

## RESEARCH BRIEF 09

# Milling poplar on the farm for fencing and yards construction

Farm milled poplar provides valuable wood products for both on-farm and off-farm use e.g. treated posts, battens and timber. On-farm, the timber was used for railings and gates in both cattle and sheep yards. Off-farm timber was used for truck decking and for decking around homes. Poplar wood is light to handle, flexible and resilient under stock pressure.

Considerable savings are to be made by using poplars from on the farm compared with purchasing equivalent commercial pine products (posts, battens, strainers etc.).

Poplar wood can be treated successfully provided the product, whether battens, posts, or rails, is sawn to provide an easy entry point and sufficient penetration for the chemical. This will naturally occur when milling large poplar trees.

### Case Study: Stock yards built from farm-milled treated poplar

Costings for timber milled and treated for battens, railings and posts of poplar grown and milled on farm are given in Tables 1 and 2. Data are from Forde Ltd, 2350 Kahuranaki Road, RD14, Havelock North.

Material	Dimensions (mm)	Units	\$Cost per unit	\$Total	\$Total
Post		97	8.48	5	10-15
Batten		250	0.98	86%	3.65
Railing	150 x 50	132.1 m	2.38	3	4.54
Railing	125 x 50	533.2 m	1.49	43%	
			2176.42		
			+ GST	<b>2502.88</b>	

Table 1. Cost of wood materials and labour to build farm yards.

### Milling and Treatment Costs: Posts, Battens, Railings for farm use

Milling costs = \$150 per m<sup>3</sup>

Treatment costs = \$138 per m<sup>3</sup> for H4 treatment (posts)

= \$98 per m<sup>3</sup> for H3 treatment (battens, railings)

Treatment was done by Napier Pine (Hastings)

Total cost for building a set of yards from farm-milled, treated poplar wood = **\$5722.88.**

Yard construction	Units (hours)	\$Cost per unit	\$Total
Yards	40	35	1400
Lead in fence	40	35	1400
			2800.00
			+ GST <b>3220.00</b>



Material	Dimensions (mm)	Quantity per m3	\$Milling cost per unit	\$Treatment cost per unit	\$Transport and handling	\$Total cost per unit
Post	1800 x 125 x 50	45	3.41	3.07	2.00	8.48
Battens	1100 x 50 x 50	363	0.41	0.27	0.30	0.98
Railings	150 x 50	133 m	1.13	0.75	0.50	2.38
Railings	125 x 35	228.5	0.66	0.43	0.40	1.49

Table 2. Cost breakdown for materials used to construct stock yards

Figures 1–5 illustrate the resource and opportunities available to farm owners who have mature poplars growing on their properties. On-site waste following harvesting can be chipped and carried for a range of uses, burnt or left to decay on site.



Figure 1. Mature unmanaged poplar trees available for milling.



Figure 2. This stump of a milled poplar tree measured 90 cm across, yielded a stack of timber with the remaining wood going to firewood. Property was at Kiwitea, Manawatu.





Figure 3. Left. Poplar battens bundled on a pallet on farm for delivery to the treatment plant.



Figure 4. Treated poplar 1.8 m posts ready for farm use. Properties were at Otorohanga and Elsthorpe.



Figure 5. Examples of on-farm milled and treated poplar wood and timber for yards and fences. Properties were at Otorohanga and Elsthorpe.





**Figure 6. Examples of on-farm milled and treated poplar wood and timber for yards and fences.**

There is a market for poplar farm products, off-cuts (toys, shorts for fencing), sawdust (bedding for poultry, calves), and the remainder as firewood. Wastage is minimal. The available supply can be advertised and potential markets for waste streams contacted.

A series of videos on milling and using treated farm-milled poplar can be viewed by visiting [poplarandwillow.org.nz](http://poplarandwillow.org.nz) or by clicking or scanning the links opposite.



[bit.ly/rsb9\\_poplar\\_milling](http://bit.ly/rsb9_poplar_milling)

## **i** For more information

This is one in a series of research briefs about Poplars and Willows that can be found at [poplarandwillow.org.nz](http://poplarandwillow.org.nz)  
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