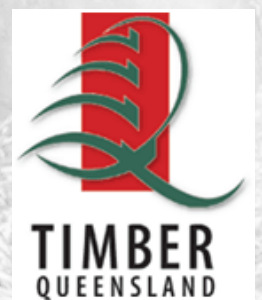


# AgForests Queensland

## Products & Marketing Guide for Eucalypt (Hardwood) Forests & Woodlands

March 2006



Australian Government  
Department of Agriculture,  
Fisheries and Forestry

This publication has been produced by the AgForests Queensland (AgForests) initiative as part of a series of guides available. Funding for this project is provided by the Australian Government Department of Agriculture, Fisheries and Forestry.

# Products & Marketing Guide for Eucalypt (Hardwood) Forests & Woodlands

## Introduction:

This publication has been produced by AgForests. Other Guides available from AgForests are:

- *Dry Eucalypt Native Forests & Woodlands Management Guide*
- *Wet Eucalypt Native Forests Management Guide*
- *White Cypress Native Forests & Woodland Management & Products Guide*
- *Lump Sum Timber Sale 'Model Contract' Guide*
- *Non Lump Sum Timber Sale 'Model Contract' Guide*
- *Using Fire in Spotted gum/Ironbark Forests and Woodlands for Production and Biodiversity Outcomes Guide*

AgForests is a joint industry initiative bringing together mainstream broad acre agriculture (via AgForce) and the timber industry (via Timber Queensland) assisting sustainable management of Queensland's private forests and woodlands.

For further information go to: [www.agforests.com.au](http://www.agforests.com.au)

## Disclaimer:

This publication is provided as a guide to landowners and should not be relied upon as the only basis for any decision to take action on any matter that it covers. Readers should make their own enquiries and obtain professional advice, where appropriate, before making such decisions. The people involved in the development and issue of this guide cannot be held responsible or accept any liability for the use of this information, and as such no legal action may be based on the information provided herein.

## Acknowledgements:

This publication was produced for AgForests Queensland with the assistance Private Forestry South Queensland and the Queensland Department of Primary Industries and Fisheries.

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## **1.0 How to use this guide**

The intent of this guide is to provide information on the range of timber products that may be available from your native forests and the options you have to sell them. The prices presented below are purely an indication of stumpage prices that **may** be achieved as at the date of this publication (2005). As a general rule stumpage (price) is drastically reduced with greater haulage distances, poor property access, long snig distances, quality of logs, etc.

## **2.0 The Options Landowners have for selling their Timber**

The viability, especially the prices received for forest products can also be determined by the product selling methods chosen. The most common method of sale usually starts with a landowner contacting a number of sawmills or timber contractors, or for a sawmill/timber contractor to contact a landowner. Then, a representative of the sawmill/timber contractor will come to the property and assess the value and viability of the sale. If viable, the sawmill/timber contractor will offer a price (either lump sum for the whole block or stumpage rates/cubic metre (m<sup>3</sup>) for one, or a range of products – ie. sawlogs, poles, salvage, etc). The sawmill/timber contractor will then organise the harvest, including cut, snig, loading and haulage back to the mill, or in a timber contractor's case they will organize a sale to a sawmill or a number of sales to sawmills. The following are some of the most common types of private native timber sales used:

### ***2.1.1 Whole of Block Timber Products Purchases (Lump Sum Sale)***

A Whole of Block timber products purchase usually means the purchaser pays the landholder a \$ lump sum for whatever products are on a property or block, and thus has the rights over all standing timber. A 'Stanton Agreement' type sale contract is sometimes used in this style of sale, mainly for taxation purposes - best to check with your accountant if this will suit your situation. However, with this type of sale landowners need to ensure the sale contract conditions result in the forest stand being left in a productive state after harvest. This may mean that some 'salable now' trees are not harvested and are left as breeders or to grow into a more valuable product. Using 'Minimum Diameter' as a cutting rule can be used to determine which trees are/are not available for harvest. The down side of using this method can result in trees being over 40cm diameter at breast height over bark (dbhob) and harvested before they have reached the highest \$ value, and conversely other trees being under 40cm dbhob being left when they have reached their potential – resulting in declining \$ productivity of the forest stand.

Another variation of this is a 'Purchase Covenant Contract' which may cover that block for many years and allows the purchaser to remove timber when they require it. Usually this option results in the purchaser having a greater interest in maximizing the productivity of the forest so they can maximize the available timber over the duration of the covenant.

### ***2.1.2 Whole of Block Timber Products Purchases (Agreed Stumpage/Piece Price Sale)***

A Whole of Block timber products purchase can also be a sale where the purchaser pays the landholder for every m<sup>3</sup> or piece of the different products harvested after the product m<sup>3</sup> and/or piece prices are agreed. As such the actual total sale \$ amounts are only known when the sale is completed. A number of different types of sale contracts are used for this type of sale - best to check with your accountant if this will suit your situation. Again, with this type of sale landowners need to ensure the sale contract conditions result in the forest stand being left in a productive state after harvest. Also, this may mean that some 'salable now' trees are not harvested and are left as breeders or to grow into a more valuable product. As mentioned above using 'Minimum Diameter' as a cutting rule can be used to determine which trees are/are not available for harvest. The down side of using this method can

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### **2.1.3 *Agreed Volume / Piece Amount Sale (Lump Sum Sale)***

This type of sale is when the purchaser buys a set number of m<sup>3</sup> / pieces of timber products from a landowner, usually in a designated area (eg. 5000 m<sup>3</sup> of sawlog and salvage grade logs from trees with a 40cm+ dbhob). The landholder is paid on a agreed stumpage basis i.e. a set amount per m<sup>3</sup> / product piece harvested. Once again a ‘Stanton Agreement’ type sale contract is sometimes used in this style of sale, mainly for taxation purposes - best to check with your accountant if this will suit your situation. Again, with this type of sale landowners need to ensure the sale contract conditions result in the forest stand being left in a productive state after harvest. Also, this may mean that some ‘salable now’ trees are not harvested and are left as breeders or to grow into a more valuable product. As mentioned above using ‘Minimum Diameter’ as a cutting rule can be used to determine which trees are/are not available for harvest. The down side of using this method can result in trees being over 40cm dbhob and harvested before they have reached the highest \$ value, and conversely other trees being under 40cm dbhob being left when they have reached their potential – resulting in declining \$ productivity of the forest stand.

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### **2.1.5 *Engaging a ‘Contractor’ - Harvest Management and Sale***

This sale method involves a landowner engaging an independent harvest contractor to organise and carryout the harvest and product sales. In this case the landowner may not have the requisite harvest management skills but wishes to have a greater degree of control over the harvest process. The harvest contractor manages the whole harvest and sale process and is either being paid a percentage of the sale returns or a contract fee for the service. This type of sale gives more opportunity for the landowner to set very specific harvest guidelines and the contractor has to ensure those standards are maintained. It also gives perhaps a better opportunity for a fully integrated sale where high harvest product utilisation is achieved by sorting all available products at the ramp from veneer logs to fencing material and selling them to the highest bidder.

### **2.1.6 *‘Do Your Own’ Sale***

This is similar to the previous scenario except in this case the landowner undertakes the merchandising of the products dealing directly with the products’ purchasers.

### 2.1.7 'Do Your Own' - Harvest Management and Sale

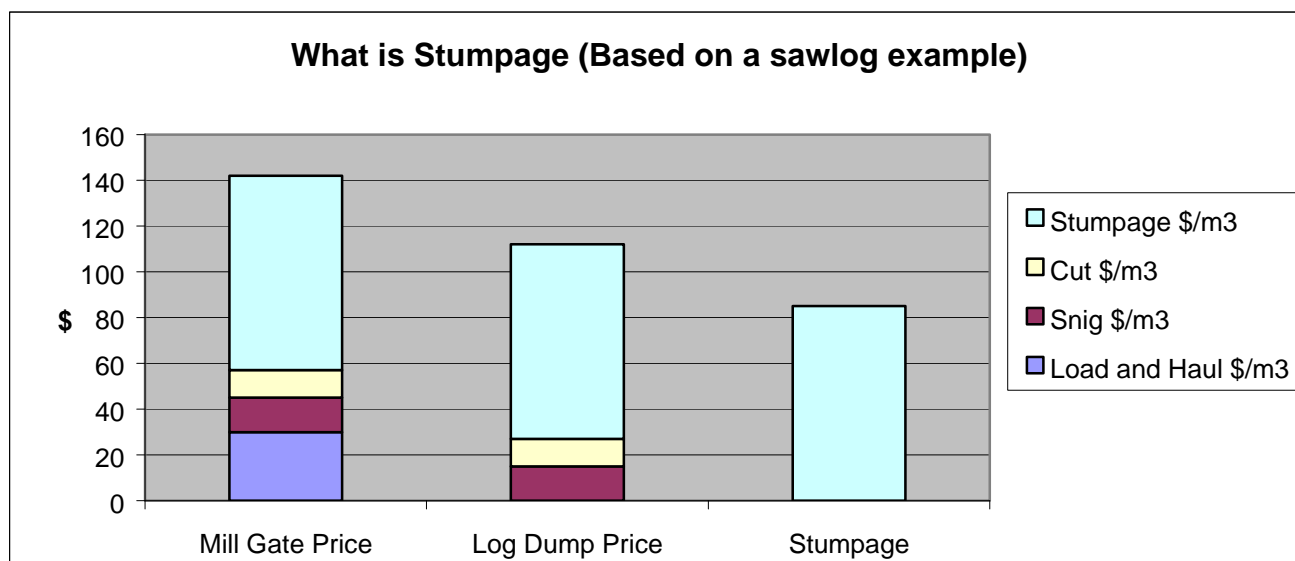
This is the same as above except in this case it's the landowner organising and carrying out both the harvest and products sale.

### 3.0 What is stumpage, farm gate/ramp price and mill gate price?

**Stumpage** is the price paid to the owner of standing timber, **before** the trees are harvested. Stumpage values vary **WIDELY** and change regularly. Essentially, the stumpage value of standing timber is whatever someone will pay. There are many variables that go into the pricing of standing timber. Some of these variables include species, product, contract specifications, season, market conditions, distance to market, stand volume, site conditions, and quality. In other words, it is the dollar value of a product that the landowner will receive from the purchaser, where the purchaser has taken into account their extraction costs.

**Farm gate price** or log dump price is the price of a forest product after it has been cut and snig to a loading area. In this scenario the landowner or a sub-contractor has undertaken the cutting and snigging operation and will receive a price that reflects the stumpage rate as well as cut and snig costs.

**Mill gate price** is the price of a forest product delivered to the purchaser. The mill gate price reflects the stumpage, cut, snig, loading and haulage costs.



### 4.0 Know Your Timber Markets

There are many markets for wood products and not all are applicable to every landowner. For example, site characteristics such as species, average tree bole length, wood quality, etc are variable, as are the particular harvest contractor, if the contractor is the purchaser or if the landowner is performing the harvest. Finally, market access is determined by distance, volume, current market demand, specific purchaser pricing, etc. Therefore, it is not recommended that landowners assume that simply because a certain stumpage value is being achieved in one location for a certain product type that this stumpage value will be applicable to their products.

When preparing for a timber sale it is worthwhile considering the informal cooperation between adjacent landowners who also may have timber ready for sale. This form of co-operation does not need to be any more involved than accessing markets with greater volumes. In addition, efficiencies for harvesting operations in relation to floating machinery and increased product supply can be a stumpage barter point.

Sawmills are not the only purchasers to approach. Timber treatment plants that wholesale poles, piles, stumps, etc and sliced veneer mills are worth investigating. Once a number of purchasers have shown interest in your timber it is then possible to get a range of prices. In times of higher demand a \$/m<sup>3</sup> increase can be achieved. When a sale of a large volume is being contemplated, the difference in return could be substantial.



**A variety of poles sizes presented ready for inspection**

The applicable forest products for any landowner will vary from one area to another depending upon a range of factors. Obviously species, merchantable length, available volume, etc all have an impact. The variable that has the greatest impact upon market access is the distance to the prospective purchasers. Some of the forest products that may be sold in your area could include: Sawlogs, veneer billets, salvage grade logs, poles, piles, mining timber, bridge girders, and a range of fencing material (Splits, rails, caps, strainers and stays). You may have a property that grows the best quality poles in Queensland yet is 700 kms from the nearest pole purchaser. This is not to say that when demand is high, buyers would not wear the extra cost of long haulage, but knowing the state of the market is critical to this decision.

For each forest product there are specifications that need to be met in order to access the market. For some products such as poles, veneer logs and girders the specifications are particularly tight and uniform throughout the industry. The degree of variance from the specifications is limited by Australian standards, industry standards and building codes.

For other forest products such as piles, fencing material and to a degree sawlogs there is some variability from one purchaser to another. This is especially common with piling material even though there is an Australian standard. Minimum product length, small end diameter, centre diameter, allowable defect and species requirements vary from one purchaser to another. It is very time consuming, expensive and frustrating to deliver even one load and have it rejected.

If you land timber in the purchaser's yard, you risk the purchaser rejecting the products. You may have to accept a lower price or pay for the haulage to another purchaser. The easiest way of avoiding this situation is to negotiate all specifications, cut a sample load and then have the purchaser inspect the product on the harvesting ramp/dump before haulage. You should have a proper timber sale agreement/contract – contact AgForests Qld for the range of 'model' contract agreements they have available for landowners and industry.

Contacting local timber merchants/sawmillers should identify the applicable products, stumpage value and their minimum specifications in relation to species, amount of defect, length and diameter. This information alone may not necessarily give you enough information of who to sell to.

Price alone should not be the determining factor for making a sale. For example a sawmill may offer \$85/m<sup>3</sup> for sawlog grade material and \$30/m<sup>3</sup> for salvage grade logs compared to a second mill that offers \$75/m<sup>3</sup> and \$25/m<sup>3</sup> for salvage. The first mill's sawlog specifications may push 50% of your compulsory sawlogs into the salvage class, whereas the second mill may take the majority of your logs as compulsory grade. In addition to this variable quality standard, the second miller may in fact pay you on a 14-day account; whilst the first sawmill on 60 days + before payment. In addition to price, the post harvest condition of the forest should be a major consideration as a higher price received may be reflected in the way operations are performed and compromises in forest protection may be experienced.

There are many other scenarios, which prompt the simple recommendation "Do Your Homework" – ask other landowners of their experiences! It is not difficult to find out the properties that have been harvested by your potential purchasers in the past. It may be possible to inspect a block that was cut in the last 6 months and assess the utilisation level, damage to retained trees and drainage of snig tracks. Landowners are often prepared to talk about their experiences, concerns and recommendations relating to communication, payment history, etc.

Landowners who have the suitable skills, knowledge and equipment can achieve higher stumpage values by doing all or part of the harvest operations that reduces cut, snig and haul rates.

### Major causes for the reduction of stumpage price to a landowner

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Small available volume of product</li> <li>• Long distance from the market</li> <li>• Lack of product specification knowledge by landowner</li> <li>• Poor property access, road quality</li> <li>• Difficult property terrain e.g. steep, rocky</li> </ul> | <ul style="list-style-type: none"> <li>• Long average snig distances to log landing and/or loading ramp</li> <li>• Poor product quality</li> <li>• Low market demand</li> <li>• Poor product recognition and presentation by cutter</li> </ul> |
|--|--|

## 5.0 Product Merchandising

There are many product options that may be suitable for any one log length. For species that are durability class 1 such as: Iron bark, tallowwood, Grey gum, Gympie messmate, Bloodwood, etc the decision on what product should be merchandised becomes even more complex. Landowners who are aware of product options and values are in a position to increase their returns.

The following examples demonstrate the effect of different merchandising decisions on the potential \$ returns:

### Example 1.

Species = Grey gum  
 Log length = 17 m  
 Centre diameter under bark = 37cm  
 Log Straightness = very

Durability class = 1  
 Small end diameter = 29 cm  
 Defect = Small clean pipe, say 30mm in diameter  
 Log volume = 1.83 m<sup>3</sup>

### What are the potential product options

**Pole** = 17m 20 kn @ \$357.00

**Veneer Billets** = 3 x 2.7 m (8.1 x 40) @ \$200/m<sup>3</sup>  
+ 1 x 8.7 x 33 cdub sawlog @ \$95/m<sup>3</sup>

**Compulsory grade sawlog** = 1.83m<sup>3</sup> @ \$95/m<sup>3</sup>

### What are the potential stumpage values

\$357.00

\$214.00

\$ 70.30

\$284.30

80% of pole value

\$173.85

48% of pole value

Obviously a significant difference if you know what constitutes a pole. If the log will not make a pole for some reason, it still may be better to go down to the next highest value option, if that market is available in your situation.

Another example is the difference of a durability class 1 log with no pipe, but small diameter that makes it salvage grade compared to cross cutting the same log into strainer posts.

### Example 2.

Species = White mahogany

Log length = 4.8 m

Centre diameter under bark = 29cm

Log Straightness = Middle bend

Durability = 1

Small end diameter = 27 cm

Defect = clear wood

Log volume = 0.32 m<sup>3</sup>

### What are the potential product options

**Fencing strainers** = 2 x 2.4 @ \$13/ length

**Salvage grade sawlog** = 0.32m<sup>3</sup> @ \$30/m<sup>3</sup>

### What are the potential stumpage values

\$26.00 = \$81.38/m<sup>3</sup>

\$ 9.60 = \$30/m<sup>3</sup> - 37% of Strainer value

## 6.0 Timber Product Descriptions

### 6.1 Poles

It is estimated that there are 5 million timber utility poles in Australia with a current net worth of 10 billion dollars. In South-East Queensland alone, there are 500 000 poles in service. Poles are amongst the highest valued forest products, although it is the larger sizes that are by far the more valuable. It is extremely important to understand the regulatory guidelines (AS 2209-1979) that govern if a log meets the pole standards. Stumpage range from \$70- \$250/m<sup>3</sup>



Electrical transmission poles vary from a minimum of 9.5 m long and 225 mm diameter under bark (ub) 2 metres from butt end (D-line), through to 30.5 m long, a D-line 565 mm diameter ub . Table 1. below is an abridged version based on the most popular sizes.

**Table 1. Pole Values and Specifications (S2 strength group species ) within 100 kms of mill (2005)**

<b>Pole Length m</b>	<b>kN</b>	<b>D-line diameter</b>	<b>SED</b>	<b>Critical zone measured from butt (m)</b>	<b>Pole Stumpage</b>
<b>9.5</b>	5	22.5	15.0	0.950 to 2.550	19.57
9.5	8	26.5	18.5	0.950 to 2.550	32.55
<b>11.0</b>	5	24.0	15.0	1.100 to 2.700	29.36
11.0	8	28.0	18.5	1.100 to 2.700	48.98
11.0	12	32.0	22.0	1.100 to 2.700	70.12
<b>12.5</b>	5	25.0	15.0	1.250 to 2.850	49.67
12.5	8	29.5	18.5	1.250 to 2.850	82.24
12.5	12	33.5	21.5	1.250 to 2.850	116.54
<b>14.0</b>	5	28.5	16.5	1.400 to 3.000	68.45
14.0	8	30.5	18.5	1.400 to 3.000	110.41
14.0	12	35.0	21.5	1.400 to 3.000	159.76
<b>15.5</b>	8	32.0	19.5	1.550 to 3.150	124.84
15.5	12	36.5	23.0	1.550 to 3.150	194.85
15.5	20	43.5	28.5	1.550 to 3.150	304.93
<b>17.0</b>	8	33.0	20.0	1.700 to 3.300	161.24
17.0	12	38.0	23.5	1.700 to 3.300	250.95
17.0	20	45.0	28.5	1.700 to 3.300	383.06
<b>18.5</b>	12	39.0	24.0	1.850 to 3.450	315.85
18.5	20	46.5	29.0	1.850 to 3.450	482.81
<b>20.0</b>	12	40.0	25.0	2.000 to 3.600	389.08
20.0	20	47.5	29.5	2.000 to 3.600	583.13

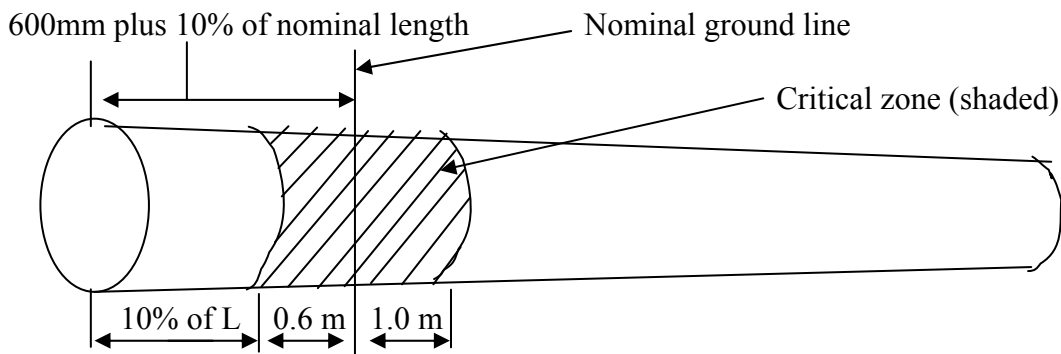
Some of the limiting factors in pole specifications are:

- No fault in critical zone (approx 1m to 3m from butt end depending on length)
- No two faults per metre above critical zone, max of 6 (encased bark must be drained)
- Branches cut flush with bark (encased bark must be drained)
- Presence of rot or insect attack
- Degree of pipe or gum veins.
- Thickness of sapwood
- Degree of mechanical damage

**Table 2. Pole Species of SE Qld**

Trade Name	Botanical Name	Strength Group	Durability Rating	Lycid Susceptible	Min sapwood Thickness
Grey Gum	<i>Eucalyptus major</i> , <i>E. propinqua</i> and <i>E. longirostrata</i>	S1	1 <b>highest</b>	Resistant	12mm
Grey Ironbark	<i>E. siderophloia</i>	S1	1	Resistant	12mm
Blackbutt	<i>E. pilularis</i>	S2	2	Resistant	12mm
Broad Leaved Red Ironbark	<i>E. fibrosa</i>	S2	1	Resistant	12mm
Grey Box or Gum-Topped Box	<i>E. moluccana</i> <i>E. woolsiana</i>	S2	1	Susceptible	12mm
Gympie Messmate	<i>E. cloeziana</i>	S2	1	Resistant	16mm
Narrow Leaved Red Ironbark	<i>E. crebra</i>	S2	1	Resistant	12mm
Red Mahogany	<i>E. resinifera</i>	S2	2	Susceptible	12mm
Spotted Gum	<i>Corymbia citriodora</i>	S2	2	Susceptible	12mm
Tallowwood	<i>E. microcorys</i>	S2	1	Susceptible	12mm
White mahogany/ Yellow Stringy	<i>E. acmenoides</i> <i>E. umbra</i>	S2	1	Resistant	12mm
Forest Red Gum	<i>E. tereticornis</i>	S3	2	Resistant	12mm
Red /Pink Bloodwood	<i>C. gummifera</i> & <i>intermedia</i>	S3	1	Susceptible	12mm
Turpentine	<i>Syncarpia glomulifera</i>	S3	1	Resistant	12mm
White Stringybark	<i>E. eugenioides</i>	S3	2	Resistant	12mm

**Figure 1. - Critical Zone (no fault zone)**



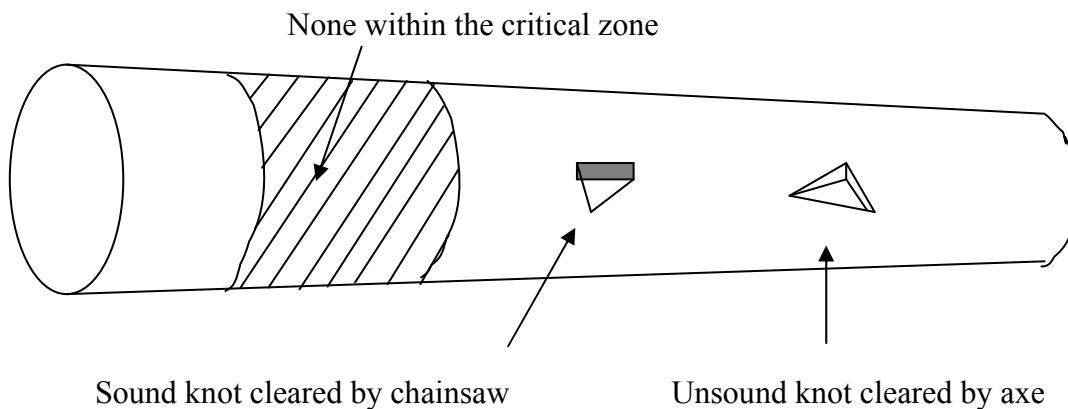
## Unsound Knots

A knot is the remaining portion of a branch with fibres of the wood deflecting around the entire knot. 'Unsound' usually means the knot has either rot associated with it, is not solid across the face, is checked or split and is a defect on the surface of a pole. This allows moisture to accumulate in the defect and leads to decay inside the treated exterior. This defect needs to be drained (cleared). This can be accomplished with the tip of the chainsaw trenching out the defective section allowing it to freely drain when the pole is in an upright position. The specification for knot-size is outlined below.

The size of the knot is measured as the distance between two lines parallel to the longitudinal axis of the pole and enclosing the knot or cluster of knots. The diameter of an enclosed knot must be measured to the sound wood of the pole on either side of the knot.

Where an unsound knot is drained (i.e. nosed out with a chainsaw), the width of the clearing must not exceed 10% of the circumference of the pole at that point and also should not exceed 5% of the circumference of the pole in depth. No cleared knots are permitted in the critical zone and no more than six are permitted elsewhere in the pole. Unsound knots outside the critical zone must be spaced more than 1 metre apart. For example a pole, which has a circumference at the point of the unsound knot of 800 mm, may be cleared to a maximum of 80 mm (10%) in width and 40 mm (5%) in depth and must be self-draining.

**Figure 2. – Unsound knots**

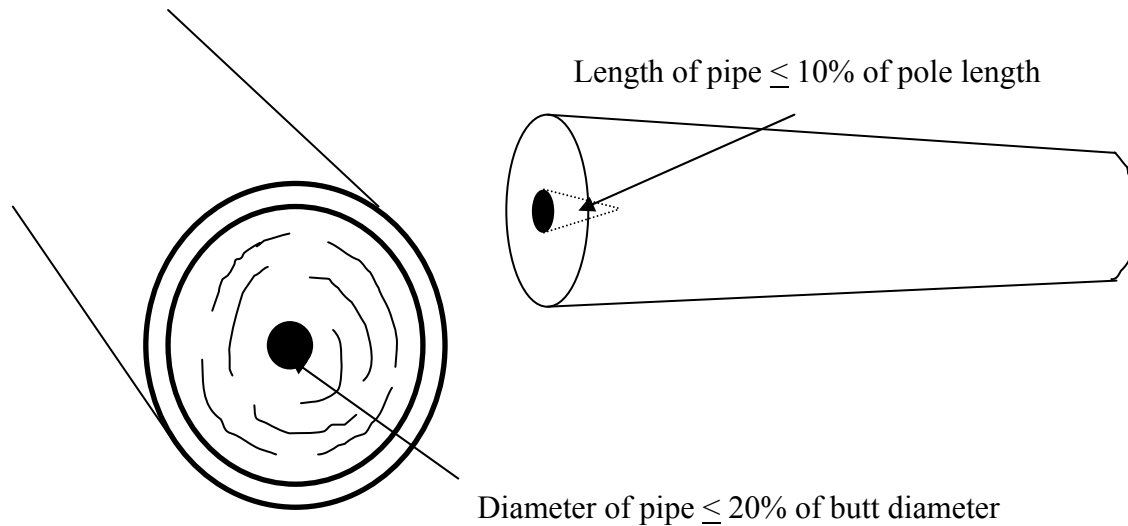


## Pipe

Pipe is a longitudinal cavity along the centre of a log as the result of the breakdown of the wood in the tree's centre by growth stresses, fungal and/or termite attack, and/or biochemical means.

A pipe which is not associated with any decay would be tolerated at the butt end of the pole provided that the diameter of the pipe does not exceed 20% of the diameter of the pole at the butt, and the length, after all obstructions have been cleared, does not exceed 10% of the overall length of the pole.

**Figure 3. – Allowable pipe for poles**



### **Ring Shakes, Loose or Open Gum Veins and Encased Bark**

A ring shake is a partial or complete separation of adjoining layers of wood due to causes other than drying and usually originating either in the standing tree or in the log during felling or processing.

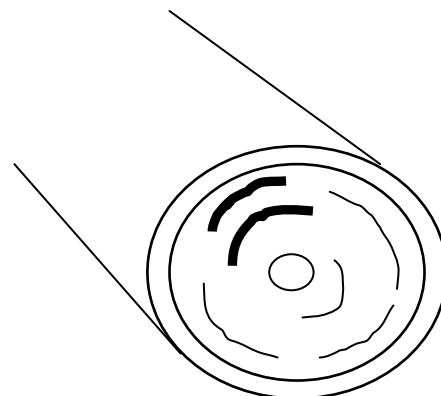
Gum veins are ribbons of gum (kino) between growth zones, which may be bridged radially at short intervals by wood tissue. Gum veins can develop in trees as a result of injury to the cambium layer. Some species, such as the Bloodwoods, are especially prone to gum vein development and there are some indications that they may be influenced by genetic as well as environmental factors. A loose gum vein is one associated with extensive discontinuity of wood tissue.

Ring shakes and loose or open gum veins visible at the head of the pole and within 38 mm of the edge, or within 25 mm of the edge at the butt, must not exceed two in number and individually must not exceed 10% of the circumference of the pole. Encased bark associated with double heart must not be closer than 50 mm to the edge at the head of the pole.

**Figure 4. – Allowable ring shakes or open gum veins**

Ring shakes and loose or open gum veins within 40mm of the surface at the head of the pole or within 25 mm of the surface at the butt-

- ≤ 2 in number
- Individually ≤ 10% of the circumference



## 6.2 Construction Piles

Piles are like poles except that the small end of the log is driven into the soil until the length is underground. The pile is then used to anchor and support concrete slabs being laid over suspect ground.

### Length:

6.0, 8.0, 9.5, 11.5, 12.5m

### Minimum Diameter:

15 – 20cm, 20 – 25cm, 25 – 30cm SEDUB (small end diameter under bark)

### Maximum Diameter:

The diameter at the toe shall not exceed the specified diameter by more than 50mm SEDUB

### Acceptable Species:

Spotted gum, Blackbutt, Grey box, Grey gum, Narrow-leaved red ironbark, Grey ironbark, Tallowwood, Gympie messmate, White mahogany and Turpentine

### Timber Durability Class:

Durability class 1 and 2 species

### Straightness:

Straightness, a line joining the mid point of the toe to the mid point of the butt must lie within the pile), but many merchants require a higher standard.

**Other defect:** A nominal amount of end cracking is permissible. Tong and cant hook punctures – kept to a minimum. Dry side is allowable in piles of durability 1 & 2 species, width – not exceeding one tenth of the circumference of the pile. Grub/Insect holes to be not greater than 30mm diameter. Spiral grain at the surface to the axis of the pile shall not exceed 1 in 10 when measured over any 1 metre of its length. Pipe at butt end only – not exceeding 35mm and not extending one tenth of the pile length

**Market demand and evaluation:** The pile market is very much industry demand driven in relation to building development sites requiring piles to stabilise the site and on the building specifications requiring wooden piles as opposed to concrete piles. In 2005 the demand has been slow with most piling contractors sourcing material from the large treatment plants. Before cutting piles ensure there is a market available.

### Stumpage price range:

Stumpage price are highly variable, as a guide landowner stumpage for common sizes is between \$50.00–\$100.00 per m<sup>3</sup>.

### Other considerations:

- Species, which are susceptible to Lyctid borer attack, may need to be sprayed with a synthetic insecticide after felling to prevent degrade while in storage before preservative treatment.
- Australian Standard (AS 3818.3-2001) provides specifications in relation to species, defect, strength grading, etc.



### 6.3 House poles and stumps

**Length:** 2–8m

**Minimum Diameter:** 25cm SEDUB

**Maximum Diameter:** 35cm SEDUB

**Acceptable Species:**

Spotted gum, Blackbutt, Grey box, Grey gum, Narrow-leaved red ironbark, Grey ironbark, Tallowwood, Gympie messmate, White mahogany and Turpentine



**Timber Durability Class:**

Durability class 1 (By Queensland Services Authority Regulations)

**Straightness:** very straight, very round (cylindrical)

**Pipe:** No pipe will be tolerated

**Spiral Grain:** Nil

**Other defect:** No mechanical damage from skidders, barking or cant hooks. Dry side is unacceptable as is grub holes and severe end cracking.

**Market demand and evaluation:** These products are usually sourced as a by-product of sawlog and pole sales and as a result merchants do not usually actively seek these products.

**Stumpage price range:**

Stumpage price ranges from \$70.00–\$100.00 per m<sup>3</sup>

**Other considerations:**

- Species, which are susceptible to Lyctid borer attack, may need to be sprayed with a synthetic insecticide after felling to prevent degrade while in storage before preservative treatment.

## 6.4 Sliced Veneer Logs

### Length:

2.7, 3.0 and 3.3m lengths or multiples of 2.7, 3.0 and 3.3m, such as 5.4, 5.7, 6.0m etc.

### Minimum Diameter:

Small end diameter under bark (SEDUB) = 40cm

### Maximum Diameter:

There is no maximum for the SEDUB

### Acceptable Species:

Spotted gum, Red/Grey ironbark, Brush box, Flooded gum/Rose gum, Red mahogany Sydney blue gum and Dunn's white gum are regularly being sought. Other species may be accepted – check with purchaser to confirm before harvesting.



species may be accepted – check with

### Timber Durability Class:

Class 1, 2 and 3 (See appendix 1.)

### Straightness:

Very straight with heart of log in the centre

### Pipe:

A small pipe will be accepted on logs with a small end diameter over bark of 45cm or greater.

### Spiral Grain:

As per inspection by purchaser

### Other defect:

No borers or other insect attack, fungal decay, knots or limbs.

### Market demand:

Timber veneer is a market that is affected by the general building industry and trends set by architects. Generally, the volume of the most common species required on an annual basis is between 5 000m<sup>3</sup> and 15 000m<sup>3</sup>. Single loads of 20m<sup>3</sup> of quality billets are accepted.

### Stumpage price range:

Stumpage price ranges from \$170.00–\$220.00 per m<sup>3</sup>.

### Other considerations:

- Where multiple log lengths are presented i.e. a 5.4m log representing 2 x 2.7m, a small defect such as a limb can be included at the point of the future cross cut.
- Logs should be proven and presented for inspection.
- There is a sliced veneer mill located in Ipswich. A new plant at the Ipswich facility may take logs to a minimum 35cm SEDUB after evaluation in early 2006.

## 6.5 Bridging Girders

### Length:

The minimum length of a girder is 6m, with lengths increasing by 0.1m intervals. There is no limit on maximum length. Girders shorter than 6m may be supplied at a Purchasers request.

### Minimum Diameter:

The minimum small end diameter under sap of a girder is (generally) between 41cm and 56cm inclusive. Girders less than 41cm may be purchased upon request.

### Maximum Diameter:

Girders greater than 56cm, if available, may be purchased upon request subject to.

### Acceptable Species:

Narrow-leaved red ironbark, Broad-leaved red ironbark, Grey ironbark, Spotted gum, Cooktown ironwood, Grey gum, Forest red gum, Tallowwood, Gympie messmate, White stringybark, White mahogany, Turpentine and Red bloodwood

### Timber Durability Class:

Durability class 1 and 2 species (See appendix 1.)

### Straightness:

**Logs may be accepted as Girder timber even if they are not perfectly straight providing they contain sufficient heartwood to allow them to be dressed into straight round girders.**

**Pipe:** ≤ 50mm free from decay

### Other defect:

Timber sold as girders shall be of straight, sound wood, within the tolerance limits set for decay, insect or grub holes, gum veins, shakes, splits, pipes or any of the other defects which will affect the integrity of the timber intended for use as a girder.

**Market demand and evaluation:** Due to the size class of tree required to make a girder, these products are becoming increasingly rare and the stumpage value is rising as a consequence.

### Stumpage price range:

Stumpage price ranges from \$150.00–\$280.00 per m<sup>3</sup>



## 6.6 Sawlogs

Sawlogs are one of the standard products that come from forests. Sawlogs at this stage must have at least 300mm small end diameter and be a minimum of 2.4m long increasing in 0.3 m increments, plus 0.1 m for each cross cut. Stumpage for sawlogs range from \$75/m<sup>3</sup> to \$105/m<sup>3</sup> depending on the quality of the logs, species, demand and distance from the mill.

### Sawlog specification Guide

- Limbs affecting less than 50% of the circumference of the log at any point,
- End of log defect affecting less than 50% of the end section (large diameter), 25% small diameter
- Degree of bend, this varies with centre girth, (as a guide, - 40 cm - 2.5°, 40 – 49 cm - 5°, 50 cm+ - 10°), often a bent log can be cut into 2 shorter straight logs
- Gum vein, ring shakes, etc



Photo 8. Quality sawlog butted for presentation

Table 3. Sawlogs Specifications for Pipe and Bend

Centre Diameter of Log under bark (cm)	Allowable Pipe Diameter (cm)	Maximum Bend in °
30-34	5	2.5°
35-39	17	5°
40-44	20	5°
45-49	24	5°
50-54	24	10°
55-59	28	10°
60-64	34	10°
65-69	38	10°
70-74	42	10°
75-79	45	10°
80-84	48	10°

## 6.7 Salvage Grade Sawlogs

Salvage grade logs are of poorer quality than standard Sawlogs. Salvage classification is given to logs failing sawlog specifications due to pipe size, number and size of limbs, degree of bend or small end diameter. Many mills will accept salvage grade logs with a SED (under bark) of 26 cm and usually ≥2.4m billets; occasional 2.1m are accepted. Stumpage for Salvage grade logs ranges from \$20/m<sup>3</sup> to \$40/m<sup>3</sup>.

## 6.8 *Railway Sleeper Blocks*

**Length:** NSW - 2.440m, Qld - 2.150m

**Minimum Diameter:** logs should be able to yield two sleepers. NSW 230 x 130mm, Qld 230 x 115mm. Basically the log is split in half with the split heart included but with minimal sap

**Maximum Diameter:** N/A

**Common Species:** Queensland blue gum/Forest red gum, Grey gum, Grey box, Ironbarks, etc

**Timber Durability Class:** Durability class 1 and 2 species

**Defect:** Capable of yielding 2 sleepers of the above dimensions

**Market demand and evaluation:** Variable and numerous outlets with constant product demand. Well serviced.

**Stumpage price range:**

Stumpage price ranges from \$30.00–\$40.00 per m<sup>3</sup>

## 6.9 *Landscape Sleeper Blocks*

**Length:** 2.4m

**Minimum Diameter:** 25cm SEDUB, small diameter logs should be able to yield two sleepers.

**Maximum Diameter:** N/A

**Common Species:** Queensland blue gum/Forest red gum, Grey gum, Grey box, Ironbarks, etc

**Timber Durability Class:** Durability class 1 and 2 species

**Defect:** Capable of yielding 2 x 200mm x 50mm landscape sleepers

**Market demand and evaluation:** Variable and numerous outlets with constant product demand. Well serviced.

**Stumpage price range:**

Stumpage price ranges from \$15.00–\$30.00 per m<sup>3</sup>



## 6.10 Logs Suitable for Mining Timber

**Length:** 2.4m increasing in multiples of 0.3m

**Minimum Diameter:** 25cm SEDUB

**Maximum Diameter:** N/A

**Acceptable Species:** Standard sawlog commercial species such as Spotted gum, Ironbarks, Bloodwoods, etc and traditionally non-commercial sawlog species such as Smooth bark apple, Swamp box, some Acacia's/Wattles, etc.



**Timber Durability Class:** Durability class 1, 2 and 3 species

**Straightness:** As applicable to salvage grade sawlog

**Pipe:** As applicable to salvage grade sawlog

**Other defect:** As applicable to salvage grade sawlog

**Market demand and evaluation:** Dependent upon mining industry. Generally log for this product are in good supply.

### **Stumpage price range:**

Stumpage price ranges from: \$20.00 per m<sup>3</sup> within 200 kilometers of the mill.

### **Other considerations:**

- Market for structural sawn timber into the mining industry for short term use in underground mining. It is believed to be a market worth in excess of \$5 000 000 to the sawmilling industry.

There are only a few sawmill's specializing in this type of material with one of the largest located at Dingo in central Queensland

## 6.11 Fencing Material

Fencing material includes strainer posts, split posts and rails. Species preferences vary between districts. Fencing material is a good option for trees that are suppressed or have bad form. The durability of the species is important. Timber for caps and rails can be class 2 species and unless appropriately treated with preservative, posts and strainers need to be durability class one species.

Generally fence timbers need to be slow grown with little sapwood. Due to the thick sapwood often associated with Red bloodwood (unless very slow grown) rounds need to be sapped, but even so is often not well regarded. Big old trees suitable for splitting are the opposite and considered to be nearly as good as Yellow stringybark.

All fencing material needs to be well presented, debarked and any branch stubs and branches trimmed back to the round of the post. Fencing material ranges from \$50.00 to \$90.00 per m<sup>3</sup>.

**Specifications for fencing timbers are as follows:**

**Yard Posts** = need to be 25-40cm SEDUB x 2.4m long or as specified, can have trimmed branches, must be straight and be **durability 1** species

**Stumpage price range:**

Stumpage price ranges from: \$10.00–\$12.00 per post

**Strainers** = 20-25cm SEDUB for driven posts, 200-350mm SED for rammed, 2.4m long, trimmed branches, can have wobbles or one bend if rammed, and be **durability 1** species

**Stumpage price range:**

Stumpage price ranges from: \$8.00–\$10.00 per post

**Light Strainers or in Line Round Posts** = 15–20 cm SEDUB usually driven, 2.1m long, straight, and be **durability 1** species

**Stumpage price range:**

Stumpage price ranges from: \$5.00–\$8.00 per post

**Splits** = 12.5–15cm SEDUB arc measurement, 2.1m long, and be **durability 1** species

**Stumpage price range:**

Stumpage price ranges from: \$1.00–\$2.00 per post

**Caps and Rails** Usually 15cm SEDUB often requested to match size of posts, usually 3m Long, and be **durability 1–2** species

**Stumpage price range:**

Stumpage price ranges from: \$3.00–\$5.00 per rail/cap

**Stays** 10–15cm SEDUB, can be a bit bent, little sap, 3m long, and be **durability 1** species

**Stumpage price range:**

Stumpage price ranges from: \$3.00–\$5.00 per stay

**Other considerations:**

Fencing timbers are in high demand along the coastal belt, with many regions experiencing supply shortages. Haulage of large loads can be profitable from long distances given sufficient research into rural and landscape supply stores in semi-rural areas. Desirable species vary from location to location depending upon the history of species use in the area, for example: some regions only desire Yellow stringybark, some Red ironbark and others preferring Bloodwood or Grey gum.



## 6.12 Firewood

The firewood market is quite large in some regions and firewood is a good option for trees that are suppressed, dead, have bad form or salvaged from logging debris. Firewood needs to come from trees species that are suitable to burn. The most common species are; Grey box, Ironbarks, She oak, with differences in preference from region to region. Firewood is usually presenting in block form suitable for splitting or split ready for delivery or pick up. Firewood is often sold by the tonne, utility load, truck or trailer load.

### **Stumpage price range:**

Stumpage price ranges from \$8.00 to \$12.00 per m<sup>3</sup>.

### **Other considerations:**

The firewood market is obviously mostly seasonal. There are still many houses in the Central Burnett that have wood fired stoves and fireplaces. Access to the market is usually via local advertisements in papers.

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The firewood market is obviously mostly seasonal. There are still many houses in the Central Burnett that have wood fired stoves and fireplaces. Access to the market is usually via local advertisements in papers.

## 6.13 Slabs

Slabs are used for furniture manufacture. The slabs are cut from large diameter logs but mostly from reject material and tree heads left in the bush following a traditional sawlog harvest. Slab size is normally 50mm+ in thickness with length and width determined by the material being cut. The slabs are normally cut on site or logs transported to a fixed portable mill site. Markets and prices need to be sourced within the furniture manufacturing industry.

Bark to bark slabs are fairly common given the limitations of the market size. The market is easily over supplied. The most common slab species include: Queensland blue gum/Forest red gum, River red gum, Tallowwood, Sydney blue gum, Grey gum and some scrubwoods.

### **Stumpage price range:**

Stumpage price ranges from: \$300.00–\$800.00 per m<sup>3</sup> depending upon species.



## 6.14 Seed

Seed, due to seasonal/species variability is an unreliable product that timber growers may have little control over, but can be another sustainable product worth harvesting. Generally higher prices are paid for species and provenances that are in demand and some rarer species demand high prices.

## Other considerations:

With eucalypts, the collection of seed is best undertaken at harvest when tree heads are easily accessible. Generally seed is mature 6 months after flowering has occurred. The harvesting and marketing of seed is easy to plan for due to the six month lead time from flowering to seed maturity. The capsules need to be removed immediately or the capsules will open and seed will be lost. After removing the capsules, they are placed on a tarpaulin where the capsules will generally open within two days. Care must be taken to sieve the seed, separating it from capsules and other extraneous matter. Generally seed merchants will provide suppliers with their seed specifications and any other conditions they specifically require to be met.



**Eucalypt capsules containing mature seed**

Forestry seed (seed for timber trees) should be selected only from superior trees. Characteristics such as tree form, bole length (length of trunk) distance between branches (internode length), vigorous growth and good health.

If possible a photo should be taken of the select tree prior to felling.

Seed product specifications are generally more relaxed when supplying to 'revegetation or rehabilitation' markets (mining, etc).

**Catalogue retail prices (as at Nov 2005) for some species in demand are provided below.**

Species	Trade Name	\$ per Kg	Species	Trade Name	\$ per Kg
Acacia aulacocarpa	Black Wattle	\$225.00	Eucalyptus acmenoides	White Mahogany	\$260.00
C. torelliana	Cadaghi	\$350.00	E. camaldulensis	River Red Gum	\$300.00
C. citriodora variegata	Spotted Gum	\$420.00	E. crebra	Narrow Leaf Red Ironbark	\$300.00
Grevillea robusta	Southern Silky Oak	\$1 100.00	E. exserta	Queensland Peppermint	\$250.00
Melaleuca quinquenervia	Paper Barked Tea Tree	\$280.00	E. fibrosa	Broad Leaf Red Ironbark	\$310.00
A. melanoxylon	Black Wood	\$310.00	E. grandis	Rose Gum	\$400.00
E. cambageana	Dawson River Blackbutt	\$300.00	E. longirostrata	Grey Gum	\$310.00
Araucaria bidwillii	Bunya Pine	\$9.00	E. microcorys	Tallowwood	\$350.00
Casuarina cunninghamiana	Rive Oak	\$220.00	E. moluccana	Grey Box	\$300.00
Allocasuarina torulosa	Forest She Oak	\$260.00	E. resinifera	Red Mahogany	\$330.00
Brachychiton australis	Kurrajong	\$175.00	E. siderophloia	Grey Ironbark	\$375.00
Callistemon viminalis	Red Bottle Brush	\$230.00	E. tereticornis	Forest Red Gum	\$200.00

## 6.15 Apiary Sites

Closely associated with the seed market is the honey industry, which is also dependant on tree flowering. Many of the major honey producing species occur in south east Queensland and providing bee hive sites or owning your own hives can be another secondary forest product. DPI&Forestry charges range from \$59.50 for 6 months to \$333.30 for 5 years per 150 hive site (as at 2005).



Apiary sites need to be easily accessible, safe from fire and flood, close to blossom and water and safe from the effects of pesticide.

If you are considering keeping bees yourself, remember under the Apiaries Act it is compulsory for hives to be registered with the DPI&F. Guidelines for beekeeping in rural Queensland are available from the DPI&F website at [www.dpi.qld.gov.au/bees/16929.html](http://www.dpi.qld.gov.au/bees/16929.html).

The availability of apiary sites on State Forests in south east Queensland is being phased out by 2024. The impact of this decision is likely to increase demand for suitable apiary sites on private land and possibly influence a rise in site fees.

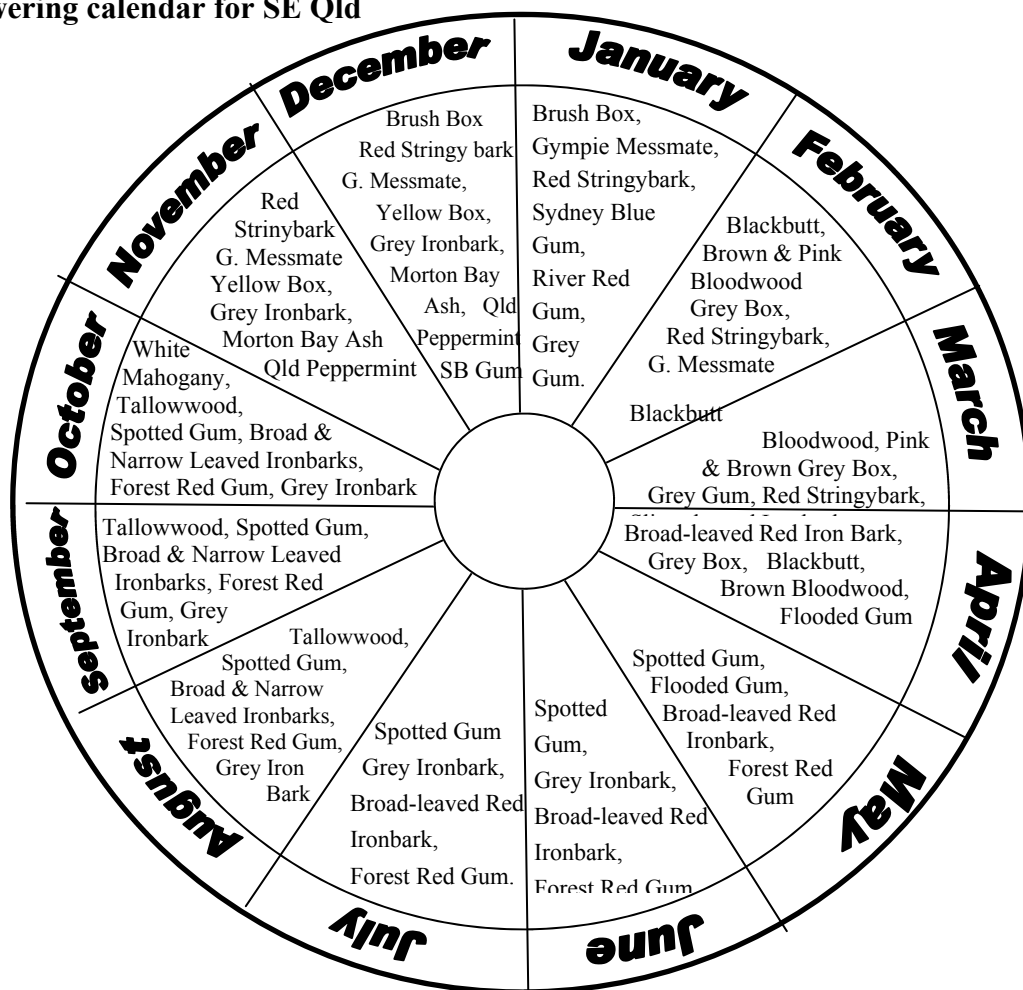
A new publication has been produced to assist Queensland beekeepers to remain profitable and increase their productivity. The guide provides both government and private sectors with accurate information on beekeeping in a variety of land tenures. The guide also details practices and techniques to help beekeepers maintain their business practices, safety and responsibilities.

Electronic versions of the guide are available at [www.dpi.qld.gov.au/bees/16929.html](http://www.dpi.qld.gov.au/bees/16929.html). Printed copies have been distributed to Local Shire Council centres for reference.

### Some Common Trees that Provide Nectar for Good Quality Honey

Species	Trade Name	Honey Production	Pollen Production	Species	Trade Name	Honey Production	Pollen Production
<i>E. pilularis</i>	Blackbutt	Minor	Medium	<i>E. grandis</i>	Flooded Gum	Minor	Medium
<i>L. confertus</i>	Brushbox	Major	Minor	<i>C. variagata</i>	Spotted Gum	Major	Major
<i>E. tereticornis</i>	Forest Red Gum	Minor	Major	<i>E. robusta</i>	Swamp Mahogany	Minor	Minor
<i>E. moluccana</i>	Grey Box	Medium	Nil	<i>E. microcorys</i>	Tallowwood	Minor	Medium
<i>E. drepanophylla</i>	Grey Ironbark	Major	Minor	<i>E. acmenoides</i>	White Mahogany	Medium	Major
<i>E. punctata</i> ; <i>E. propinqua</i>	Grey Gum	Minor	Medium		Broad leaved Tea Tree	Major	Major
<i>E. cloeziana</i>	Gympie Messmate	Minor	Minor	<i>A. subvelutina</i>	Smooth Barked Apple	Minor	Major

## Eucalypt flowering calendar for SE Qld



## 5.0 References

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## Appendix 1. Timber Durability Classing + Lyctid & Other Borers Information

### 1. The natural resistance of the heartwood of a timber species to decay (rot) and insect attack.

Timber can be required to perform in a range of biological hazards and a good service life can be expected by selecting timber with the appropriate natural heartwood durability and preservative of the sapwood.

The following classification system is used to define timber (heartwood/truewood) durability. All sapwood irrespective of species is regarded as Class 4.

**Class 1** = The highest naturally durable timbers which may resist decay and termite attack for 25 years or more.

**Class 2** = Highly natural durable timber, may have a serviceability span of 15-25 years.

**Class 3** = Moderately durable timber, may have a serviceability life span of 5-15 years.

**Class 4** = Low naturally durable timbers which may have a serviceability of 1 to 5 years. Timbers within this class have approximately the same durability as untreated sapwood.

### 2. The susceptibility of timber to attack from Lyctid and other borers

All Pine species and the sapwood of 'some' hardwood species are immune to lyctid borer attack. The sapwood of all other lyctid susceptible hardwoods can be made non-susceptible to lyctid attack when an approved preservative treatment is used to immunize the timber. The provisions of the Queensland Timber Utilization and Marketing Act 1987-1990 (TUMA) prohibit the sale of lyctid susceptible timbers that have not been immunized, unless specified by the purchaser. See the below table for further information on individual timber species and their 'natural' lyctid susceptibility.

Trade Name	Botanical Name	Lyctid Susceptibility	Durability Rating 1 highest
Broad leaved Red Iron bark	<i>E. fibrosa</i>	No	1
Narrow Leaved Red Ironbark	<i>E. crebra</i>	No	1
Red Ironbark	<i>E. sideroxydon</i>	Yes	1
Grey Ironbark	<i>E. drepanophylla</i>	No	1
Grey Gum	<i>E. punctata</i> ; <i>E. propinqua</i>	No	1
Blackbutt	<i>E. pilularis</i>	No	1
Gympie Messmate	<i>E. cloeziana</i>	No	1
Grey Box	<i>E. moluccana</i> ; <i>E. woollsiana</i>	No	1
Red Mahogany	<i>E. resinifera</i> ; <i>E. pellita</i>	Yes	2
Spotted Gum	<i>Corymbia variegata</i> / <i>citriodora</i>	Yes	2
Tallowwood	<i>E. microcorys</i>	Yes	1
White mahogany / Yellow Stringy	<i>E. acmenoides</i> ; <i>E. umbra</i>	No	1
Forest Red Gum	<i>E. tereticornis</i>	No	2
Red Bloodwood	<i>E. gummifera</i> ; <i>E. intermedia</i>	Yes	1
Turpentine	<i>Syncarpia glomulifera</i>	No	1
White Stringybark	<i>E. eugenoides</i>	No	2