to handle the coming demand for treated pallet lumber. Look for growth in the kiln market to continue. "Kiln capacity is relatively tight in the hardwood region," said John Fisher, general manager of Tri-State Lumber. "In the short run, there would be a significant supply shortage if the proposed regulations go through."

As hardwood mills scramble to add kiln capacity, how will the market change? Of course, prices will likely rise. As mills seek to recoup the investment of a new kiln or other treatment facility, will they change their cutting practices? Will mills want to dedicate 20% of a new kiln's time to pallet material or will they look for ways to find higher grade material out of what they are already cutting? They will probably not dry cants in the block form because it takes more time. This might give birth to a secondary market or a shift in the cut stock market, either by employing cutting practices used on the West Coast or changing the entire process east of the Rockies. If a significant portion of the export pallet market shifts to softwood lumber, what will happen to many small hardwood mills? Although there is not a huge amount of profit in low-grade material, it can be hard to justify killing the cow just for filet mignon when there is no market for the rest. There are no apparent markets for the windfall of low-grade hardwood lumber if export pallets jump ship. Softwood lumber prices have been in the tank; the standard might help breathe a bit of life into it. But there are just too many uncertainties right now to really tell what will shake out.

Science of the Matter

The draft regulations do not actually require the wood to be dried but to be heat treated to the 56/30 standard. The wood could be heat treated with either a dry kiln or a steam chamber. According to Dr. Lamb, heat treatment in a steam chamber would likely be faster and more cost effective because the heat is much hotter than a traditional dry kiln and there is no drying of the wood. However, steam chambers, which are used for applications such as bringing out the dark color in walnut lumber, are not very common in the U.S. Most kilns used in North America are steam-based and are capable of meeting the heat treatment standard.

By only requiring heat treatment instead of actually drying the wood, the standard does not call for the physical properties of the wood to be drastically changed. One of the major objections to the original draft language was that drying would cause quality concerns for assembling wood packaging. The ends of kiln dried hardwood boards may split, and it can be difficult to drive a nail into kiln dried hardwood lumber. But even with heat treatment, the process may affect wood properties. Paul Houghland of the National Hardwood Lumber Association said that there needs to be more research to explore the change in wood properties caused by heat treatment to know the exact impact that regulations would have on pallet lumber quality. Initially, drying was the favored approach because it would stop re-infestation. Heating wood kills pests in the lumber but does not prevent re-infestation.

Implementation of An International Standard

Lumber manufacturers and pallet suppliers are trying to gear up for any changes. However, it will take the market time to add treatment capacity and react. "We have been dealing with the Chinese restrictions for more than a year, and there are still people who are doing it wrong. Implementation will take some time," said Peters of the NWPCA.

Global standardization will eliminate headaches for shippers. Bob Sanders, a senior engineer in IBM's corporate packaging department, said, "Regulations are not consistent around the world. We are having to manage pallets by destination, which is a problem." Global companies like IBM must weigh the cost of using various pallet specifications on a country-by-country basis versus having one standard. The pest protection standards create an opportunity for companies to evaluate packaging on a global scale.

Not every country will be able to comply with the regulations due to the lack of kiln capacity. Third-world countries may be allowed to fumigate shipments, according to the draft IPPO standard. There is a mechanism in the draft standard for importing and exporting countries to allow other approved treatment methods beyond heat treatment. However, experts stress that fumigation will become the exception, not the rule.

Politics and Crocodile Tears

The insect infestation issue has been brewing for several years. The primary culprits are the pinewood nematode and the Asian long-horned beetle. Several European countries, especially Sweden, targeted the issue after outbreaks of the pinewood nematode were detected in pallets shipped from North America. The U.S. joined the party after an outbreak of the Asian long-horned beetle led to the destruction of scores of hardwood trees in New York and Chicago neighborhoods. The U.S. government established regulations restricting shipments from Asia in an effort to stop spread of the Asian long-horned beetle. Shortly thereafter, China responded with restrictions on imports using coniferous-based solid wood packaging from the U.S. and other countries, citing the need to stop the spread of the pinewood nematode. A barrage of countries establishing restrictions to stop one pest or another has created a confusing maze of nearly 220 different international standards. All of this has led to the effort currently under way by the United Nations. A global standard for treating solid wood packaging seems inevitable.

Most forest product industry trade associations have recognized the amassing tide of international government support for action on the pest issue. The associations have been working with the U.S. Department of Agriculture (USDA) to encourage standards that do not require kiln drying or other extreme measures. Ideally, the best thing for the hardwood lumber market would be no internal regulations. One could argue that industry representatives should have taken a more militant stance. But given the growing tide of government support for pest management standards worldwide, including the leadership role taken by the USDA, the likelihood of the issue going away without the adoption of a global standard is slim to none. Gordon Hughes, a representative to the recent U.N. working group and executive general manager of the Canadian Wood Pallet and Container Association, said, "You can cry big crocodile tears, and the foreign countries don't care. If you want to deal in their neighborhood, you must comply with the regulations."

The U.S. remains in a fairly unique position. Forests in Europe and many of the other industrialized areas of the world are dominated by softwood species, not hardwoods. The dominance of hardwood lumber in the U.S. pallet industry will cause challenges as the standards take effect. Pallet companies should work to get ahead of their customers by learning about the standards. Look to source material from accredited suppliers and be prepared for possible wild lumber market swings. Assign somebody in your company to become the point man on the pest management issue. If your company supplies pallets or lumber for export shipments, you will be impacted by these pest standards.