



# MISSOURI TIMBER PRICE TRENDS

July-Sept., 2012, Vol. 22 No. 3

Missouri Department of Conservation, Forestry Division

## North/ Southwest Stumpage Prices- (Prices and volume reported in Doyle MBF scale)

	High	Low	Average	\$/Board foot	Last Qtr	Last Yr.	Vol.	# of Rpts.
<b>Veneer</b>								
Walnut, Black	\$3,100	\$1,200	\$2,455	\$2.45	\$2,415	-	48	12
<b>Sawlogs</b>								
Hickory	\$220	\$50	\$85	\$.09	-	-	35	5
Mixed Hardwoods	\$220	\$40	\$85	\$.09	\$80	\$95	1,070	18
Oak (mixed species)	\$280	\$30	\$140	\$.14	\$145	\$120	659	9
Post Oak	\$160	\$60	\$70	\$.07	-	-	15	3
Red oak (group)	\$600	\$35	\$100	\$.10	\$85	\$95	1,576	13
Soft Maple	\$300	\$50	\$200	\$.20	\$200	-	244	3
Walnut, Black	\$1,250	\$400	\$745	\$.75	\$770	\$835	119	16
White oak (group)	\$800	\$50	\$185	\$.19	\$175	\$245	1,517	16

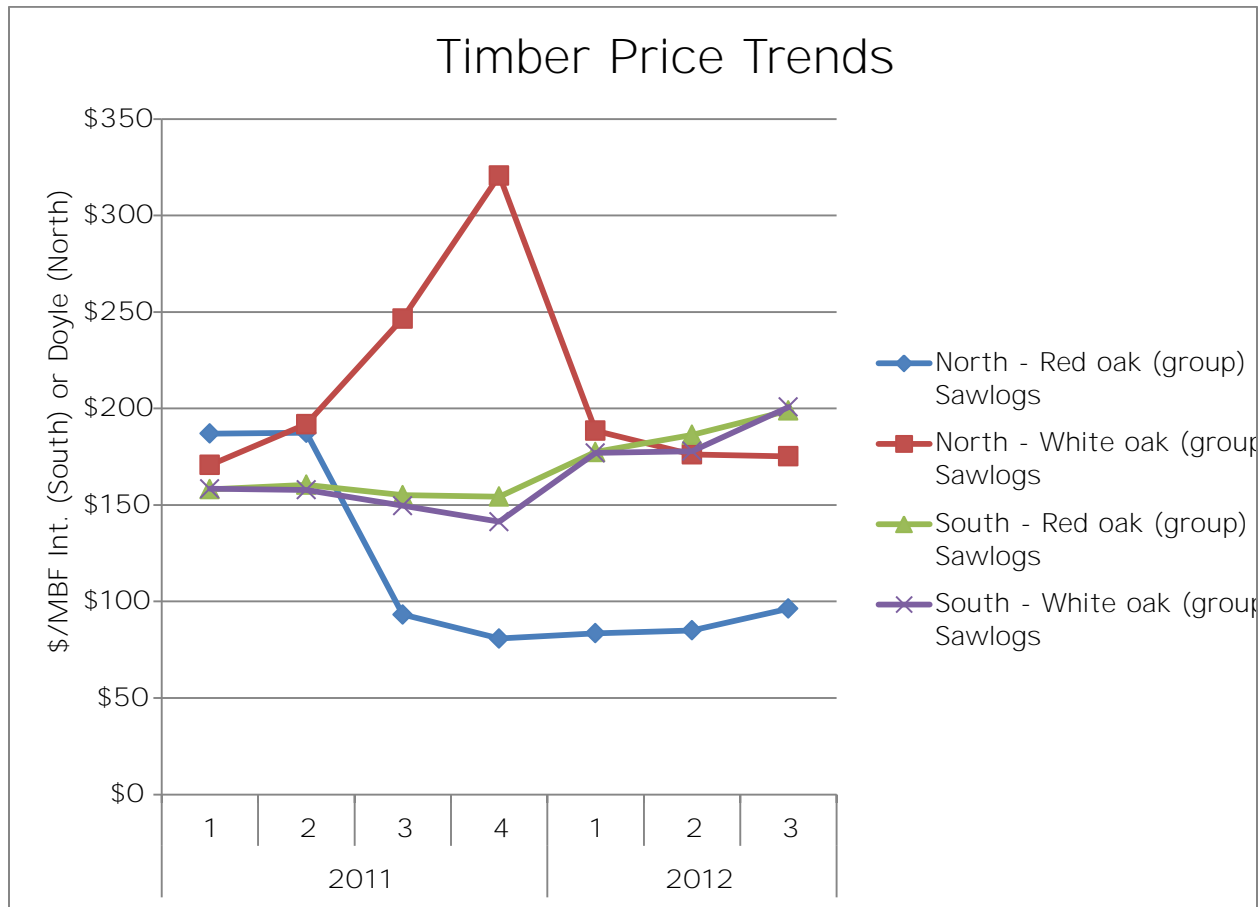
## Ozarks Stumpage Prices- (Prices and volume reported in International ¼ MBF scale)

	High	Low	Average	\$/Board foot	Last Qtr.	Last Yr.	Vol.	# of Rpts.
<b>Sawlogs</b>								
Hickory	\$260	\$60	\$165	\$.17	\$135	\$80	220	15
Mixed Hardwoods	\$260	\$50	\$190	\$.19	\$230	\$200	573	12
Oak (mixed species)	\$220	\$40	\$125	\$.13	\$140	\$130	2,687	16
Post Oak	\$120	\$70	\$90	\$.09	\$90	\$115	54	9
Red oak (group)	\$260	\$110	\$200	\$.20	\$185	\$155	3,387	16
Shortleaf Pine	\$260	\$50	\$165	\$.17	\$145	\$55	47	10
Walnut, Black	\$665	\$85	\$225	\$.23	\$225	-	10	5
White oak (group)	\$260	\$110	\$180	\$.18	\$180	\$150	503	18

## Ozarks Salvage Prices- (Prices and volume reported in International ¼ MBF scale)

	High	Low	Avg.	Vol.	# of Rpts.
<b>Sawlogs</b>					
Oak (mixed species)	\$150	\$42	\$111	1422	4

*Note: MBF = 1,000 board feet. To convert either prices or volume from MBF to board feet divide by 1,000.*



Published timber prices are based on a rolling average of reports received over the last four quarters. Refer to the number of sales including a particular species and may sum to more than the number of sales.) Changes since last quarter and last year should be read with caution as the number of reports varies each year and quarter. This report can only be used as a general guide for determining market value of timber. General market and economic conditions, as well as local considerations such as accessibility, terrain, sale size, and tree size and quality also affect the price paid.

Please see the map on page 13 for a definition of reporting regions, which have changed.

- < All prices and volumes are reported in either Doyle MBF or Int.-MBF depending on the region of the state.
- < To convert volume from Int.-MBF to Doyle MBF, divide by 1.2. To convert prices from Int.-MBF to Doyle MBF, multiply by 1.2.
- < To convert from MBF to BF (prices or volume), divide by 1,000.

Foresters reported stumpage prices (sales of standing timber) resulting from 74 timber sales for the 12 month period containing 118,365 MBF located throughout the state. There were 48 reports from private land timber sales and 26 reports from MDC, state land timber sales. There were 50 reports from MDC foresters, 23 reports from Consultant foresters and 1 report from other foresters. We would particularly like to thank these Consulting Foresters for contributing Timber Price Trend Reports: John Fleming, Art Suchland, Shelby Jones, Doug Enyart, Chris Lohmann, Lynn Barnickol, Jason Deschu and Mr. Jenkins. Consulting foresters are listed according to the number of reports received.

G f k v q t - of an' T P i q n g n d Jason Jensen, Editors

Y g ø x g " o c f g " to try to improve the report for both landowners and foresters with this issue of the O k u u q w t k " F g r c t v o *Timber Price Trend*. Due to a slow economy and the voluntary nature of timber sale reporting in Missouri, the number of reports we receive has fallen off in recent years. The result is that some average prices were based on very few reports. Due to these issues, we began calculating average prices based on a rolling dataset of all reports from the past 12 months. The oldest quarterly report drops out as new quarterly report comes in. This should provide more reports to back up each average price, as well as removing some artificial volatility from the numbers.

We have also reduced the number of reporting regions from three to two (North/ Southwest and Ozark). This will also help to increase the number of reports that go into each published *Timber Price Trend*. Each region will report prices in the scale most commonly used in that region (Doyle for the North/ Southwest Region and International ¼ for the Ozark Region + " y k v j " p q " ð U v c v g y k f g This will further increase v q " the reliability of the data by eliminating error associated with converting from one scale to the other.

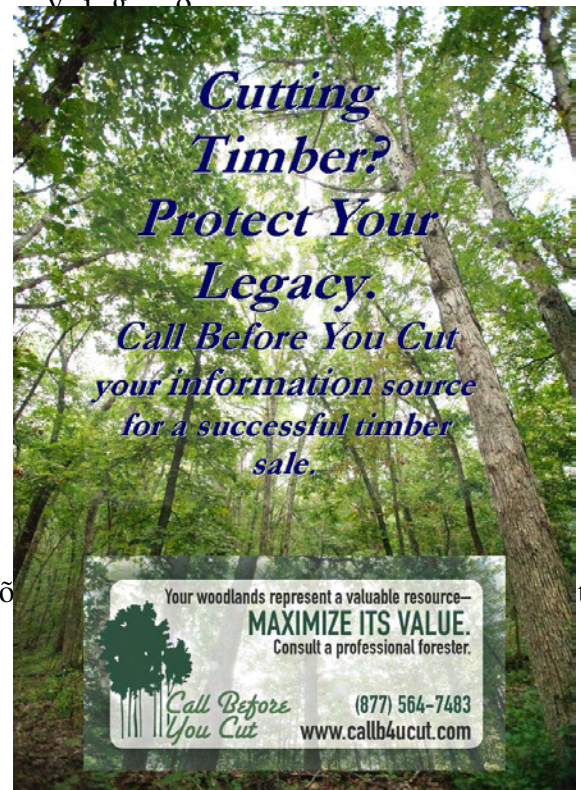
We would like to thank the members of the Missouri Forest Resources Advisory Council (MOFRAC) who helped with these changes in direction. The Missouri Consulting Foresters Association and the Missouri Department of Conservation have been instrumental in taking steps to encourage more reporting from their members and employees. Timber sale reports are critical in providing an accurate assessment of market conditions.

One of the most valuable sources for information on timber markets is the local Missouri Department of Conservation Resource Forester or your Consulting Forester. Contact the nearest Forest District office for up-to-date, local advice. The Missouri Department of Conservation's Forestry Division, (573) 751-4115, will be happy to provide you with the name and address of the Resource Forester or MDC Regional Office nearest to you. You can locate a Consulting Forester by visiting the Mo. Consulting Forester's Association web site at: [www.missouriforesters.com](http://www.missouriforesters.com) or by visiting the Private Land Assistance page of the MDC website <http://mdc.mo.gov/landown/> c p f " e n k e Conservation p " y i g " ð Assistance Contractors ö " n k p m 0 "

The logger plays a critical role in the harvesting of your timber sale. The Master Logger Certification (MLC) program can make your choice easier. The MLC program can help provide piece of mind for the landowner. Master Loggers are professional, properly trained, and meet the highest standards placed on the industry today. The MLC program is a performance based program that recognizes both training and experience. To find a Master Logger in your area visit the following website:

<http://www.moforest.org/MLC/mmlldirectory.html>

The Professional Timber Harvester (PTH) program provides four levels of chainsaw safety training, provides instruction on w u g " c p f " k o r n g o g p v c v k q p " q h " ð forest management. PTH trained loggers possess the knowledge to harvest your timber while insuring that your residual trees, soil, and property are properly cared for. To locate a PTH trained logger in your area visit the following website: <http://www.moforest.org/loggersindex.php>



## Current Market Conditions

By Jason Jensen

Markets have improved over the previous quarter. Mills were previously having a hard time moving grade lumber. Many mills had been placed on a quota for the amount of grade lumber they could sell and were sitting on significant inventories of lumber. Demand for grade lumber appears to have had the same corresponding increase. Flooring grades seem to be in demand as well as most other grades. There is even a little movement in the pine market will last. One concern in the Ozarks is that some mills have been placed on a quota for the amount of railroad ties they can produce. This is a significant concern since the tie market has these tough economic times. The white oak market continues to be strong especially with stave quality species continue to be popular among consumers and demand is good especially in the River Hills. Log inventories on average tend to be low at most mills. This is a concern especially going into fall/winter.

## U.S. Housing Starts Surge to Fastest Pace Since 2008

By Jason Lange, Reuters

Groundbreaking on new U.S. homes surged in September to its fastest pace in more than four years, showing a recovery in the housing market.

budding recovery is gaining traction and supporting the wider economic recovery.

Housing starts increased 15 per cent last month to a seasonally adjusted annual rate of 872,000 units, the Commerce Department said on Wednesday.

That was the quickest pace since July 2008, though data on starts is volatile and subject to substantial revisions.

The U.S. economy has shown signs of faster growth in recent months as the jobless rate has fallen and retail sales data has pointed to stronger consumer spending.

The data showed housing, which was battered by the 2007-09 recession, is increasingly one of the brighter spots in the economy and could add to growth this year for the first time since 2005.

The housing market and this indicates said Gary Thayer, an economic strategist at Wells Fargo Advisors in St. Louis, Missouri.

The brighter economic signal is likely to be welcomed at the White House, where a sluggish economy is weighing on President Barack Obama's re-election next month.

Economists estimate that for every new house built, at least three new jobs are created.

More home building could help compensate for some of the weakness recently in factory

output, which is seen as due to sluggish export demand and cooling investment in capital goods.

Economists polled by Reuters had forecast residential construction rising to a 770,000-unit rate.

September shows a 758,000-unit pace instead of the previously reported 750,000.

Housing remains hampered by an glut of unsold homes, and the housing starts rate is still about 60 per cent below its January 2006 peak.

September groundbreaking for single-family homes, the largest segment of the market, rose 11 per cent to a 603,000-unit pace, the highest level since August 2008. Starts for multi-family homes climbed 25.1 per cent.

and housing is likely to contribute to growth, says John Canally, an economist at Citigroup. "It's another step in the right direction, but you still have a long, long way to go."

Building permits grew by 11.6 per cent to a 894,000-unit pace in

September, the Commerce Department said, unrevised at 801,000 units.

Economists had expected permits to rise to a 810,000-unit pace last month.

U.S. home sales have been creeping up and the steep decline in prices since 2006 appears to have bottomed. That has helped home-builder sentiment, which

this month rose to a fresh six-year high.

In a bid to help the economy by encouraging people to buy homes, the Fed said last month it would buy \$40-billion (U.S.) in mortgage-backed securities every month until the jobs outlook improves substantially.

V j g " H g f ø u " g h h q t borrowing costs have pushed interest rates on 30-year mortgages to all-time lows. Last week, fixed 30-year mortgage rates rose 1 basis point to average 3.57 per cent, the Mortgage Bankers Association said.

Applications for U.S. home mortgages fell last week, but demand for purchase loans, a leading indicator of home sales, reached the highest level since June, the association said.

---

## **Year-over year, Chinese log and lumber imports down 19% from Jan-Aug, 2012**

**October 15, 2012**

**By: Wood Resource Quarterly**

Importation of both logs and lumber to China fell substantially in 2012. Total imports, by value, during the first eight months was \$ 4.3 billion dollars, or 19% less than in 2011, with the biggest declines in logs imported from Russia and the US, and in lumber from North America.

The reduction in construction activities in China during 2012 has

resulted in reduced demand for lumber, and as a consequence, a sharp decline in the importation of softwood logs and lumber to the country. During the first eight months this year, China imported logs and lumber worth 4.3 billion dollars, or 19 percent less than the same period last year, as reported in the Wood Resource Quarterly ([www.woodprices.com](http://www.woodprices.com)). By volume, log imports were down 17 percent and lumber imports down five percent.

The importation of softwood lumber in August was down for the third consecutive quarter to 1.1 million m3, which was a decline of 21 percent from May and 23 percent lower than in August 2011. Canada and Russia are the two dominant suppliers of softwood lumber to China, together accounting for 84 percent of the total imports, with the US, Chile and New Zealand making up most of the remaining import volume.

During the first eight months of this year, Russia, Chile and New Zealand have increased their shipments to China, while volumes from North America have declined. Exports from the US are down as much as 41 percent as compared to the same period in 2011.

In August, the average import value for all softwood lumber imported to China was down nine dollars to \$203/m3 from a year ago, according to Customs data. The cost for Russian lumber fell as much as \$19/m3, while Canadian average costs were down only five dollars to \$200/m3 over the past year. Costs for Canadian lumber have steadily increased from

earlier this year and here at a 12 month-high in August.

Chinese softwood log imports have fallen dramatically this year. From January through August, imports from Russia were down 21 percent, and from the US, 31 percent as compared to the same period in 2011. The two other major log-supplying countries, New Zealand and Canada, have shipped practically the same volume this year as last year.

With the reduced demand for logs by the lumber industry in China, log prices have fallen through most of 2012. According to the latest issue of the WRQ, average import softwood log values in the 3Q/12 were down 13 percent from a year ago, and domestic

Chinese-fir log prices have fallen about six percent in 12 months.

---

## **St. Louis area firms complete biomass boiler project at the University of Missouri-Columbia**

**By: Robert Kelly,  
St. Louis Post-dispatch**

---

Ladue-based McCarthy Building Cos. Inc., Chesterfield-based CB&E Construction Group and Fenton-based Kaiser Electric crews completed a project for the University of Missouri ó Columbia that replaces a coal boiler at its Columbia campus power plant with a more efficient and cleaner biomass unit.

The new boiler, which was  
t g v t q h k v v g f " v q " v j

existing heating duct system, is expected to use an estimated 100,000 tons of in-state renewable energy sources such as chipped hardwoods and wood waste.

The new unit is also expected to be 25 percent more efficient than the old unit. Since 2007, the power plant has been using about 5,000 tons of biomass per year, plus coal, in its other boilers.

Along with wiring the new biomass boiler, Kaiser Electric crews also provided electrical service, lighting and control and instrumentation wiring on the \$75 million project.

The general contractor on the project was McCarthy in partnership with CB&E Construction Group. Segal Engineering and Technical Services of Overland Park, Kansas was the project engineer.

---

## **Verifying Forest Sustainability**

### **More customers and policymakers seek assurances that the forest-derived fuel or feedstock they purchase is harvested in a sustainable manner.**

**By: Charles A. Levesque and Eric W. Kingsley**

Increased talk about the use of woody biomass for energy in the U.S. has many people wondering how best to assure that the fuel and feedstock used by wood

energy firms is harvested sustainably. The forest products industry, sawmills and pulp mills, in particular, has been down this road for more than 15 years and many have turned to the major forest certification systems available in the U.S., namely the Sustainable Forestry Initiative, the Forest Stewardship Council and the American Tree Farm System. These systems may or may not be the best way to demonstrate the sustainability of feedstock harvesting for the woody biomass energy sector. In the end, your company values should drive what you do about forest sustainability.

### **The Forest Certification Systems**

SFI, FSC and ATFS are private, non-governmental programs, all of which are part of one of two major forest certification systems in the world: the Forest Stewardship Council and Programme for the Endorsement of Forest Certification. In the U.S., the FSC system is part of the Forest Stewardship Council international program, whereas SFI and ATFS are part of PEFC.

Collectively, the three certification systems currently have 92 million acres certified in the U.S. Some of those acres are certified to both SFI and FSC and are therefore double counted, and further confusing, FSC does not allow for reciprocity with SFI or ATFS, and vice versa. Importantly, SFI and ATFS do allow reciprocity between their systems because they are both part of PEFC. SFI is for larger ownerships, over 20,000 acres, while ATFS is for ownerships smaller than 20,000 acres. Most tree farms are much smaller and average just over 200

acres.

So what do these systems do? In a nutshell, each of the FSC, SFI and ATFS systems has a standard, a series of detailed requirements for how a forest property must be managed under which a landowner must manage in order to become certified. An outside accredited entity sends an auditor to conduct a third-part audit to determine conformance with the many detailed criteria in the standard.

The audit will be conducted by an entity that has no direct affiliation with the company or landowner being audited, ensuring that there are no conflicts of interest. If landowners pass the initial and subsequent annual audits, they can make claims about products relative to their certification program. They can also label their product with the logo of the program, if they get a companion CoC system of custody. A CoC system essentially assures that a product indeed came from a certified forest when a landowner makes that claim.

### **A Bit of History**

Concerns over rainforest destruction led to the Statement of Forest Principles at the 1992 Earth Summit in Rio de Janeiro. The forest principles laid out the definition of a sustainably managed forest, which was further refined through the Montreal Process. Ultimately, this led to the formation of the FSC in 1993 by a group of people from environmental organizations, social sciences and the forest industry.

The SFI was created one year later by the American Forest and Paper Association, the national trade group of the U.S. forest products industry. Originally a self-verification system, SFI changed into a full third-party system by the late 1990s. SFI only covers the U.S. and Canada, but similar country-based forest certification systems from around the world became aligned under another international umbrella system called PEFC. SFI and ATFS had to pass the requirements of PEFC to be recognized as part of that system; SFI in 2005 and ATFS in 2008. Notably, ATFS was created for U.S. landowners in the 1940s and only changed to a third-party certification system within the past 10 years.

### **Energy Plants and Sustainability**

Energy producing plants that use wood as feedstock, whether they are producing electricity, heat, pellets or biofuel, generally have one thing in common: they do not own the forestland from which their feedstock timber is harvested. As a result, they tend to have little direct control over where and how their feedstock is produced in the woods. Some sawmills and pulp mills are similar in that regard, but even those that own forestland in large acreages do not own enough to rely solely on their own land for feedstock.

SFI, FSC and ATFS help address the challenge of accountability when sourcing feedstock from forests owned by outside parties. In each case, certified entities are

allowed to make public claims about sustainability, based on the premise that being certified to the rigorous third-party audited standard is an indication that they are managing in a sustainable way. If a wood-using energy plant were able to obtain the vast majority of its wood supply from certified forest land, it could use a CoC system to claim that its wood supply comes from sustainably harvested forests. This, however, is where the rub is. Most places in the U.S. simply do not have enough certified acreage to allow a manufacturing plant to make this claim, and the relatively low-value landowners receive from harvesting wood for energy purposes — as opposed to lumber, etc. — means that biomass users have limited opportunity to incentivize new certified acreage. Exceptions might include parts of Maine and Wisconsin, where substantial acreage is already certified to one or more of the standards in Maine and Wisconsin or some other pocket of certified forest, what do you do?

SFI has an option called fiber sourcing certification, which uses a different standard than the regular land management SFI standard. Fiber sourcing certifies the entire wood procurement system of the facility. It is a less rigorous system, but it reaches out to all the forest landowners who provide woody feedstock.

### **Another Approach: Design Your Own System**

In some cases, it might not be feasible or practical to use SFI, FSC or ATFS to demonstrate your

commitment to forest sustainability, especially if your customers are not demanding it. In this case, there are ways to design your own system. One approach Innovative Natural Resource Solutions has used with clients is developing a tracking system for wood sources. With this approach, it can be useful to show information about where your wood comes from, the amount that comes from certified forests, or the amount that was harvested with a licensed or certified forester and/or logger involved. There are many other ways to add additional components to a self-designed system. In the end, the system should do what you and your customers need it to do.

---

## **Fourth Quarter Hardwood Price Increase Expected**

**By: Andy Johnson**

During the first eight months of 2012, brisk industrial lumber shipments, rising flooring-grade lumber sales and record exports to the Far East helped many North American hardwood sawmills get back into the black. Relatively tight log supplies, limited access to capital, and a growing aversion to sawing unprofitable items kept mills from overproducing markets, as often occurred during past upturns. Consequently, green and kiln-dried lumber prices were unusually stable well into the summer.

With kilns turning quickly and exports seasonally slow, prices for some items are now under

downward pressure. However, we expect only minor price decreases before hardwood lumber supply and demand are again balanced, probably by the end of October.

If exports to Asia stay at record levels, domestic demand gradually expands, and lumber production stays at or near the current level as we are forecasting then spot shortages are likely by December. Green sawmills should have very little trouble moving lumber at steady to somewhat higher prices in the fourth quarter.

Despite the challenges of the day, domestic and international markets will offer hardwood producers plenty of business opportunities through year-end. There are still three full months left in 2012, and we expect them to be fairly good ones.

---

## Why wood pulp is world's new wonder material

By: Will Ferguson

*THE hottest new material in town is light, strong and conducts electricity. What's more, it's been around a long, long time.*

Nanocrystalline cellulose (NCC), which is produced by processing wood pulp, is being hailed as the latest wonder material. Japan-based Pioneer Electronics is applying it to the next generation of flexible electronic displays. IBM is using it to create components for computers. Even the US army is getting in on the

act, using it to make lightweight body armour and ballistic glass.

To ramp up production, the US opened its first NCC factory in Madison, Wisconsin, on 26 July, marking the rise of what the US National Science Foundation predicts will become a \$600 billion industry by 2020.

So why all the fuss? Well, not only is NCC transparent but it is made from a tightly packed array of needle-like crystals which have a strength-to-weight ratio that is eight times better than stainless steel. Even better, it's incredibly cheap.

"It is the natural, renewable version of a carbon nanotube at a fraction of the price," says Jeff Youngblood of Purdue University's NanoForestry Institute in West Lafayette, Indiana.

The \$1.7 million factory, which is owned by the US Forest Service, will produce two types of NCC: crystals and fibrils.

Production of NCC starts with "purified" wood, which has had compounds such as lignin and hemicellulose removed. It is then milled into a pulp and hydrolysed in acid to remove impurities before being separated and concentrated as crystals into a thick paste that can be applied to surfaces as a laminate or processed into strands, forming nanofibrils. These are hard, dense and tough, and can be forced into different shapes and sizes. When freeze-dried, the material is lightweight, absorbent and good at insulating.

"The beauty of this material is that it is so abundant we don't have to make it," says Youngblood. "We don't even have to use entire trees; nanocellulose is only 200 nanometres long. If we wanted we could use twigs and branches or even sawdust. We are turning waste into gold."

The US facility is the second pilot production plant for cellulose-based nanomaterials in the world. The much larger CelluForce facility opened in Montreal, Canada, in November 2011 and is now producing a tonne of NCC a day.

Theodore Wegner, assistant director of the US factory, says it will be producing NCC on a large scale. It will be sold at just several dollars a kilogram within a couple of years. He says it has taken this long to unlock the potential of NCC because the technology to explore its properties, such as electron scanning microscopes, only emerged in the last decade or so.

NCC will replace metal and plastic car parts and could make nonorganic plastics obsolete in the not-too-distant future, says Phil Jones, director of new ventures and disruptive technologies at the French mineral processing company IMERYYS. "Anyone who makes a car or a plastic bag will want to get in on this," he says.

In addition, the human body can deal with cellulose safely, says Jones, so NCC is less dangerous to process than inorganic composites. "The worst thing that could happen is a paper cut," he says.



# Missouri Organizes For Energy Independence

By: Jim Lane

Independence, MO óDespite having as much as two billion barrels of fossil petroleum at attractive depths in the southwest part of the state, Missouri has never developed much of a liquid h w g n u " r t q f w e v k q heavy oils have been costly to extract, and attempts to use new technologies such as microbial enhanced oil recovery and fracking have not yet proved generally successful.

Like many states (or countries) that have limited oil reserves or reserves that are economically unfeasible to extract at this time ó the path to energy independence n k g u " i g p g t c n n { " u w d u v c p v g i o n d o l l ò c d h k g ó which is to say, in her considerable biobased resources.

To date, the state has become home to six corn ethanol plants with 275 million gallons of fuel capacity and can produce 825,000 tons of distillers grains, using up about 15 percent of the Missouri corn crop in the process óand eight biodiesel plants that with 228 million gallons in capacity.

O k u u q w t e s t s t o d a t e : f i r s t - q i g e n b i o f u e l s  
Overall, Missouri consumes 4.2 billion gallons each year of motor gasoline and diesel ó u q " k v ø u road to energy independence. Y j k e j . " c e e q t f k p thesis, has kept the state overly exposed to the boom and bust economies that result from energy dependence.

As the Digest noted in a previous report, states that produced enough fuel to meet their internal demand for gasoline maintained growth rates 2.5 times above the national average, and either completely avoided the 2007-09 recession or experienced a lighter version of it. These states maintained a GDP growth in 2007-08 at five times the rate of states that were less than 20 percent energy independent.

Cellulosic biofuels production in Missouri V j g t g ø t i o n h e r e t o d a y o f cellulosic biofuels in Missouri on a pilot scale. Last summer, ICM finished construction of its \$31 million cellulosic ethanol plant near St. Joseph. The facility has the capacity to produce 250,000 gallons a year from switchgrass, sorghum and corn stover from a 250 mile radius. The facility is one of a handful the company has received federal loans for in order to complete construction.

Growth down in the Boot Heel J g t g ø u " v j g " i t g c southeastern section of the state, Missouri Delta AgBioWorks ó r c t v p g t g f " y k v j " Agriculture, Sikeston Area Chamber of Commerce, Memphis BioWorks, Delta Regional Authority, Mo Technical Corporation as well as many other organizations and Universities ó has set a goal to build a Bio-based economy in the 7 counties of i o " v u q " v w j t e k " F k " i o g u v ø u agriculture region known as the Boot Heel of Missouri.

AgBioWorks is, itself, a multi-state consortium focused on development of a bio-based

economy in a region encompassing parts of Missouri, Kentucky, Arkansas, Tennessee and Mississippi ó98 countries that make up the Mississippi Delta region. . The group has estimated that in its region is up to 59 million tons in sustainable biomass reserves óup to 7.9 billion gallons of ethanol-equivalent fuels (using the maximum yields from cellulosic r t q f w e v k p q " y g ø x g " demonstration-level projects).

V j c v ø u " g p q w i j " v q " were all of the production realized and enough directed the Show Me U v c v g ø u " y c { . " k p v q independence.

The full AgBioWorks report on regional biomass resources, and the proposed development of its bioeconomy, is here.

Among the near-term advantages the group sees: redeployment of existing industrial infrastructure; introduction of new, high-value crops; opportunities to attract regional investment in pilot and demonstration projects; and the g " opportunities to increase grower incomes by making marginal lands economically feasible ø u " F g r v 0 "

Specifically, the AgBioWorks plans envisions up to five 200 ton per day oilseed crushing facilities, between 13 and 33 150,000 ton pellet plants for wood biomass, and up to 117 biorefineries using lignocellulosic feedstock, with average production capacities of 40 million gallons each. In the process, creating more than 5,000 new, direct jobs.

õ Q w t " h q e w u " k-fuels p q v but bio- d c u g f " r t q f w e v u

Missouri Delta AgBioWorks  
 energy crops such as Giant  
 Miscanthus, Sweet Sorghum,  
 sugar beets, and Canola are just a  
 few of the crops that are being  
 grown and researched here and  
 show the most potential as future  
 feedstock for the region. Missouri  
 Delta AgBioWorks along with  
 MRI Global are also in the process  
 of organizing an Algae Summit to  
 be held November of 2012 in  
 U k m g u v q p . " O k u u q  
 ð Q w t " v q r " r t k q t k  
 been to create and protect  
 Missouri jobs and help folks get  
 d c e m " v q " y q t m . ö "  
 Jay Nixon explained recently as he  
 announced a \$635K Delta  
 Regional Authority grant, which  
 included \$75K for Missouri  
 AgBioWorks.

ð V j g " p g y " c i " g e q  
 energy óit can also be food or  
 r j c t o c e g w v k e c n u  
 Chamber executive director Missy  
 Marshall told local reporters at the  
 v k o g " q h " v j g " i t c  
 chemical components from crop  
 residue used to make plastic.  
 Literally anything a petroleum  
 product may be involved in can be  
 r t q f w e g f 0 ö

USDA steps in to assist  
 Last year, the USDA announced  
 today the establishment of its first  
 Biomass Crop Assistance Program  
 (BCAP) Project Area to promote  
 the production of dedicated  
 feedstocks for bioenergy, and  
 chose a 39-county contiguous  
 region in Missouri and Kansas for  
 the project.

A likely candidate for turning all  
 that feedstock into bioenergy óin  
 the short term, the Abengoa

Bioenergy project in Hugoton,  
 Kansas is one possible destination u

Producers in the area will plant up  
 to 50,000 acres of mixes of  
 perennial native plants, such as  
 switchgrass, for the manufacture  
 of biomass pellet fuels and other  
 biomass products to be used for  
 power and heat generation. The  
 proposed crops also will provide  
 long term resource conserving  
 vegetative cover. The project is a  
 joint effort between the agriculture  
 producers of Show Me Energy  
 Cooperative o " f c { " q p g "

The program provides an  
 opportunity for teams of crop p  
 producers and bioenergy facilities  
 to submit proposals to USDA to  
 be selected as a BCAP project  
 area. If selected, crop producers  
 will be eligible for  
 reimbursements of up to 75  
 percent of the cost of establishing  
 a bioenergy perennial crop.

Other feedstock developments  
 Yesterday, researchers from the  
 University of Missouri were c t g "  
 awarded a \$5.4 million grant from  
 the DOE to research non-food  
 crops as potential biofuel  
 feedstocks. About 100 million  
 acres of marginalized agricultural  
 land in 10 states along the  
 Missouri and Mississippi Rivers  
 are unused or underutilized but  
 could potentially grow non-food  
 feedstocks for biofuels.

Just last month, a \$200,000 grant  
 opened up a new biofuel research  
 field in Southeastern Missouri  
 designed to test soybeans and  
 sweet sorghum. The grant, coming  
 from the Delta Regional  
 Authority, the Missouri Research  
 Corp., and the Missouri  
 Department of Agriculture, is

sponsoring Southeast Missouri  
 State University as it pioneers the  
 10-acre test plot to be harvested  
 this fall. The plot will also look at  
 miscanthus, switchgrass,  
 sunflowers, canola, and sugar  
 beets as it aims to arm local  
 farmers with new crops and  
 techniques to increase their  
 earnings.

Earlier this summer, CLC bio and  
 the International Laboratory for  
 Tropical Agricultural  
 Biotechnology at the Donald  
 Danforth Plant Science Center,  
 announced a collaboration to  
 benefit the Virus Resistant  
 Cassava for Africa project.

The partnership includes  
 researchers at the Donald Danforth  
 Plant Science Center in St Louis,  
 MO, the National Crops  
 Resources Research Institute in  
 Uganda and the Kenya  
 Agricultural Research Institute.  
 VIRCA is applying RNAi  
 technology to enhance resistance  
 to virus disease in cassava  
 cultivars preferred by farmers.  
 X K T E C ø u " i q c n " k u " v  
 and deliver virus resistant cassava  
 to smallholder farmers with no  
 royalty fees.

Local financing and capacity  
 expansion  
 As we have noted in the Digest  
 over the years, communities that  
 take an active role in financing  
 energy projects see stronger  
 project flow, and also retain more  
 of the profits within the  
 community, which can then be  
 redeployed into other  
 opportunities for economic  
 diversification and high  
 technology.

Ok u u q w t k ø u " U v 0 " last December took a step in this direction, in authorizing up to \$25.5 million in industrial development bonds to kickstart the local Terra Bioenergy biodiesel facility that started and stalled in 2008. In order to qualify for the bonds and property tax abatements, Blue Sun must create at least 30 jobs by Dec. 31, 2014, with an average salary of \$41,600 per year, plus benefits. The project is expected to result in the addition of 30 million gallons in biodiesel capacity when completed this summer óadding to the 30 million gallons already being produced in St. Joe by AGP.

What can the Show-Me state show you? Five themes emerge from the story q h " Ok u u q w t k ø u " d development.

3 0 " K h " { q w " e c p ø v No state or community needs to be left behind in the search for energy independence. Those communities that have fossil resources ówell, you know that most of those are going to be developed. But those who have less wealth below the ground, have opportunities above-ground that can supply both food, fuel and fibers.

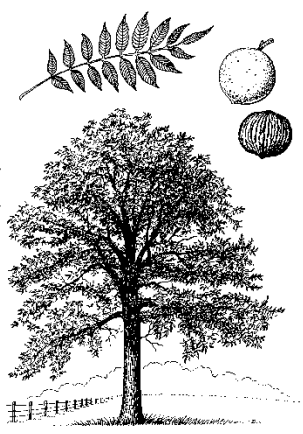
2. Slow but steady wins the race. Missouri built its initial wave of bioenergy capacity, based on existing biomass resources it knew how to aggregate and process ó primarily, its abundant corn and soy assets. The state has generally avoided the irrational exuberance that usually greets new energy technologies óand thereby avoided the waves of irrational skepticism that follow in the boom-and-bust cycle.

L q u g r j " E k v { " E q w p e k n " 3. Invest locally. The state has been investing and, using their bonding authorities, localized communities are getting k p x q n x g f " v q q 0 " V j c v q p " v j g " r t k a s s g r i a g " k p " v that all resources in the community are directed towards a r t q l g e v ø u " u w e e g u u . that the rewards from the risks are enjoyed at home.

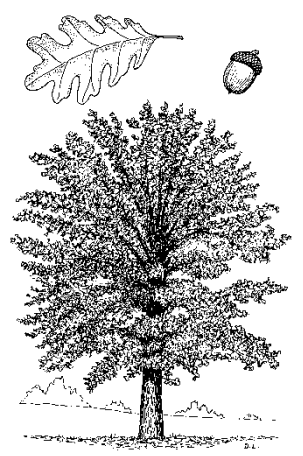
4. Have ambition. 130+ biobased production facilities sounds outrageous? Well, its ambitious óat \$8 per gallon of capacity for capital expenditure, it would require more than \$35 billion in financing. But think of it this way óthe F35A fighter program at the Pentagon is expected to cost \$323 billion, at \$1321 million per fighter

5. Work regionally ópartner early "and often n " k v . " o k n n " k v ø u " c " o k i j v { " n k boundaries have nothing to do with state boundaries óin fact, river resources, which form a lot of state boundary lines, are generally the heart, not the border, of project opportunity areas. Inter-state and inter-community cooperation is a must.

But public-private partnership is even more key. Take, for example, the bond program that the St. Joseph City Council approved óto revive the Terra Bioenergy project ódone in partnership with Blue Sun Biodiesel and with some strict covenants on that organization.



*Missouri Timber Price Trends tracks market prices for Stumpage. Reports on the Stumpage Market are received from Missouri Department of Conservation Resource Foresters and private consulting foresters. Stumpage refers to timber sold on the stump and does not reflect delivered mill prices. These reports should serve as a general guide to track stumpage prices. Landowners should not use this report to replace a timber inventory and marketing assistance as methods of conducting a sale. Missouri Department of Conservation Resource Foresters will be able to provide information on current, local market conditions. Details of all private sales and delivered prices are kept confidential.*



**Missouri Department of Conservation  
Forestry Division Offices**

**MDC CENTRAL OFFICE.....573/751-4115**

PO Box 180, Jefferson City 65102  
 Lisa Allen, State Forester ..... x 3120  
 Mike Hoffmann, Forest Management Chief ..... x 3307  
 John Tuttle, Forest Management Chief ..... x 3304

**CENTRAL REGION .....573/815-7900**

3500 E. Gans Rd., Columbia 65201  
 Susan Troxel-DeWitt, Regional Supervisor ..... x 3478  
**CALIFORNIA OFFICE**  
 410C W. Buchanan St., California 65018 .....573/796-0286  
**CAMDENTON OFFICE**  
 783 Thunder Mtn. Rd., Camdenton 65020 .....573/346-2210  
**FULTON OFFICE . NRCS Office**  
 4549 State Rd. H, Fulton 65251 .....573/592-1400  
**LINN OFFICE - USDA Service Center**  
 1315 E. Main St., Linn 65051 .....573/897-3797  
**NEW FRANKLIN . MU-HARC Office**  
 10 Research Ctr. Rd., New Franklin 65274 .....660/848-2525

**KANSAS CITY .....816/622-0900**

12405 SE Ranson Rd, Lees Summit 64082  
 Mark Nelson, Regional Supervisor ..... x 1239  
**BURR OAK WOODS NATURE CENTER**  
 1401 NW Park Rd., Blue Springs 64015 .....816/228-3766  
**CLINTON OFFICE**  
 PO Box 368, Clinton 64735 .....660/885-6981  
**DISCOVERY CENTER**  
 4750 Troost, Kansas City 64110 .....816/759-7300  
**SEDALIA OFFICE**  
 2000 S. Limit, Sedalia 65301 .....660/530-5500

**NORTHEAST .....660/785-2420**

3500 S. Baltimore, Kirksville 63501  
 Danny Hartwig, Regional Supervisor ..... x 6516  
**HANNIBAL OFFICE**  
 653 Clinic Rd., Hannibal 63401 .....573/248-2530  
**KAHOKA OFFICE**  
 RR 1 Box 16A, Kahoka 63445 .....660/727-2955  
**MACON OFFICE . Mark Twain Water Quality**  
 2108 US Hwy. 63 Suite D, Macon 63552 .....660/385-6359  
**UNIONVILLE OFFICE**  
 28988 US Hwy. 136, Unionville 63565 .....660/947-2439

**NORTHWEST .....816/271-3100**

701 James McCarthy Dr., St. Joseph 64507  
 Bryan Gragg, Regional Supervisor ..... x 1438  
**ALBANY OFFICE**  
 508 E. Hwy. 136, Albany 64402 .....660/726-3746  
**CHILLICOTHE OFFICE**  
 15368 LIV 2386, Chillicothe 64601 .....660/646-6122

**OZARK .....417/256-7161**

551 Joe Jones Blvd., West Plains 65775  
 Terry Truttmann, Regional Supervisor ..... x 240  
**ALTON OFFICE**  
 PO Box 181, Alton 65606 .....417/778-6594  
**AVA OFFICE**  
 HCR 71 Box 46, Ava 65608 .....417/683-3628  
**DONIPHAN OFFICE**  
 Route 8 Box 8118, Doniphan 63935 .....573/996-2557  
**EMINENCE OFFICE**  
 HCR 1 Box 177K, Eminence 65466 .....573/226-3616

**HOUSTON OFFICE**  
 1020 Hwy 63 North, Houston 65483 ..... 417/967-3385  
**ROLLA OFFICE**  
 125655 State Route Y, Rolla 65401 ..... 573/368-2225  
**SALEM OFFICE**  
 PO Box 386, Salem 65560 ..... 573/729-3182  
**VAN BUREN OFFICE**  
 PO Box 850, Van Buren 63965 ..... 573/323-8515

**SOUTHEAST .....573/290-5730**

2302 County Park Rd., Cape Girardeau 63701  
 Joe Garvey, Regional Supervisor ..... x 245  
**ELLINGTON OFFICE**  
 Route 2 Box 198, Ellington 63638 ..... 573/663-7130  
**FARMINGTON OFFICE**  
 812 Progress Dr., Farmington 63640 ..... 573/756-6488  
**FREDERICKTOWN OFFICE**  
 1051 Madison CR 212, Fredericktown 63645 ..... 573/783-5468  
**IRONTON OFFICE**  
 303 S. Main, Ironton 63650 ..... 573/330-6550  
**MARBLE HILL OFFICE**  
 Route 5 Box 129, Marble Hill 63764 ..... 573/238-2321  
**NEW MADRID OFFICE**  
 PO Box 131, New Madrid 63869 ..... 573/748-5134  
**PERRYVILLE OFFICE**  
 2206 W. St. Joseph, Perryville 63775 ..... 573/547-4537  
**PIEDMONT OFFICE**  
 Route 4 Box 1002, Piedmont 63957 ..... 573/223-4525  
**POPLAR BLUFF OFFICE**  
 107 Magazine Lane, Poplar Bluff 63901 ..... 573/840-9788

**SOUTHWEST ..... 417/895-6880**

2630 N. Mayfair, Springfield 65803  
 Rod Tucker, Regional Supervisor ..... x 1630  
**BOLIVAR OFFICE**  
 412 S. Killingsworth, Bolivar 65613 ..... 417/326-5189  
**BRANSON OFFICE**  
 226 Claremont Dr., Branson 65616 ..... 417/334-3324  
**CASSVILLE OFFICE**  
 PO Box 607, Cassville 65625 ..... 417/847-5949  
**JOPLIN OFFICE**  
 705 S. Illinois, Ste. 6B Joplin 64801 ..... 417/629-3423  
**LEBANON FORESTRY OFFICE**  
 2350 S. Jefferson, Lebanon 65536 ..... 417/532-7612  
**NEOSHO OFFICE**  
 1510 S. US Hwy. 71, Neosho 64850 ..... 417/451-4158

**ST. LOUIS .....636/441-4554**

2630 Hwy. D, St. Charles 63304  
 Cathy deJong, Regional Supervisor ..... x 311  
**MERAMEC WORK STATION**  
 3220 South Hwy 185, Sullivan 63080 ..... 573/468-3335  
**POWDER VALLEY NATURE CENTER**  
 11715 Cragwold Rd., Kirkwood 63122 ..... 314/301-1500  
**ROCKWOODS OFFICE**  
 2751 Glencoe Rd., Wildwood 63038 ..... 636/458-2236  
**WARRENTON OFFICE**  
 PO Box 157, Warrenton 63383 ..... 636/456-3368

**GEORGE O. WHITE NURSERY .....573/674-3229**

14027 Shafer Rd., Licking 65542  
 George Clark, Supervisor ..... x222

