



CWFC Facts 009

Canadian Wood Fibre Centre

Fibre Facts

The benefits of managing for value in Central Ontario mixedwoods

The mixedwood forests of Central Ontario are a mosaic of species and sites producing a variety of wood products. An innovative and appropriately incented wood products sector is able to direct better quality logs to higher value end-users thereby providing substantial economic benefits for the region's forest industry and economy. This Fibre Fact Note describes three examples to show how value increases when the forestry sector grows, identifies, segregates, and markets wood for higher value products. The pricing used in this note is for illustrative purposes only¹.

Tolerant Hardwood Veneer

Veneer log yield in tolerant hardwood operations is usually in the 1% to 1.5% range, with the rest of the harvest evenly split between sawlogs and low value pulp or fuelwood. Veneer is an appearance-graded product and requires large, straight, defect free logs with low taper. Since the log is being rotary peeled or thin sliced, it is not possible to mill around a defective face as is done with sawn products. Most veneer logs are butt logs so logging damage during forestry operations must be avoided.

Ontario's tolerant hardwood stands are managed and tree marked under an individual tree selection system which identifies and protects multiple forest values while improving overall stand quality. A forest harvesting operation with a veneer recognition program that rewards the identifica-

tion and segregation of veneer grade logs can triple the veneer yield from the existing harvested stems. Understanding and marketing veneer logs takes effort, but price differentials can quickly justify the increased costs. Specialty logs can be further marketed to improve revenue (Table 1). It is estimated that increasing veneer yield of tolerant hardwoods from 1% to 3% across the province and marketing to the higher end-user would add \$10 million to Ontario's economy.

Table 1: Sample of comparative pricing from three buyers for veneer logs sold in Huntsville, Ont., Sept. 2008.

Species	Length (ft)	Diameter (in)	Grade	Sawlog buyer	Veneer Buyer A	Specialty Buyer B
Yellow birch	10'	11"	1	\$14	\$40	\$21
Yellow birch	9'	12"	2	\$16	\$44	\$42
Yellow birch	9'	13"	1	\$19	\$52	\$66
Sugar maple	9'	12"	Slicer	\$20	\$88	\$158
Yellow birch	9'	16"	Prime	\$29	\$118	\$226
Sugar maple	9'	17"	2	\$42	\$187	\$131
Sugar maple	9'	17"	1	\$42	\$187	\$25
Sugar maple	10'	18"	Slicer	\$52	\$299	\$973

Red Pine Poles

Red pine is valued for sawn products but can also be utilized for utility poles. Utility poles require red pine that is grown to a sufficient size and straightness, and that it have few knots. Forest managers who invest in proper density management





Forty-six foot Red pine poles.

to reduce knots, lengthen rotation ages to achieve desired size, and selectively manage early in the rotation to favour stems with good form can be rewarded with a substantial price premium over growing sawlogs (Table 2). A well managed red pine plantation yielding 40% or more poles late in its rotation can increase revenue by up to \$6000/ha on the landing.

Table 2: Revenue difference per ha on the landing for 40% yield of poles from a spot sale in Petawawa, Ont., April 2008.

Pole Length (ft)	circum at 6' (in.)	top diam (in)	Sample % of poles	Pole price	Sawlog price	Sawlog revenue	Pole revenue
35	38.5	8	4%	\$40	\$22	\$97	\$175
40	42	8	37%	\$75	\$28	\$1,053	\$2,801
45	45	8	37%	\$95	\$35	\$1,287	\$3,530
50	48	9	15%	\$125	\$46	\$680	\$1,867
55	51	9	4%	\$160	\$54	\$217	\$641
60	54	9	2%	\$195	\$64	\$139	\$426
Total for 100 stems/ha:						\$3,473	\$9,440

For the economy as a whole, a single 40' (12.2 m) pole might increase in value 15-20 fold after being treated at a pole yard, sold to a utility company, and then installed to hold up utility wires. There are approximately 15 million utility poles in Canada; each with a life span of about 50 years. Demand is fairly consistent for around 300,000 poles each year (NRCAN. 2009).

White pine sawlogs

Growing quality white pine is possible under Ontario's shelterwood management regimes and the rewards to those growing the better logs and sawing the better products add significant value to the economy. Unlike lumber used primarily for construction, higher value white pine boards are an appearance-graded product. The better quality boards

are usually knot free or have a few small tight knots and sell for significantly higher prices than lower end products (Table 3).

Table 3: White pine board grades, example yield, and end product value, Burlington, Ont. January 2010.

Grade	Sample use	% yield	Price/MBF
D-Select & better	Interior trim, fine furniture, cabinets	10%	\$1800
Moulding, #1 (Appearance)	Trim, Paneling, shelving, furniture	32%	\$800
#2 (Standard)	Similar to #1 but more knots	16%	\$600
#3 (Utility)	Rustic appearance, knotty paneling	16%	\$400
#4, #5 (Economy)	General construction, pallets, crating	26%	\$200

Ontario's shelterwood system utilizes partial cutting methods that may involve up to four harvests during a rotation. Growing high quality logs requires careful logging practices to reduce damage to residual stems that are to be harvested in the future and to retain healthy high quality stems that will increase in size and value. The better boards are sawn from lower and outer parts of larger stems once enough time has passed after self pruning to allow the stem to enlarge the knot free wood zone (Figure 1).

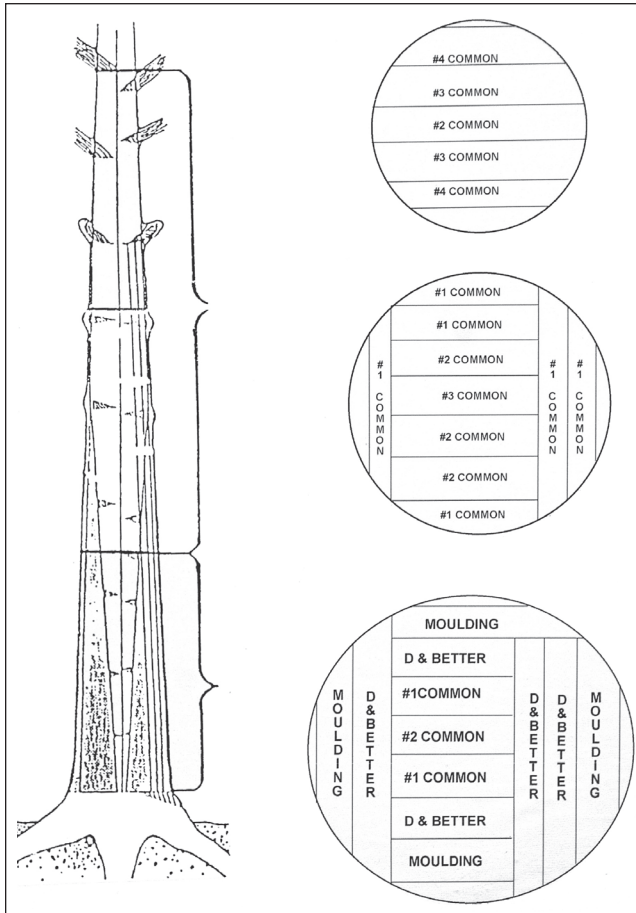


Figure 1: Typical sawn products by location in a white pine stem²

Implications:

A transformation of the forest products sector in Central Ontario is underway. Producing higher value products from the same wood basket can offer additional income at a critical time for the wood products sector in Central Ontario’s mixed forest. Tolerant hardwood veneer, red pine poles, and quality white pine boards are three examples of opportunities to produce wood for higher value end-uses.

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References and footnotes:

Natural Resources Canada. 2009. Great pines in Québec: A choice for the future. Nat. Res. Can., Can. For. Serv., Laurentian For. Cené., Quebec, Que., Forest Innovation Partnership and l’Association forestière des Cantons de l’Est. 28 p.

¹ Prices for forest products vary greatly by location, market situation, and conditions specific to a sale. Prices used in this note came from spot sales on the open market and reflect conditions present at that time, location, and conditions specific to these sales.

² Adapted by Frank Knaepen, Algonquin College from Petro, F.J. 1971. Felling and Bucking Hardwoods - How to Improve Your Profit. Can. For. Serv., Pub. No. 1291