Grapes: The Lowly Pallet

One day, after tripping and nearly falling over a wooden pallet in the winery, I wondered aloud, “How many of these &@*%#@^ things are there?” In the winery, as well as many other industries, wooden pallets are everywhere! Truckers call them “boards,” and around the world, like the late Rodney Dangerfield, they get no respect. They arrive with many goods, they accumulate in unsightly piles, get traded for, charged for, neglected, run over, broken and sometimes recycled. A little research led me to some (possibly) interesting information about these ordinary but essential constructions of oak and nails.

When Did They Start?

While various forms of pallets were known even in the late 1800’s, they were not common or standardized until there was a way to move and stack them easily. Counterbalanced lift trucks (known to all of us as “fork lifts”) were developed in the 1930’s but an abundance of cheap labor during the depression, combined with a shortage of capital, resulted in very slow growth until World War II. Especially in the Pacific theater, where large quantities of goods had to be moved quickly over long distances, palletization helped the U.S. with efficient logistics and material handling. With the post-war industrial boom, efficiency was needed equally on the domestic front, and fork lifts with palletized goods became the standard, both in the U.S. and abroad.

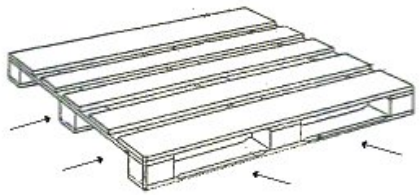
While home building accounts for the greatest use of forest products (23% of the total), wooden pallets are second with 17%. Over two billion pallets are in use in our country every day, and in 2004, 500 million new ones were manufactured and 300 million reconditioned. The industry estimates that only 16% of all pallets are recycled, with the rest ending up in landfills (or fireplaces).

What Kinds Are There?

Wooden pallets are made in two main types, and this causes no end of problems for wineries. Cases of wine are stacked and shipped on the most common form, the grocery (or “stringer”) pallet:

The most common size, in this country, is 48” x 40” (the dimension of the 2x4 “stringer” along the side is always listed first), but the official size in many other countries is 120 x 100 centimeters, which is exactly 47.24” x 39.37.” Considering how much the real sizes of commercial pallets vary, it’s very hard to tell the difference in practice. The other main type is known as the “four-way” (because it can be picked up by a fork lift or hand-

operated “pallet jack” from all four directions) or a “block” pallet, because the spacers are blocks instead of boards:



These pallets are generally 56 inches by 44 inches.

The problem for wineries is that the empty bottles (just called “glass” in the winery business) almost always arrive from the manufacturer on block pallets, because they are larger and hold more cases, while cases of wine inevitably leave the winery for wholesale shipments on grocery pallets. What this means for the winery is that large quantities of unusable block pallets accumulate while additional quantities of grocery pallets are needed. Some glass suppliers have reasonable approaches to this problem, including having the trucker haul back the empty pallets after delivering the glass. Others (or their trucking firms, or perhaps just individual drivers) won’t take back less than a full truckload of pallets, and the supplier has to make an additional trip every year or two, to take back the now-weathered pallets that have been accumulating outside since the deliveries (for pallets that we intend to re-use, most of us are willing to provide either inside or under-cover storage, but block pallets that have no value are inevitably stored out in the elements). There have been attempts by some suppliers to keep an inventory of pallets stored at customers’ sites, and even to charge for ones not returned. Since wineries don’t want them in the first place, and have to put up with unsightly piles out behind the winery, they have strongly resisted this approach.

Alternative Uses

After a few trips, wrangling with forklifts and pallet jacks wielded by impatient truck drivers and winemakers, pallets begin to wear. Pieces of wood fall off constantly, providing driving surprises for the operator of a solid-tired forklift with no suspension, followed by whole boards (usually off the bottom first, where they can’t be seen from the forklift seat and can wreak the most destruction on the stack below them). This begins a well-established game in which each user tries to keep the best pallets for its internal use, assigning the most marginal ones that will still support weight for outgoing shipments. Warehouses will often provide exchange pallets for the ones that your wine is stacked on, but they play the same pallet quality game, and the ones you get in exchange are usually somewhere between unattractive and non-functional. When boards begin to fall off the top surface, the pallets are usually sent to the “junk pallet” stack well out behind the winery (savvy scroungers for kindling have been known to visit wineries, asking “Got any old, broken pallets?” a question that is always met with a grin and an invitation to “take that whole pile.”). You can tell that things are <u>really</u> slow at a winery when

someone is out back with a prybar and hammer, creating good boards from the stack of defunct ones.

Years ago, I worked with a professional scientist who had grown up in a very poor country where nothing was wasted. Whenever it was his turn to drive the carpool, our trip home was delayed while he engaged in "dumpster diving" to retrieve all the broken pallets that had been discarded that week. The back of his station wagon (and sometimes the luggage carrier on top) was crammed full of defective pallets, which were taken home and laboriously hand-sawed into heating supplies for his fireplace. When the company was sold to a large corporate entity, they realized the liability involved in having employees digging through biologically-contaminated trash, and outlawed the practice. He never got over his anguish at the hundreds of pounds of combustible material that ended up in the landfill instead of his fireplace each week.

Even more creatively, one individual has thoroughly documented on the internet his construction of a "new" woodshed from old pallets: *http://summerville-novascotia.com/PalletWoodShed/*. Somehow, the building looked much larger until the May 10 picture that included his dog, but he notes that the total material cost for his new woodshed was only $47 (and those were Canadian dollars!). In the same way that devotees of the Grateful Dead became "deadheads," there is an equivalent term "pallet head" that has been immortalized in a book by one of the afflicted: *http://www.palletenterprise.com/bookorder/iri_books.asp*.

The Dark Side

It has been belatedly recognized that pallets, which spend much of their lives outdoors and travel widely, have been the carriers for unintentional transportation of insects and other undesired materials. Effective June, 2004, "phytosanitary" restrictions have been imposed on those who ship outside the country, and this has bolstered the promotion and sale pallets made from alternative materials. Plastic is great, but much more expensive, so plywood, er, excuse me, "Engineered Wood" pallets are coming into more common use: *http://www.apawood.org/level_b.cfm?content=app_mat_pal_main*

Also, much has been recently written, whether in support of alternative wine bottle closures, or just bemoaning the continued presence of "cork taint" from unexpected sources of the TCA substance that causes the offending odors in wine. In addition to the already-suspect corks, cardboard boxes, humidifiers, and even "black mold," wooden pallets have now been cited as potential sources of the offending material, and this has led to many wineries prohibiting these potential contamination sources in their cellars.

Several famous Napa wineries have been "outed" as having high levels of TCA in their wines, most by a Wine Spectator writer, James Laube. Mr. Laube is blessed (cursed?) with the ability to detect extremely low levels of TCA in wine (most people can detect it at 5 parts per trillion, while he can pick it out at even one part per trillion!).

Chateau Montelena, the most recent and most controversial victim of Laube's exquisite sensitivity (*http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2004/09/09/WIG7I8L5751.DTL*), in addition to providing a reasoned response (*http://www.montelena.com/externals/cc/7d486ff485091c2d87c1b29fe3a0864eb026ea.pdf*), has decided to eliminate all wooden storage containers larger than the standard 59-gallon barrel (and even wooden ladders), including the huge oak vats that had held their wines in temporary storage since the winery was re-established in 1972. While this is an expensive and time-consuming undertaking for the winery, it has its silver lining. Through the helpful efforts of two of our neighbors (Karl Lindborg for materials sourcing and Peter Dale for fabrication), Obscurity cellars is now the proud owner of a conference table constructed entirely of wine-stained, two-inch-thick oak from the disassembled wine vats. Bo Barrett, Chateau Montelena's winemaker, agrees that this is a fitting end for his venerable "woodies," and it's a lot more attractive than one made from old pallets!