

# **2015 Indiana Forest Products Price Report and Trend Analysis** (Spring 2015)

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## Survey Procedures and Response

This report can be used as an indication of price trends for logs of defined species and qualities. It should not be used for the appraisal of logs or standing timber (stumpage). Stumpage price averages are reported by the Indiana Association of Consulting Foresters in the Indiana Woodland Steward, <http://www.inwoodlands.org/>.

Data is collected twice a year, but log prices change constantly. Standard appraisal techniques by those familiar with local market conditions should be used to obtain estimates of current market values for stands of timber or lots of logs. Because of the small number of mills reporting logging costs, “stumpage prices” estimated by deducting the average logging and hauling costs (Table 4) from delivered log prices must be interpreted with extreme caution.

Data for this survey was obtained by a direct mail survey to a variety of forest product industry including sawmills, veneer mills, concentration yards, and independent log buyers. Only firms operating in Indiana were included. The survey was conducted and analyzed by the Indiana Division of Forestry. The prices reported are for logs delivered to the log yards of the reporting mills or concentration yards. Thus, prices reported may include logs shipped in from other states (e.g. black cherry veneer logs from Pennsylvania and New York).

The survey was mailed to 55 firms. It is estimated these 55 facilities produce close to 85-90% of the state’s roundwood. Several were returned as undeliverable. There was an initial mailing and one reminder postcard sent to non-respondents. Follow-up phone calls and mailing got a few of those mills and operators back into the system.

Sixteen companies reported some useful data. One mill reported producing 1 million board feet (MMBF) or less (*Figure 1*). Five mills reported production of 5 MMBF or greater. Total production reported for 2014 was 48 MMBF compared to 147 MMBF for 2013, and 151 MMBF for 2012. The largest single mill production reported was 12 MMBF. These annual levels are not comparable since they do not represent a statistical estimate of total production. The number of industry contributing price data for each product is shown in the second and third columns in Tables 2 and 3, and in the second column in Tables 4 and 5. Forty-three mills reported their 2013 board foot production in 2014, compared to 43 reporting their 2012 production in 2013.

The price statistics by species and grade do not include data from small custom mills, because most do not purchase logs, or they pay a fixed price for all species and grades of pallet-grade logs. They are, however, the primary source of data on the cost of custom sawing and pallet logs. The custom sawing costs reported in Table 4 do not reflect the operating cost of large mills.

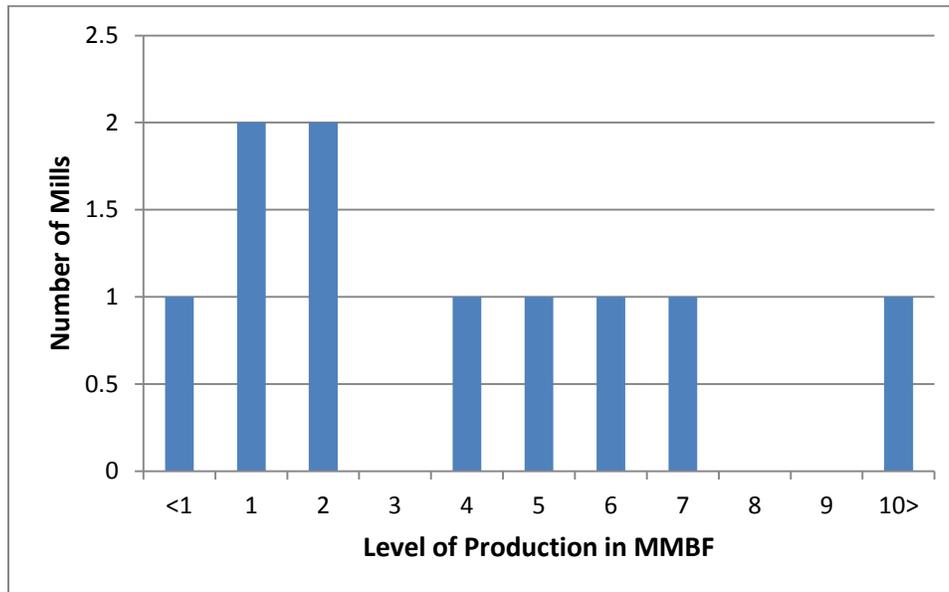


Figure 1. Distribution of the 43 mills reporting 2013 level of production.

## Hardwood Lumber Prices

Hardwood lumber prices as of May 2015 are shown in Table 1, which represents prices per thousand board feet (MBF) for green, 1 inch thick 4/4 lumber by species and grade compiled by the Hardwood Market report out of Memphis, TN. Log prices are directly tied to lumber prices since logs are delivered to mills on a continuing basis. This allows mills to base the price they pay for logs on current lumber market prices. The link to prices paid for standing timber is less direct, depending on how far in advance of logging a stand of timber is purchased.

### Premium Species

Red oak is an economic indicator species in the hardwood industry. Prices cycle with the general domestic economy and housing. Export markets continue to be a major factor as well. The price of the top grade of lumber, first and seconds (FAS), plus a \$200 premium peaked at \$1,310 per thousand board feet (MBF) in the summer of 2004 and has gone through two cycles since. It's been increasing since July 2012, hitting \$1,145 per MBF in December 2014 – 27% increase. Current pricing for Red Oak however has been decreasing to \$1100 per Mbf. Several producers express optimism that Red Oak has hit bottom and prices will stabilize soon. The premium applies when a buyer and a manufacturer negotiate a price for the purchase of lumber consisting of No. 1 C and better grades.

White oak prices are also cyclical, but the cycles are slightly more moderate than red oak's. An exception is the 42% drop in FAS plus the premium from \$1,390 per MBF in 2008 to \$800 per MBF in the summer of 2009. As of May 2015, FAS lumber pricing was \$1,365 per MBF.

Black walnut is in the process of price adjustment. Although demand is still good, it is thought the economy (especially abroad) rather than lower customer preference is the main cause of the decreased pricing. FAS lumber was reported at \$3,040 per MBF in November 2014. Current Walnut pricing for FAS is \$2810 per MBF.

Black cherry FAS prices dropped in January 2013 to \$1,335 per MBF. In recent months, due in most part to supply far outpacing demand, prices have dropped from \$1,540 in November 2014 to its current price of \$1,495 MBF.

FAS hard maple reached \$1,305 in July 2013 and increased slightly in early 2014 but current markets have softened with recent pricing around \$1,320 per MBF.

### Other Species

Yellow poplar hit a low point of \$550 in the summer of 2011. Markets have become stronger and demand continues to be good despite increased production. Poplar has been termed “the steady Eddy” of the hardwood market. FAS lumber pricing is reported at \$830 per MBF, a 34% increase

Soft maple markets have improved in the past couple of years. In July of 2012, prices were reported at \$920 per MBF and current pricing at \$1,095 per MBF.

Locally, ash markets have become stronger with good volumes of lumber moving overseas as well as being used as a substitute for higher priced red oak. These increases are despite a large amount of ash logs and lumber entering the market as landowners harvest ash because of Emerald Ash Borer (EAB). Although common grade Ash lumber is experiencing some price softening, FAS lumber is reported to be \$1,190 per MBF; a 29% increase from September 2013.

True to form, beech prices were unchanged. FAS last changed in July 2005.

Hickory markets picked up steam due to increased demand from the cabinet and rustic flooring markets. However that demand has softened recently, especially from the solid hardwood flooring market. Current pricing is reportedly \$945 per MBF, a 29% increase since January 2012.

**Table 1. Hardwood lumber prices, dollars per one thousand board feet (MBF), 1-inch-thick (4/4) Appalachian market area unless otherwise indicated. Source: *Hardwood Market Report*, P.O. Box 2633, Memphis, TN 38088-2633**

Lumber Grade	Jan 2010	July 2010	Jan 2011	July 2011	Jan 2012	July 2012	Jan 2013	July 2013	Sep 2013	May 2015	
<b>Ash</b>											
FAS + Prem.	715	805	785	800	800	845	845	845	845	1190	
No. 1C	470	580	575	575	575	585	585	585	585	855	
No. 2A	320	380	360	360	360	360	360	360	350	520	
<b>Basswood</b>											
FAS + Prem.	635	660	645	630	630	630	630	630	660	695	
No. 1C	300	335	335	345	345	345	345	385	395	430	
No. 2A	180	190	190	190	190	190	190	210	210	230	
<b>Beech</b>											
FAS	500	500	500	500	500	500	500	500	500	500	
No. 1C	420	420	420	420	420	420	420	420	420	420	
No. 2A	345	345	345	345	345	345	345	345	345	345	
<b>Cottonwood (Southern)</b>											
FAS	605	605	625	635	635	635	635	635	655	745	
No. 1C	405	405	425	435	435	435	435	435	455	535	
No. 2A	220	220	220	220	220	220	240	220	240	260	
<b>Cherry (North Central)</b>											
FAS + Prem.	1610	1610	1610	1525	1355	1440	1335	1335	1335	1495	
No. 1C	660	720	720	720	655	720	705	765	795	1015	

	No. 2A	350	375	375	375	330	375	375	430	460	645
<b>Hickory</b>											
	FAS + Prem.	615	640	640	655	670	720	720	765	800	945
	No. 1C	500	530	530	540	560	595	595	650	685	740
	No. 2A	350	405	405	405	415	445	445	480	500	575

**Table 1. (continued)**

	Lumber Grade	Jan 2010	July 2010	Jan 2011	July 2011	Jan 2012	July 2012	Jan 2013	July 2013	Sep 2013	May 2015
<b>Hard Maple (unselected)</b>											
	FAS + Prem.	1080	1095	995	970	1050	1050	1075	1305	1305	1320
	No. 1C	655	710	710	705	735	750	790	1000	1000	780
	No. 2A	480	545	535	535	565	555	550	685	685	540
<b>Soft Maple (unselected)</b>											
	FAS + Prem.	880	895	835	805	845	920	940	1000	1000	1095
	No. 1C	535	610	595	580	595	610	650	710	710	650
	No. 2A	275	320	320	320	330	330	340	360	360	460
<b>White Oak (plain)</b>											
	FAS + Prem.	915	1165	1060	1035	995	1015	1015	1070	1070	1365
	No. 1C	540	655	625	575	555	555	575	695	705	715
	No. 2A	365	500	500	450	420	410	475	610	630	510
<b>Red Oak (plain)</b>											
	FAS + Prem.	825	1095	930	925	830	830	880	1045	1045	1100
	No. 1C	560	665	615	580	535	520	570	680	700	620
	No. 2A	470	540	540	460	430	420	495	640	660	545
<b>Yellow Poplar</b>											
	FAS + Prem.	620	640	550	550	590	700	760	775	775	830
	No. 1C	420	470	350	360	385	445	490	505	505	545
	No. 2A	310	320	270	280	300	310	330	340	340	385
<b>Sycamore (Southern plain)</b>											
	FAS	455	455	455	455	455	455	455	455	455	455
	No. 1C	435	435	435	435	435	435	435	435	435	435
	No. 2A	375	375	375	375	375	375	375	375	375	375
<b>Black Walnut</b>											
	FAS	1800	1995	2105	2155	2070	1815	1795	1795	1905	2810
	No. 1C	765	1040	1125	1160	1075	905	875	875	935	1460
	No. 2A	360	620	740	770	705	505	475	475	530	875

## **Exports**

Export markets have increasingly become a significant part of the US hardwood log and lumber markets. These same export markets can have a major effect on the domestic markets.

## **Log**

China, Canada and Vietnam were the three largest importers of hardwood logs from the U.S. in 2014 according to AHEC's US Hardwood Export Statistics. China surpassed Canada for the first time in 2014 not only as the largest importer in log value but in quantity as well. Red oak, black walnut and white oak veneer & saw logs remain the core for China with hard maple, red oak, birch and tulip poplar, red oak and white oak for Canada and Vietnam respectively. In the second quarter of this year log prices began to level off and even drop

in some species from historic highs. The normal seasonal slowdowns in the veneer market along with the continued strength of the U.S. dollar are the primary reasons for this change. Additionally, Russia along with other Asian imports could increase their market share if they can overcome operational and logistic problems.

## **Lumber**

U.S. hardwood lumber exports totaled 376 million board feet (MMBF) in Q1 2015, down 7% from Q1 2014. Shipment values were only down 4%, indicating that overall sales averages remain good despite price declines. We estimate that exports accounted for 41% of grade lumber production in 2014, but that has probably fallen slightly this year.

China imported 194 MMBF of U.S. hardwood lumber in Q1 2015, down 8% from Q1 2014. Interestingly, year-to-date Red Oak shipments to China were only off 3%. Q1 2015 also saw exports slip 15% to Europe from a year ago, but rise 5% to Mexico. While Chinese demand for U.S. hardwoods has slowed, European and Russian shipments to China have reportedly increased due to the lower euro and ruble. Exports to China may seasonally increase in the months ahead, but are likely to stay below 2014 levels due to high in-country inventories and uncertain housing markets. Quantitative easing and the euro's low value are now providing the European Union with some economic tailwinds, and the European Commission has raised its 2015 GDP growth forecast for the EU to 1.8%. With the euro likely to resume its decline against the U.S. dollar, however, we expect overall exports to the EU to remain weak through summer. Exports to Mexico will continue to bump up on modestly higher U.S. demand for its wood products.

By fall, global inventories of U.S. hardwoods should be lower and lumber prices should be stable to firming, making for solid Q4 shipments and pushing 2015 exports slightly past 2014.

*(Source - Hardwood Review)*

## **Delivered Sawlog Prices**

The number of mills reporting delivered sawlog prices slightly increased this year (Table 2). Almost without exception sawlog prices for the premium species, such as black walnut and white oak have increased. Sawlog price changes varied for the other species.

### Premium Species

All four sawlog grades of the red oak species decreased from 2014. Upper grade sawlogs saw the biggest decrease with prime sawlogs down 11.5% from 2014. Number 1 sawlog prices were 8% lower and Number 2 & 3 sawlogs were averaged around 5% lower. The lumber from these two and all other species in the red oak family is sold as red oak.

White oak sawlog prices were down as well for the first portion of 2015. Across all grades of sawlogs, prices were down 7.5% with Prime and Number 2 sawlogs suffering the most being down 11% and 10% respectively.

Poplar has been the “steady Eddy” of the market. Although the percentage gains from 2014 were not significant, they were slightly up from 2014 with the exception of Number 1 grade sawlogs.

Demand for black walnut was extremely strong for most of 2014 but markets have begun to soften a little. While demand is still decent, Prime grade grade sawlog prices were down almost 7% while Number 3 grade logs were around 6% higher in 2015.

Although lumber prices have been down, black cherry sawlog prices generally increased, with Number 2 & 3 grade sawlogs rising 11% and 7% respectfully. Prime grade sawlog prices were down a little over 3%.

Hard maple sawlogs saw significantly lower prices during the first part of 2015. Across all sawlog grades, prices were down approximately 12% with Prime and Number 1 grade sawlogs suffering the largest price declines.

Soft maple Prime and Number 1 grade sawlog prices were down 4.3% while Number 2 & 3 grade sawlogs were up around 4.5% compared to 2014.

Until recently, ash markets have been pretty steady despite a significant increase in harvest levels due to the Emerald Ash Borer. Prime and Number 1 grade sawlog prices were very comparable to 2014 levels while Number 2 & 3 grade sawlog prices were 3.5% higher.

### Softwood Logs

The price of pine sawlogs increased almost 10% compared to 2014 levels. Red Cedar prices also increased around 9% during the first part of 2015.

**Table 2. Prices paid for delivered sawlogs by Indiana sawmills (March 2015).**

Species/Grade	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>White Ash</b>									
Prime	400 – 700	21	7	573 (22.75)	579 (37.57)	600	600	1	0.0
No. 1	300 – 550	25	9	457 (18.79)	456 (24.22)	500	450	-0.3	-10.0
No. 2	250 – 400	23	9	338 (13.78)	350 (18.63)	350	350	3.5	0.0
No. 3	150 – 315	20	9	262 (13.79)	271 (17.25)	250	300	3.5	20
<b>Basswood</b>									
Prime	240 – 500	14	6	329 (21.43)	323 (36.67)	300	300	-1.6	0.6
No. 1	240 – 500	16	6	288 (18.54)	312 (39.02)	275	290	8.4	5.5
No. 2	150 – 350	14	6	241 (14.14)	270 (28.05)	250	290	11.8	16.0
No. 3	150 – 350	14	6	231 (14.77)	253 (23.05)	250	265	9.8	6.0

Table 2. (continued)

Species/Grade	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>Beech</b>									
Prime	240 – 350	14	6	283 (19.01)	298 (14.24)	262.5	300	5.6	14.3
No. 1	240 – 300	16	5	282 (21.12)	274 (12.49)	250	280	-2.7	-12.0
No. 2	150 – 300	14	6	241 (12.02)	262 (24.28)	250	290	8.7	16.0
No. 3	150 – 300	15	5	238 (11.51)	244 (25.81)	250	250	2.5	0.0
<b>Cottonwood</b>									
Prime	150 – 300	10	5	211 (10.59)	258 (29.39)	200	300	22.3	50
No. 1	150 – 300	12	5	223 (12.32)	254 (28.21)	215	280	14.2	30.2
No. 2	150 – 300	11	5	215 (12.24)	254 (28.21)	200	280	18.4	40
No. 3	150 – 300	11	5	215 (12.24)	254 (28.21)	200	280	18.4	40
<b>Cherry</b>									
Prime	600 – 1000	20	7	798 (69.82)	771 (56.54)	800	800	-3.3	0.0
No. 1	400 – 800	23	9	609 (62.84)	600 (44.10)	600	650	-1.4	8.3
No. 2	300 – 600	21	9	400 (20.12)	444 (29.40)	400	450	11.1	12.5
No. 3	240 - 315	17	9	268 (12.08)	287 (8.54)	300	300	7.3	0.0
<b>Elm</b>									
Prime	150 - 300	11	5	235 (14.23)	258 (29.39)	250	300	10	20.0
No. 1	150 - 300	13	5	256 (20.71)	254 (18.21)	250	280	-0.8	12.0
No. 2	150 - 300	12	5	235 (13.00)	254 (28.21)	250	280	8.1	12.0
No. 3	150 - 300	12	5	232 (13.30)	254 (28.21)	250	280	9.6	12.0

Table 2. (continued)

Species/Grade	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>Hickory</b>									
Prime	400 – 600	16	7	503 (32.43)	543 (31.68)	475	600	7.9	26.3
No. 1	300 – 500	20	9	436 (27.47)	444 (24.22)	400	450	1.9	12.5
No. 2	250 – 400	18	9	328 (12.28)	342 (18.39)	325	350	4.4	7.7
No. 3	150 – 315	16	9	263 (10.70)	276 (17.32)	250	300	5.2	20.0
<b>Hard Maple</b>									
Prime	500 – 1000	18	7	881 (58.46)	700 (61.72)	900	700	-20.5	-22.2
No. 1	400 – 800	22	9	698 (49.18)	594 (41.20)	750	600	-14.8	-20.0
No. 2	300 – 600	20	9	483 (29.53)	444 (30.56)	525	450	-7.9	-14.3
No. 3	200 – 400	18	9	311 (18.33)	295 (18.10)	300	300	-5.2	0.0
<b>Soft Maple</b>									
Prime	300 – 550	17	7	424 (36.41)	407 (33.5)	400	400	-3.9	0.0
No. 1	300 – 500	21	9	379 (25.72)	361 (23.24)	350	350	-4.6	0.0
No. 2	200 - 400	19	9	288 (15.94)	298 (18.77)	300	300	3.2	0.0
No. 3	150 – 300	16	9	249 (13.29)	263 (16.41)	250	280	5.9	12.0
<b>White Oak</b>									
Prime	600 – 1300	18	7	953 (77.49)	850 (87.97)	875	800	-10.8	-8.6
No. 1	500 – 1000	22	7	689 (46.63)	657 (68.51)	600	600	-4.6	0.0
No. 2	300 - 750	21	7	502 (34.07)	450 (55.63)	500	400	-10.4	-20
No. 3	250 – 450	19	7	337 (27.79)	319 (24.63)	300	300	-5.4	0.0

Table 2. (continued)

Species/Grade	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>Red Oak</b>									
Prime	600 – 800	20	7	783 (34.08)	693 (22.96)	800	700	-11.5	-12.5
No. 1	450 – 650	23	9	612 (31.98)	572 (23.73)	600	600	-6.5	0.0
No. 2	350 – 525	21	9	460 (22.42)	450 (21.65)	450	450	-2.3	0.0
No. 3	250 – 350	18	9	306 (13.94)	296 (10.27)	325	300	-3.1	-7.7
<b>Black Oak</b>									
Prime	550 – 700	20	7	728 (37.95)	643 (22.96)	750	650	-11.6	-13.3
No. 1	400 – 600	23	9	561 (32.20)	511 (20.03)	500	500	-8.9	0.0
No. 2	300 – 450	21	9	425 (19.67)	394 (13.03)	400	400	-7.1	0.0
No. 3	250 - 350	18	9	300 (14.00)	291 (11.44)	300	300	-3.1	0.0
<b>Tulip Poplar</b>									
Prime	450 – 600	19	7	493 (22.61)	511 (18.79)	500	500	3.5	0.0
No. 1	250 -500	23	9	403 (19.90)	378 (26.50)	400	400	-6.3	0.0
No. 2	300 – 450	21	9	298 (14.10)	300 (20.41)	300	300	0.6	0.0
No. 3	200 – 300	19	9	245 (10.74)	249 (14.48)	250	250	1.7	0.0
<b>Sycamore</b>									
Prime	200 – 350	15	6	265 (19.68)	287 (24.45)	250	290	8.0	16
No. 1	200 – 300	17	5	272 (20.91)	264 (19.39)	250	290	-3.1	12
No. 2	200 – 300	15	6	235 (10.73)	262 (16.0)	250	265	11.2	6
No. 3	200 – 300	16	5	236 (11.06)	244 (20.40)	250	240	3.3	-4.0

Table 2. (continued)

Species/Grade	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>Sweetgum</b>									
Prime	150 – 350	14	6	250 (22.61)	270 (28.05)	250	290	7.8	16
No. 1	150 – 300	16	5	266 (23.40)	254 (28.21)	250	280	-4.5	12
No. 2	150 – 300	14	6	226 (10.41)	253 (23.05)	245	265	11.9	8.2
No. 3	150 – 300	15	5	225 (11.08)	234 (27.13)	200	24	3.8	20
<b>Black Walnut</b>									
Prime	300 – 2000	17	7	1709 (116.73)	1593 (224.78)	1750	1800	-6.8	2.9
No. 1	200 – 1800	21	9	1321 (97.07)	1322 (151.41)	1300	1400	0.1	7.7
No. 2	150 – 1500	19	9	937 (68.38)	972 (123.07)	950	1000	3.8	5.3
No. 3	150 – 1000	17	9	594 (82.01)	629 (111.55)	600	800	5.9	33.3
<b>Softwood</b>									
Pine	150 – 300	6	6	218 (15.58)	240 (21.91)	230	235	9.9	2.2
<b>Red Cedar</b>									
	350 – 800	5	3	475 (141.86)	517 (142.4)	400	400	8.8	0.0

## Veneer Log Prices

The number of companies reporting veneer log prices decreased in 2014, Table 3 and were reported by both veneer companies and sawmills. Most logging and sawmill companies sell their veneer quality logs to the local veneer mills and/or exporters. Some mills may even saw the marginal veneer logs for specialty cuts like quarter sawn which brings a premium price for the lumber. Nevertheless, this creates the large variation in pricing which would be reduced if only prices reported by veneer mills were used.

Sliced & rotary veneer demand continues to remain slow with most mills still running at a reduced capacity with some doing custom work to offset the decreased production. StemWood one of the oldest veneer mills in Indiana closed its doors permanently which only confirms the current veneer market conditions. We see the hot summer months all but close out the veneer log market until the beginning of cooler weather this coming fall.

This fall may bring some changes to veneer log demand and pricing due to the continued small domestic market along with the economic slowdown in the Asian export markets. Additionally, the continued strength of the dollar also weakens the international markets. Still, high quality veneer logs will continue to remain in demand this fall and prices may fluctuate from this past spring depending on the availability of the species and manufactures requirements. However, one game changer might be the abnormal wet weather conditions this summer which could hold are even increase log pricing.

White oak, black walnut along with all of the species have slowed for the summer season as stated earlier until this fall when the season begins again. The overall demand domestically, and especially internationally, for black walnut has finally begun leveled off with some export manufactures dropping out of the market completely. This reduced demand for walnut veneer logs, along with 3SC and 2SC sawlogs should be good news for domestic veneer companies and sawmills however, the demand for lumber has also dropped in the past 60 days reflecting lower prices for all grades. It will be interesting to see what happens this fall to black walnut!

White oak veneer demand this fall should remain stable as one of the biggest drivers for white oak currently is the stave market which continues to remain very active and competitive. The wine and whiskey manufactures currently still want to increase their high-end products which require a longer time frame and are in great demand. Additionally, the one bright spot in the lumber market is the demand for quarter-sawn and export lumber continuing the pressure for logs exponentially. Look for white oak logs to remain constant for 2015 and possibly into 2016.

Overall, the slower economic conditions in China, Europe and the monetary crises in Greece will have an effect on the remaining veneer log prices this fall and possibly in 2016

**Table 3. Prices paid for delivered veneer logs by Indiana mills (March 2015).**

Species/Grade/ Log Dia.	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
				(\$/MBF)		(\$/MBF)			
<b>Black Walnut</b>									
<b>Prime</b>									
12-13	3000 – 4000	8	4	2775 (322.79)	3375 (239.36)	2750	3250	21.6	18.2
14-15	4000 – 5000	8	4	3719 (338.84)	4250 (250.00)	3500	4000	14.3	14.3
16-17	4500 – 5500	7	4	4929 (428.57)	4875 (239.36)	5000	4750	-1.1	-5.0
18-20	3000 - 7000	7	4	5857 (604.69)	5250 (853.91)	5000	5500	-10.4	10.0
21-23	6000 – 8000	5	3	8000 (1214.50)	6667 (666.67)	7000	6000	-16.7	-14.3
24-28	8000 – 8000	6	3	8917 (1462.97)	8000 (0.0)	7500	8000	-10.3	6.7
>28	10000 – 10000	5	2	9600 (1691.15)	10000 (0.00)	9000	10000	4.2	11.1
<b>Select</b>									
12-13	1500 – 3000	5	4	2060 (326.50)	2375 (314.58)	2100	2500	15.3	19.0
14-15	1800 – 3000	6	4	2842 (402.16)	2700 (300.00)	2750	3000	-5.0	9.1
16-17	2000 – 4500	5	4	3110 (399.50)	3625 (554.34)	3000	4000	16.6	33.3
18-20	3000 – 5000	5	4	3950	4250	4000	4500	7.6	12.5

				(357.07)	(433.01)				
21–23	3000 - 5500	3	3	4917	3833	5000	3000	-22.0	-40.0
				(650.85)	(833.33)				
24–28	3000 – 7500	4	3	5875	5500	5750	6000	-6.4	4.3
				(426.96)	(1322.88)				
>28	3000 – 9000	3	2	6333	6000	6000	6000	-5.3	0.0
				(333.33)	(3000.00)				

Table 3. (continued)

Species/Grade/ Log Dia.	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
				(\$/MBF)		(\$/MBF)			
<b>White Oak</b>									
<b>Prime</b>									
13–14	1000 - 2000	5	4	1560	1525	1500	1550	-2.2	3.3
				(128.84)	(205.65)				
15–17	1800 – 3000	6	4	1917	2200	2100	2000	14.8	-4.8
				(197.34)	(270.80)				
18–20	2000 – 3500	5	4	2415	2650	2500	2550	9.7	2.0
				(245.41)	(361.71)				
21–23	2500 – 4000	6	3	3242	3167	3500	3000	-2.3	-14.3
				(305.62)	(440.96)				
24–28	3000 – 4500	6	3	3958	3767	4000	3800	-4.8	-5.0
				(378.69)	(433.33)				
>28	3000 – 5000	5	2	4550	4000	4000	4000	-12.1	0.0
				(717.64)	(1000)				
<b>Select</b>									
13–14	800 – 1500	2	4	1350	0	1350	1050	-100.0	-22.2
				(150.00)	(177.95)				
15–17	800 - 2500	2	4	1250	1600	1250	1550	28.0	24.0
				(250.00)	(348.81)				
18–20	1300 – 3000	2	4	1600	2175	1600	2200	35.9	37.5
				(100.00)	(386.27)				
21–23	1300 - 4000	3	3	2233	2167	2000	2200	-3.0	10.0
				(392.99)	(491.03)				
24–28	1300 -4000	3	3	2400	2767	2500	3000	15.3	20.0
				(378.59)	(788.11)				
>28	1300 – 4000	3	2	2567	2650	3000	2650	3.2	-11.7
				(433.33)	(1350.00)				

Table 3. (continued)

Species/Grade/ Log Dia.	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>Black Cherry</b>									
<b>Prime</b>									
12-13	600 – 1000	1	2	1200	800	1200	800	-33.3	-33.3
					(200.00)				
14-15	600 – 1200	1	2	2000	900	2000	2000	-55.0	-55.0
					(300.00)				
16-17	600 – 2000	2	3	1750	1367	1750	1750	-21.9	-14.3
				(750.00)	(409.61)				
18-20	600 – 3500	2	3	2250	2033	2250	2250	-9.6	-11.1
				(750.00)	(837.32)				
21-23	2000 – 4000	1	3	4000	2667	4000	4000	-33.3	-50.0
					666.67				
24-28	2000 - 5000	2	3	3500	3000	3500	3500	-14.3	-42.9
				(1500.00)	(1000.00)				
>28	2000 - 6000	0	2	N/A	4000	N/A	N/A	N/A	N/A
					(2000.00)				
<b>Select</b>									
12-13	800 – 1000	0	2	N/A	900	N/A	900	N/A	N/A
					(100.00)				
14-15	800 - 1000	0	2	N/A	900	N/A	900	N/A	N/A
					(100.00)				
16-17	1000 – 1500	0	3	N/A	1300	N/A	1300	N/A	N/A
					(145.3)				
18-20	1300 – 3000	0	3	N/A	1500	N/A	1500	N/A	N/A
					(536.45)				
21-23	1300 – 3500	0	3	N/A	1500	N/A	1500	N/A	N/A
					(702.38)				
24-28	1300 – 4500	0	3	N/A	1500	N/A	1500	N/A	N/A
					(1034.94)				
>28	1300 – 5000	0	2	N/A	3150	N/A	3150	N/A	N/A
					1850				

Table 3. (continued)

Species/Grade/ Log Dia.	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>Red Oak</b>									
<b>Prime</b>									
16–17	700 – 1800	6	3	1650 (221.74)	1333 (328.3)	1500	1500	-19.2	0.0
18–20	900 – 2000	6	3	1833 (224.60)	1567 (338.3)	1650	1800	-14.5	9.1
21–23	900 – 2000	5	2	1970 (220.00)	1450 (550.0)	1750	1450	-26.4	-17.1
24–28	900 - 2000	4	2	2250 (322.75)	1450 (550.0)	2250	1450	-35.6	-35.6
>28	900 - 2000	4	2	2500 (540.06)	1450 (550.0)	2250	1450	-42.0	-35.6
<b>Select</b>									
16–17	500 -1500	2	3	1425 (375.00)	1067 (296.27)	1425	1200	-25.1	-15.8
18–20	500 – 1800	2	3	1650 (150.00)	1333 (417.67)	1650	1700	-19.2	3.0
21–23	500 – 1800	2	2	1650 (150.00)	1150 (650)	1650	1150	-30.3	-30.3
24–28	500 – 1800	2	2	1650 (150.00)	1150 (650)	1650	1150	-30.3	-30.3
>28	500 – 1800	2	2	1650 (150.00)	1150 (650.0)	1650	1150	-30.3	-30.3

Table 3. (continued)

Species/Grade/ Log Dia.	2015 Range (\$/MBF)	No. Responses		Mean (s.e.) <sup>1</sup>		Median		Change (%)	
		2014	2015	2014	2015	2014	2015	Mean	Median
<b>Hard Maple</b>									
<b>Prime</b>									
16–20	2000 - 2500	6	3	2500 (223.61)	2433 (233.33)	2500	2500	-2.7	0.0
>20	2500 – 3000	4	3	3125	2833	3500	3125	-9.3	-14.3

				(375.00)	(166.67)				
<b>Select</b>									
16–20	1000 – 2000	2	3	1650	1667	1650	2000	1.0	21.2
				(150.00)	(333.33)				
>20	1000 – 2500	2	3	2000	1833	2000	2000	-8.3	0.0
				(0.00)	(440.96)				
<b>Prime</b>									
16–20	800 – 1000	1	1	1800	800	1800	800	-55.6	-55.6
>20	800 – 1000	1	1	2200	1000	2200	1000	-54.5	-55.4
<b>Select</b>									
16–20	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A
>20	N/A	0	0	N/A	N/A	N/A	N/A	N/A	N/A

## Miscellaneous Products

The change in prices paid for or received for various raw-wood products between 2014 and the first portion of 2015 varied (Table 4). These are lower quality and sometimes smaller logs purchased in batches of random species to be sawn into cants or chipped. The cants are re-sawn into boards used for pallets, blocking, railroad ties or other industrial applications that have a strong market. Some mills restrict purchases to specific species or exclude specific species, depending on the markets they sell to. The price for pallet and cant logs increased both by board foot and by the ton. Pulpwood prices per ton were up significantly (22%). Sawdust prices declined while bark prices per ton were up significantly.

Until about the 1970's sawdust, chips and bark would have been burned or landfilled by many mills. They now have many more uses. Sawdust can be used to make fuel pellets. Wood chips are produced primarily from slabs sawn off of debarked logs. The decline in the pulp and paper industry is a threat to this market. Bark is used for landscape mulch and seems to be growing segment. In some facilities all or some portion of these byproducts are used to fire efficient low-emission boilers to heat dry kilns year round and heat facilities in the winter. Attempts have been made to cogenerate electricity at mills, or in standalone generating plants. Success has been limited by the low cost of electricity purchased off of the grid, and below cost price received if sold into the grid.

**Table 4. Prices of miscellaneous products reported by Indiana mills (March 2015) , free on board (fob) the producing mill.**

	No. Responses	2015 Range	Mean		Median	
			2014	2015	2014	2015
Pallet logs, \$/MBF	9	150 – 436	286	305	280	300
Pallet logs, \$/ton	3	35 – 50	39	42	37	40

Sawn cants			419		397	
Pulpwood, \$/ton	1	40 – 40	31	40	34	40
Pulp chips, \$/ton	8	11 – 34.4	22	21	20	20
Sawdust, \$/ton	7	4 – 34.4	17	14	15.95	8
Sawdust, \$/cu. yd.	2	4.62 – 6	5	5	5	5.3
Bark, \$/ton	5	4 – 28	8	12	8	6
Bark, \$/cu. yd.	6	2 – 14	8	6	8.16	5
Mixed, \$/ton	2	15 – 18	19	17	19.03	16.5
Mixed, \$/cu. yd.	0	N/A	N/A	N/A	N/A	N/A

## Custom Costs

Costs of custom services were generally down (Table 5). Logging costs as reported in this survey indicate an increase in logging costs to almost \$150/Mbf during the first part of 2015. Combine this with hauling costs of \$60/Mbf and this is a major reason for such slim profit margins for loggers.

**Table 5. Custom costs reported by Indiana mills (March 2015)**

	No. Responses	2015 Range	Mean		Median	
			2014	2015	2014	2015
Sawing (\$/MBF)	4	250 – 325	293	281	250	275
Sawing (\$/hour)	N/A	N/A	69	N/A	75	N/A
Logging (\$/MBF)	4	20 -200	125	148	140	185
Hauling (\$/MBF)	3	40 – 80	44	60	52.5	60
Distance (miles)	4	20 – 60	79	35	60	35
\$/MBF/mile			N/A		N/A	