

MADISON'S LUMBER REPORTER



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News & Updates

Hampton Issued Safety Fine

The owners of the Babine Forest Products sawmill in Burns Lake, BC, were hit with a fine of nearly \$1 million by WorkSafeBC for the fatal explosion at the mill in 2012.

The fine comes after the Criminal Justice Branch announced it wasn't proceeding with criminal charges against the owners because of mistakes made by WorkSafeBC during their investigation.

Two workers were killed and 19 others injured when the Burns Lake mill exploded in January 2012. The explosion was blamed on dangerous levels of wood dust from milling trees that had been killed by mountain pine beetles.

On Thursday, WorkSafeBC announced an administrative penalty has been imposed against Babine Forest Products Ltd. for \$97,500.00, along with a claims cost levy of \$914,139.62 for a total fine of \$1,011,639.62.

In a statement issued Thursday, a spokesperson for Babine Forest Products said the company regretted the accident, but was disappointed with the fine and intended to appeal.

US Residential Construction Employment

There was solid job growth for home builders and remodelers in March, according to data from the Bureau of Labor Statistics Friday. The residential construction industry added 9,100 jobs for the month on a seasonally adjusted basis, 3,100 working for builders and 6,000 residential specialty trade contractors. CONT'D PAGE 7

Japan Timber Imports 2013

Japan's Foreign Timber General Supply and Demand Liaison Conference has released data on the amount of timber and lumber imported into that country, according to the Japan Lumber Journal this week. Volumes of foreign logs received in 2013 was 4,528,434 m3, a 3.6 per cent increase compared to the previous year, and the amount of lumber products was 7,703,486 m3, a 15 per cent increase from 2012. The total for both was 12,231,920 m3, a 10.5 per cent increase.

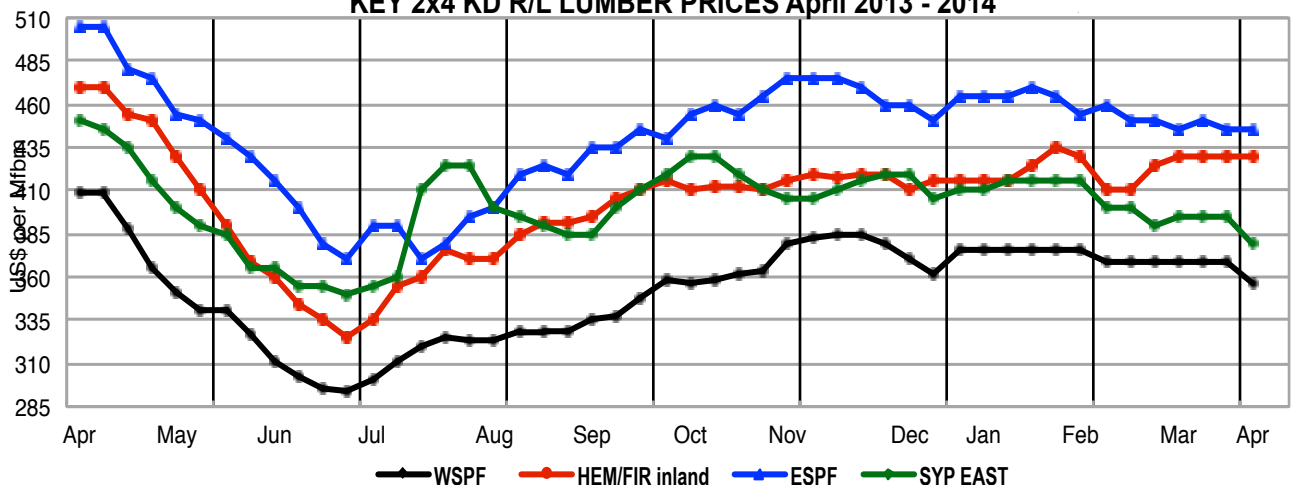
The log volumes included: 3,420,273 m3, a 12.2 per cent increase, of North American logs; 589,905 m3, an 18.4 per cent decrease, of New Zealand logs; 292,213 m3, a 12.2 per cent decrease, of Southsea logs; and, 214,134 m3 a 15 per cent decrease, of Russian logs.

North American logs account for more than three-quarters of the overall share and had a two-digit increase. CONT'D PAGE 7

Breakthrough in Genetics and Biomass Fuel

A recent development with genetically modified poplar and the ability to derive energy from lignin will also be helpful to North American pulp and paper producers. CONT'D PAGE 9

KEY 2x4 KD R/L LUMBER PRICES April 2013 - 2014



Japan Timber Imports : 2013

Import Results for Foreign Timber

(cubic meters; %)

| | | 2012 | | 2013 | |
|-----------------------|--------------|------------|-------|------------|-------|
| | | Results | y/y | Results | y/y |
| <i>Southsea</i> | Logs | 332,742 | -34.9 | 292,213 | -12.2 |
| | Lumber | 583,066 | -9.0 | 589,723 | 1.1 |
| | Total | 915,808 | -20.5 | 881,936 | -3.7 |
| <i>North American</i> | Logs | 3,048,485 | -1.0 | 3,420,273 | 12.2 |
| | Lumber | 2,751,292 | -1.2 | 2,866,763 | 4.2 |
| | Total | 5,799,777 | -1.1 | 6,287,036 | 8.4 |
| <i>Russian</i> | Logs | 251,946 | -23.6 | 214,134 | -15.0 |
| | Lumber | 615,242 | -10.0 | 751,117 | 22.1 |
| | Total | 867,188 | -14.4 | 965,251 | 11.3 |
| <i>New Zealand</i> | Logs | 723,315 | 2.3 | 589,905 | -18.4 |
| | Lumber | 77,522 | -38.2 | 71,695 | -7.5 |
| | Total | 800,837 | -3.8 | 661,600 | -17.4 |
| <i>Chilean</i> | Lumber | 228,447 | -16.1 | 222,811 | -2.5 |
| <i>African</i> | Logs | 3,354 | -6.3 | 4,240 | 26.4 |
| <i>European</i> | Logs | 9,153 | 0.4 | 7,669 | -16.2 |
| | Lumber | 2,442,605 | -1.7 | 3,201,377 | 31.1 |
| | Total | 2,451,758 | -1.7 | 3,209,046 | 30.9 |
| <i>Total</i> | Logs | 4,368,995 | -5.8 | 4,528,434 | 3.6 |
| | Lumber | 6,698,174 | -4.2 | 7,703,486 | 15.0 |
| | Total | 11,067,169 | -4.8 | 12,231,920 | 10.5 |

Source: Japan Foreign Timber General Supply and Demand Liaison Conference

SOURCE: Japan Lumber Journal

Canada Principal Statistics for Manufacturing : annual (dollars x 1,000)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|-----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Wood product manufacturing | 37,434,105 | 35,794,825 | 33,148,384 | 28,383,227 | 23,787,355 | 19,581,864 | 21,179,997 | 20,884,800 | 22,431,113 |
| Sawmills | 18,727,275 | 18,115,985 | 16,568,061 | 13,478,027 | 10,784,061 | 8,279,936 | 9,688,185 | 9,449,773 | 10,278,342 |
| Veneer, plywood | 9,909,300 | 8,931,282 | 7,600,913 | 6,041,813 | 4,829,478 | 4,231,400 | 4,497,178 | 4,168,027 | 4,861,378 |
| Millwork | 5,938,446 | 5,670,595 | 5,630,616 | 5,479,199 | 4,954,680 | 4,204,995 | 4,171,313 | 3,963,739 | 3,935,741 |

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---------------------------------------|----------------------------------|------|-------|-------|-------|-------|------|------|------|
| | Percentage Change (year-to-year) | | | | | | | | |
| Wood product manufacturing | | -4.4 | -7.4 | -14.4 | -16.2 | -17.7 | 8.2 | -1.4 | 7.4 |
| Sawmills and wood preservation | | -3.3 | -8.5 | -18.7 | -20.0 | -23.2 | 17.0 | -2.5 | 8.8 |
| Veneer, plywood | | -9.9 | -14.9 | -20.5 | -20.1 | -12.4 | 6.3 | -7.3 | 16.6 |
| Millwork | | -4.5 | -0.7 | -2.7 | -9.6 | -15.1 | -0.8 | -5.0 | -0.7 |

SOURCE: Statistics Canada

Key Prices

| | This Week | Last Week | Change | Month Ago | Change | Year Ago | Change |
|--------------------------------|-----------|-----------|--------|-----------|--------|----------|--------|
| WSPF KD R/L 2x4 | 356 | 368 | -12 | 368 | -12 | 408 | -52 |
| WSPF KD R/L 2x6 | 342 | 354 | -12 | 354 | -12 | 398 | -56 |
| WSPF KD R/L 2x8 | 338 | 338 | 0 | 338 | 0 | 378 | -40 |
| WSPF KD R/L 2x10 | 388 | 400 | -12 | 400 | -12 | 410 | -22 |
| WSPF KD PET 2x4 Stud | 355 | 355 | 0 | 350 | +5 | 470 | -115 |
| WSPF KD PET 2x6 Stud | 305 | 305 | 0 | 305 | 0 | 440 | -135 |
| Douglas Fir Green R/L 2x4 | 340 | 340 | 0 | 395 | -55 | 395 | -55 |
| Douglas Fir Green R/L 2x10 | 405 | 405 | 0 | 452 | -47 | 420 | -15 |
| ESPF KD 2x4 8ft Stud | 395 | 395 | 0 | 390 | +5 | 505 | -110 |
| OSB Ontario 7/16" (CDN\$) | 220 | 230 | -10 | 220 | 0 | 407 | -187 |
| CSplywood Toronto 3/8" (CDN\$) | 385 | 385 | 0 | 386 | -1 | 394 | -9 |

Weekly News

Construction Employment, US

CONT'D FROM PG 2 Total construction industry employment now stands at 2.242 million, broken down as approximately 650,000 builders and 1.592 million residential contractors, said the US Bureau of Labor Friday. For 2014, the residential building industry has been averaging 10,000 jobs created per month. Over the last year, 103,000 jobs were created, and the home building workforce has gained 257,500 jobs since the post-recession low point set in January 2011.

Wood Imports, Japan 2013

CONT'D FROM PG 2 Among other lumber products, total import volumes into Japan were: 3,201,377 m3, a 31.1 per cent increase, of European lumber; 2,866,763 m3, a 4.2 per cent increase, of North American lumber; 751,117 m3, a 22.1 per cent increase, of Russian lumber said the Japan Lumber Journal this week.

BC Ministry of Forests Tenure Reform

Forests Minister Steve Thomson says the Liberal government is taking another shot at giving forest companies more rights to control British Columbia's public forest lands, but he rejects criticism that the plan would privatize provincial forests.

The move could dramatically change the way public forests are managed by granting lumber companies tenure rights, or logging rights, to large pieces of land. Companies are currently allotted timber harvest rights on a specified

numbers of trees.

Under volume-based licenses, companies are allowed to log specified amounts of timber within a general area. Area-based licenses give companies exclusive rights to log specific areas, but with specific obligations related to re-planting and forest management.

In either case, the amount of timber each company gets to cut is about the same.

The idea of converting volume-based licenses came from a special all-party committee of the legislature that was called in 2012 to address the loss of timber inventories to the mountain pine beetle infestation in BC's Interior.

Forester Jim Snetsinger will lead the public engagement process and file a report to the provincial government by the end of June.

Universal Acquires

Universal Forest Products has been on a buying spree in the past two weeks, acquiring stakes in saw mill, lumber processing and manufacturing businesses in North Carolina and Texas.

On March 31 the company announced the acquisition of a 50 per cent stake in Upshur Forest Products, based in Dallas, TX, and with sawmill operations in Gilmer, TX.

In its latest acquisition, announced Wednesday, the Grand Rapids-based lumber and lumber products company purchased "certain assets" of High Level Components, LLC, a building component manufacturer based in Locus, NC.

High Level will join Universal's UFP Mid-Atlantic subsidiary, a com-

ponent manufacturer with locations in South Carolina, Virginia, Georgia and North Carolina. The acquisition will expand Universal's capacity in the region and allow the company to serve customers in the Charlotte, N.C., market, where it currently does not have a significant presence, the company said.

West Fraser Acquires

West Fraser Timber, out of Vancouver, BC, continues to grow its lumber business in the US south with news this week of its agreement to purchase Bibler Brothers Lumber's sawmill and lumber manufacturing operations in Russellville, AR.

Located near West Fraser's newly acquired mill in Mansfield, Bibler Brothers produced approximately 136 million board feet of lumber in 2013 and in excess of 160 million board feet in 2005.

West Fraser also said the acquisition of Alberta-based Buchanan will complement its existing operations in the area. The lumber and composite panel producer also said it plans to expand the annual capacity at the Buchanan facility from the current 110 million board feet to approximately 175 million board feet. The acquisition also includes timber rights of an annual allowable harvest of approximately 430,000 cubic metres of coniferous timber and 21,000 cubic metres of deciduous timber. West Fraser says the sawmill produced about 136 million board-feet of lumber last year.

The deal is expected to close before the end of April.

West Fraser also said it has closed its purchase of the Buchanan Lumber sawmill in Alberta and plans to expand its annual capacity to about 175 million board feet from about 110 million.

Genetically Modified Poplar Lignin and Biofuels

What began 20 years ago as an innovation to improve paper industry processes and dairy forage digestibility may now open the door to a much more energy- and cost-efficient way to convert biomass into fuel. A collaboration between researchers at the University of British Columbia, the University of Wisconsin-Madison, and Michigan State University, the breakthrough could herald a greener future for biofuels.

“We’re designing trees to be processed with less energy and fewer chemicals,” says Shawn Mansfield, a professor of

by Kéta Kosman

Wood Science at the University of British Columbia. “It

is truly a unique achievement to design trees for deconstruction while maintaining their growth potential and strength.”

The research, which appears in the current issue of *Science Magazine*, focuses on enhancing poplar trees so they can break down easier and thus improving their viability as a biofuel. The long-term efforts and teamwork involved to find this solution can be described as a rare, top-down approach to engineering plants for digestibility, said Curtis Wilkerson, Michigan State University plant biologist and the lead author.

“By designing poplars for deconstruction, we can improve the degradability of a very useful biomass product,” said Wilkerson. “Poplars are dense, easy to store and they flourish on marginal lands not suitable for food crops, making them a non-competing and sustainable source of biofuel.”

In the new study, the researchers found a gene from an herb DangGui, or Chinese angelica, and successfully put it into poplar trees, a fast-growing crop widely planted throughout the United States and Canada.

The resulting poplar trees showed no difference in growth habit under greenhouse conditions, but the lignin from those plants showed improved degradation properties, the researchers said.

They determined that the gene modified the poplars’ natural lignin to make it easier to break down without adversely affecting the trees’ strength.

The code alters the chemistry of some of the bonds that hold together lignin, the organic polymer glue that makes trees tough and rigid and protects the energy-rich cellulose within cells. The genetically engineered poplars are every bit as strong as normal poplars while they are

living, but when processed the lignin “unzips” where the altered bonds occur in the polymer chain.

Removing naturally occurring lignin for the production of bioethanol and paper products requires caustic chemicals and high heat, about 170 C for several hours. Zip-lignin falls apart in a mild alkaline solution at just 100 C.

Using the new method plant life can be broken down using fewer chemicals and less energy. This will mean fewer environmental pollutants are created.

To produce the enhanced poplars, Wilkerson identified and isolated a gene capable of making monomers – molecular glue of sorts – with bonds that are easier to break apart. Next, Mansfield successfully put that gene into poplars. The team then determined that the plants not only created the monomers but also incorporated them into the lignin polymer. This introduced weak links into the lignin backbone and transformed the poplars’ natural lignin into a more easily degradable version.

The research also is noteworthy for being the direct result of a collaboration funded by the GLBRC, funded by the US Department of Energy and created to make transformational breakthroughs in new cellulosic biofuels technology. Realizing the collaborative project called for a wide array of expertise, from finding the gene and introducing it into the plants, to proving, via newly designed analyses, that the plant was utilizing the new monomers in making its lignin.

“One of the largest impediments for the pulp and paper industry as well as

the emerging biofuel industry is a polymer found in wood known as lignin,” says Mansfield.

Lignin makes up a substantial portion of the cell wall of most plants and is a processing impediment for pulp, paper, and biofuel. Currently the lignin must be removed, a process that requires significant chemicals and energy and causes undesirable waste.

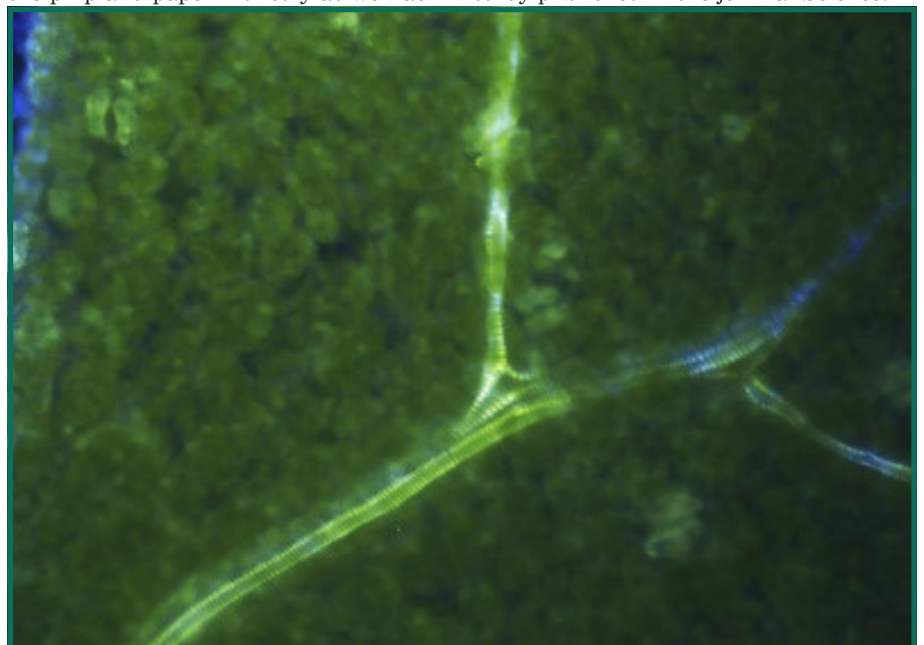
The genetic modification strategy employed in this study could also be used on other plants like grasses to be used as a new kind of fuel to replace petroleum.

Genetic modification can be a contentious issue, but there are ways to ensure that the genes do not spread to the forest. These techniques include growing crops away from native stands so cross-pollination isn’t possible; introducing genes to make both the male and female trees or plants sterile; and harvesting trees before they reach reproductive maturity.

In the future, genetically modified trees could be planted like an agricultural crop, not in our native forests. Poplar is a potential energy crop for the biofuel industry because the tree grows quickly and on marginal farmland. Lignin makes up 20 to 25 per cent of the tree and is an important part of plant cell walls.

Mansfield said he’s confident these trees are viable for commercial use, especially since the team chose to modify poplar trees that can be grown virtually anywhere in Canada.

“It is truly a unique achievement to design trees for deconstruction while maintaining their growth potential and strength,” the researchers noted in the study published in the journal *Science*.



Introducing really cleavable linkages into the lignin polymer backbone. SOURCE: Shawn Mansfield, UBC, and Matt Wisniewski, Madison, WI