

**RESEARCH BRIEF 17**

# Do I pollard my poplars?



Poplars can be repeatedly pollarded as seen in this roadside shelterbelt.

### What is pollarding?

Pollarding is reducing a tree to a stump by removing all branches. For poplars on farms the stump is left at 2 m height so animals cannot eat off the new shoots.

A pollarded poplar regrows new shoots quickly using resources stored in the trunk and roots.

Pollarding controls the height of the poplar. Figure 1 shows the height growth of a poplar pollarded at age 8 years (P0816) and a poplar pollarded at age 12 years (P1216). At age 16 years tree P0816 is taller than its original height before pollarding so is due for another pollarding.

Pollarding has to be done regularly (every 8 years or so) if the intention is to control tree height.

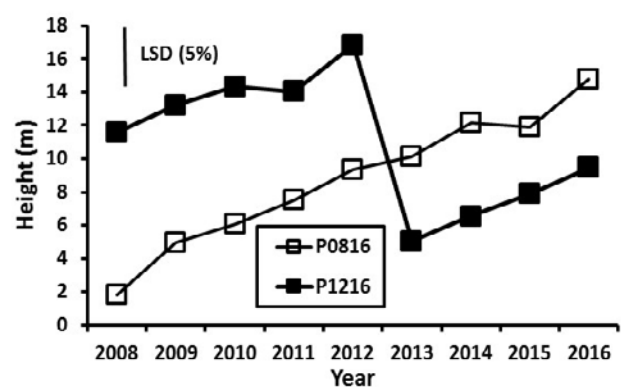


Figure 1. Mean height (m) of poplar trees pollarded in 2008 (P0816) and 2012 (P1216). Sample size n=2

### Why pollard poplars?

- Improve light intensity to pasture
- Provide fodder in late summer
- Reduce sail area and breakage risk

### What other effects does pollarding have?

Pollarding reduces tree diameter growth (Figure 2), canopy width (Figure 3) and root mass and length (Figure 4). It limits any milling to a 2 m log length which will still be useful for posts and battens.

Root reduction reduces erosion control effectiveness and can be compensated for by 1) closer planting or 2) by only pollarding some trees on the slope at a time. Canopy size reduction has implications for claiming carbon credits so needs to be compensated for by closer planting.



A landscape vista enhanced by a mix of poplar cultivars.

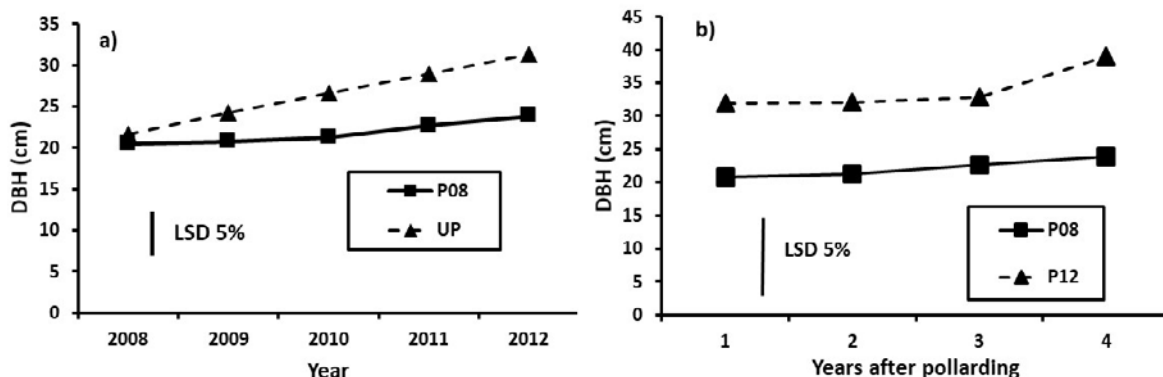


Figure 2. Mean diameter at breast height (DBH; cm) of trees a) in pollarded treatments (P08, n=4) and unpollarded treatments (UP, n=4) from 2008 to 2012 and b) 1-4 years after pollarding in 2008 (P08, n=4) and 2012 (P12, n=2).

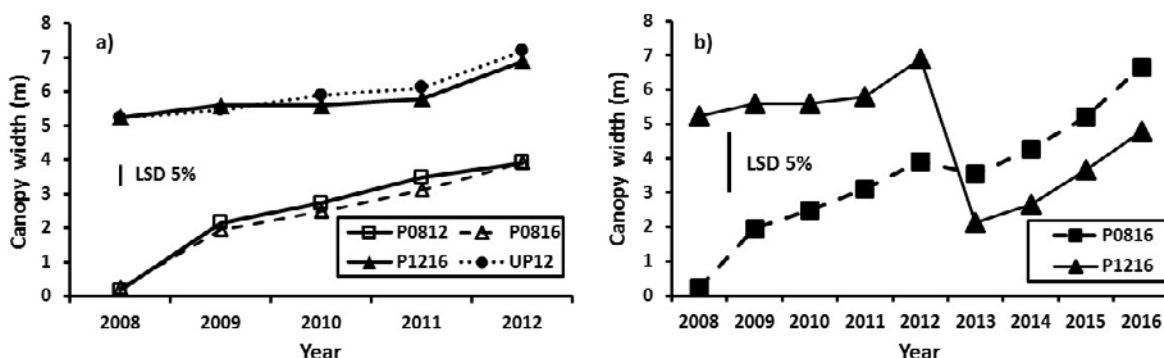
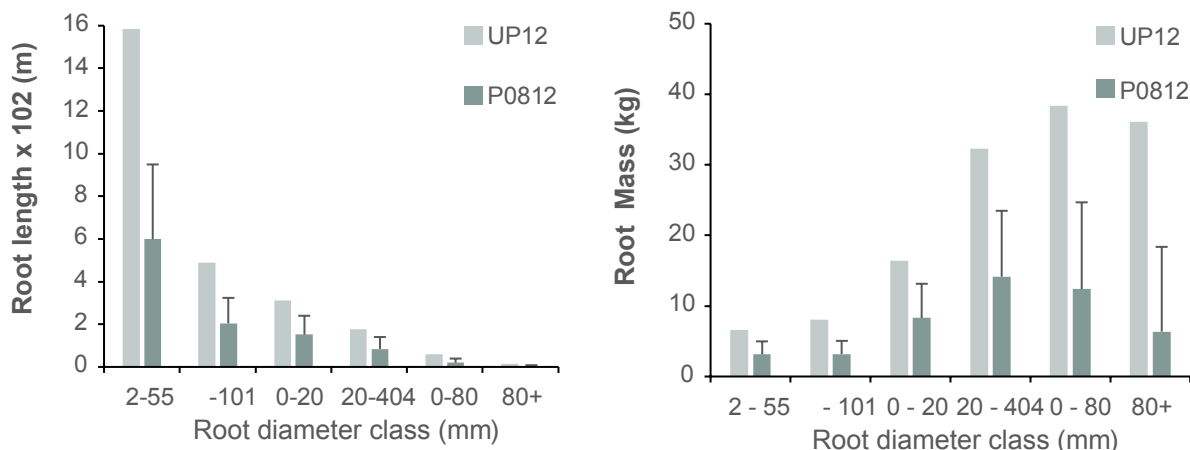


Figure 3. Mean canopy width (m) of a) trees in four treatments from 2008 to 2012 (n=2) and b) of trees pollarded in 2008 and 2012 (n=2).



**Figure 4. Figure 4. a) Root length (m) and b) root mass (kg) of 12-year-old trees unpollarded (UP12; n=2) and pollarded at 8 years (P0812; n=2).**

### Is pollarding effective?

You need to have a good reason to pollard, since it takes effort, has operational risks and once begun, has to be repeated to continually provide value. Pollarded poplars produce 12-25 new shoots but after a few years 1-2 shoots will dominate the other shoots. Stock will eat the leaves, twigs and bark off the pollarded material and the remaining wood can be used for firewood or chips. Check out Research Brief 10 for more information on fodder value of poplar and willow.

A series of videos on tree management by pollarding and pruning can be viewed by visiting [poplarandwillow.org.nz](http://poplarandwillow.org.nz) or by using or clicking on the links here.



[bit.ly/poplars-willows-videos](http://bit.ly/poplars-willows-videos)

### 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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