Wood preservation specifications in Queensland

What are they?

How were they developed?

What is the approval process?

A couple of the different treatments?

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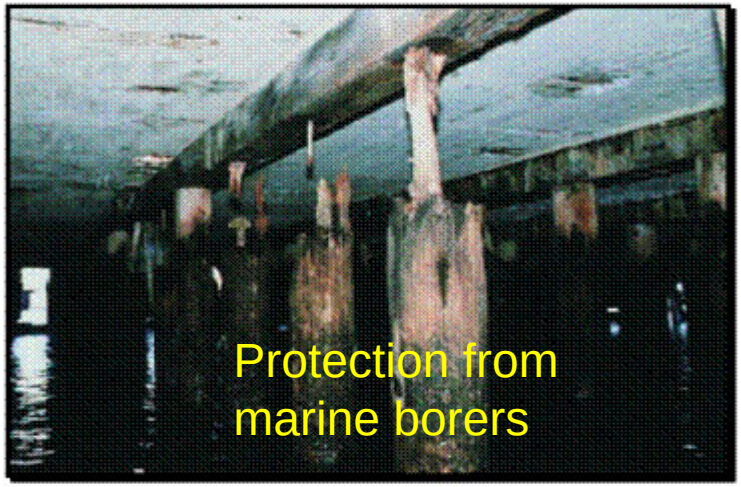
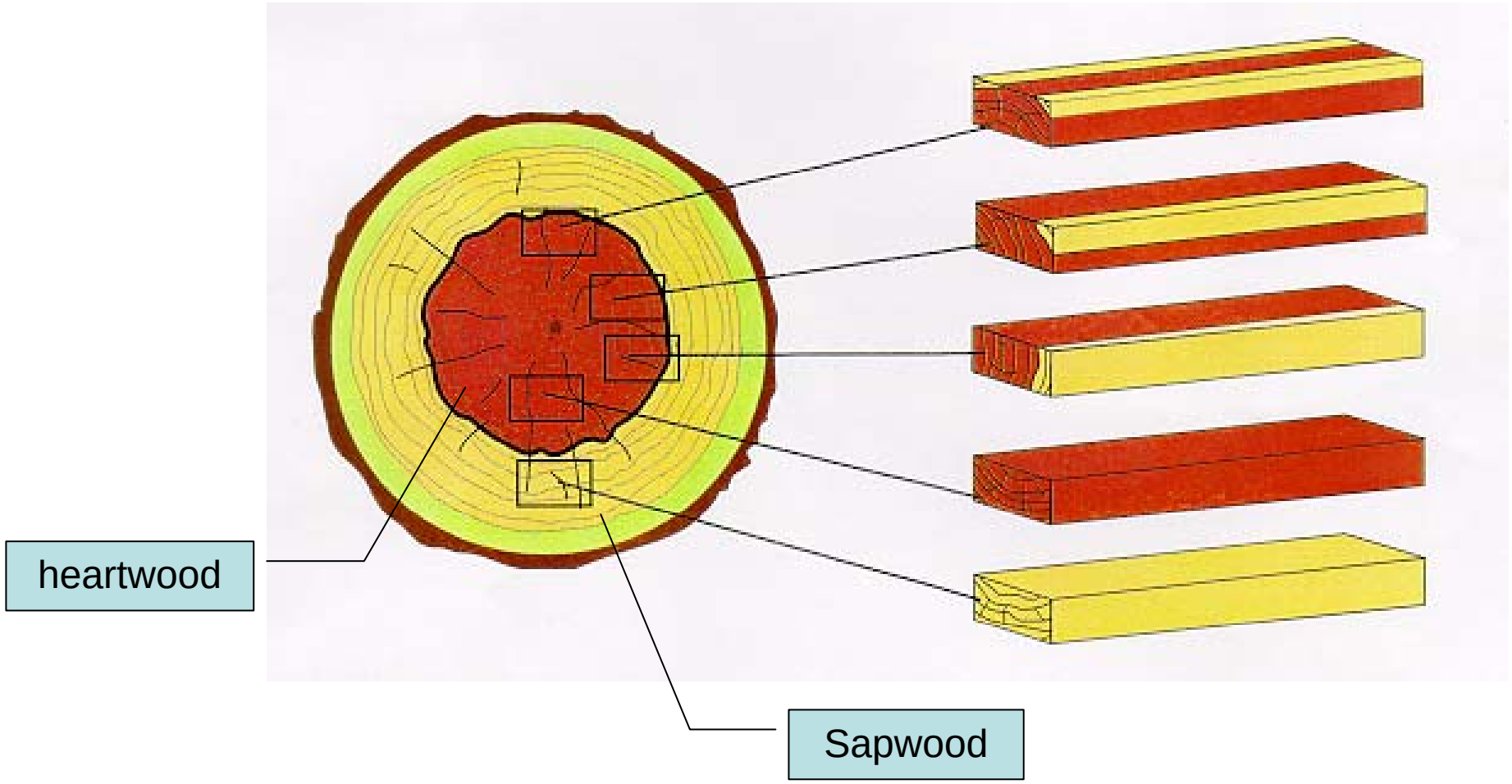
Queensland Government

Wood preservation – what are we talking about?

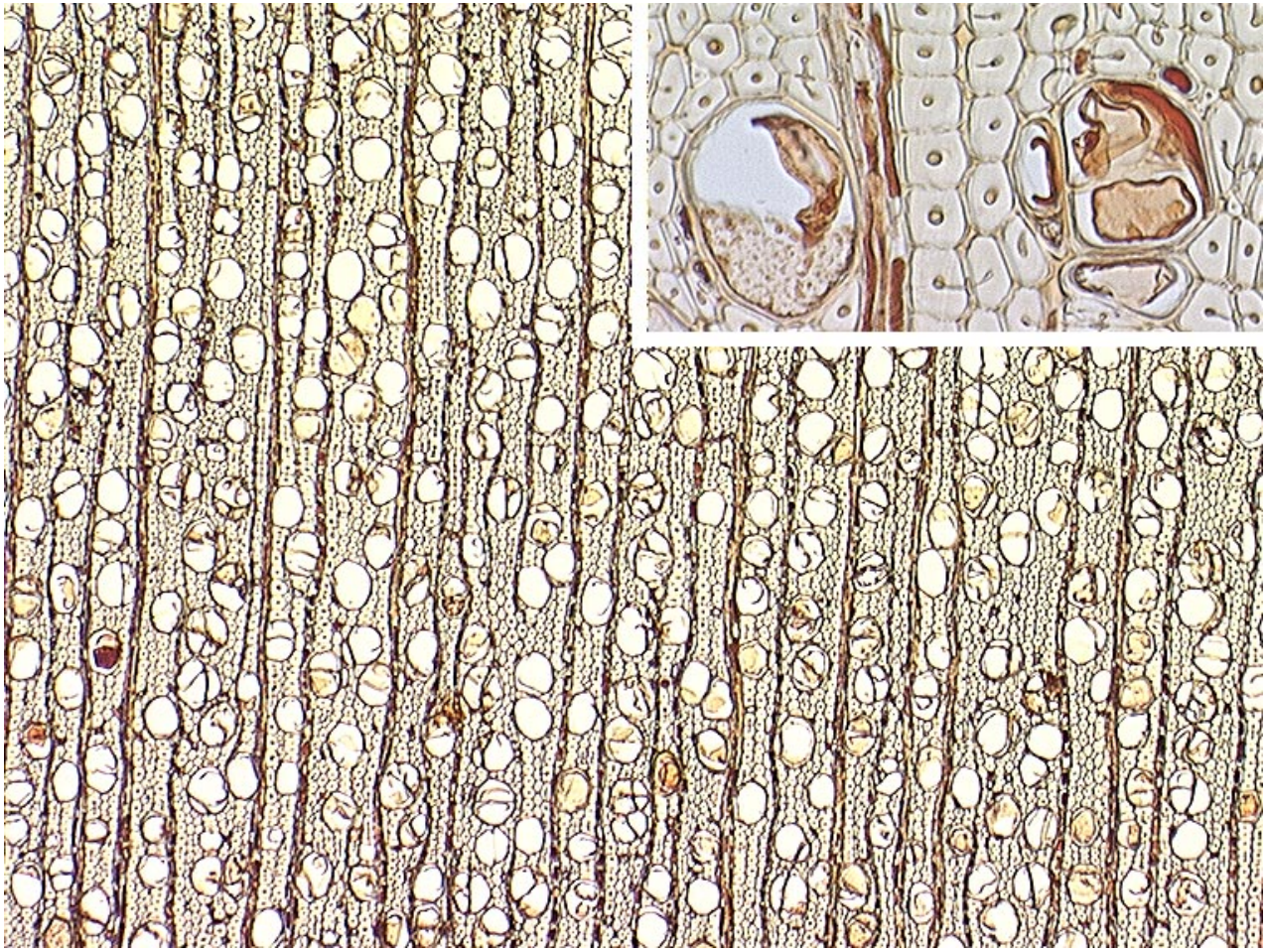


Wood preservation – What are we NOT talking about?

Exactly what can be protected?



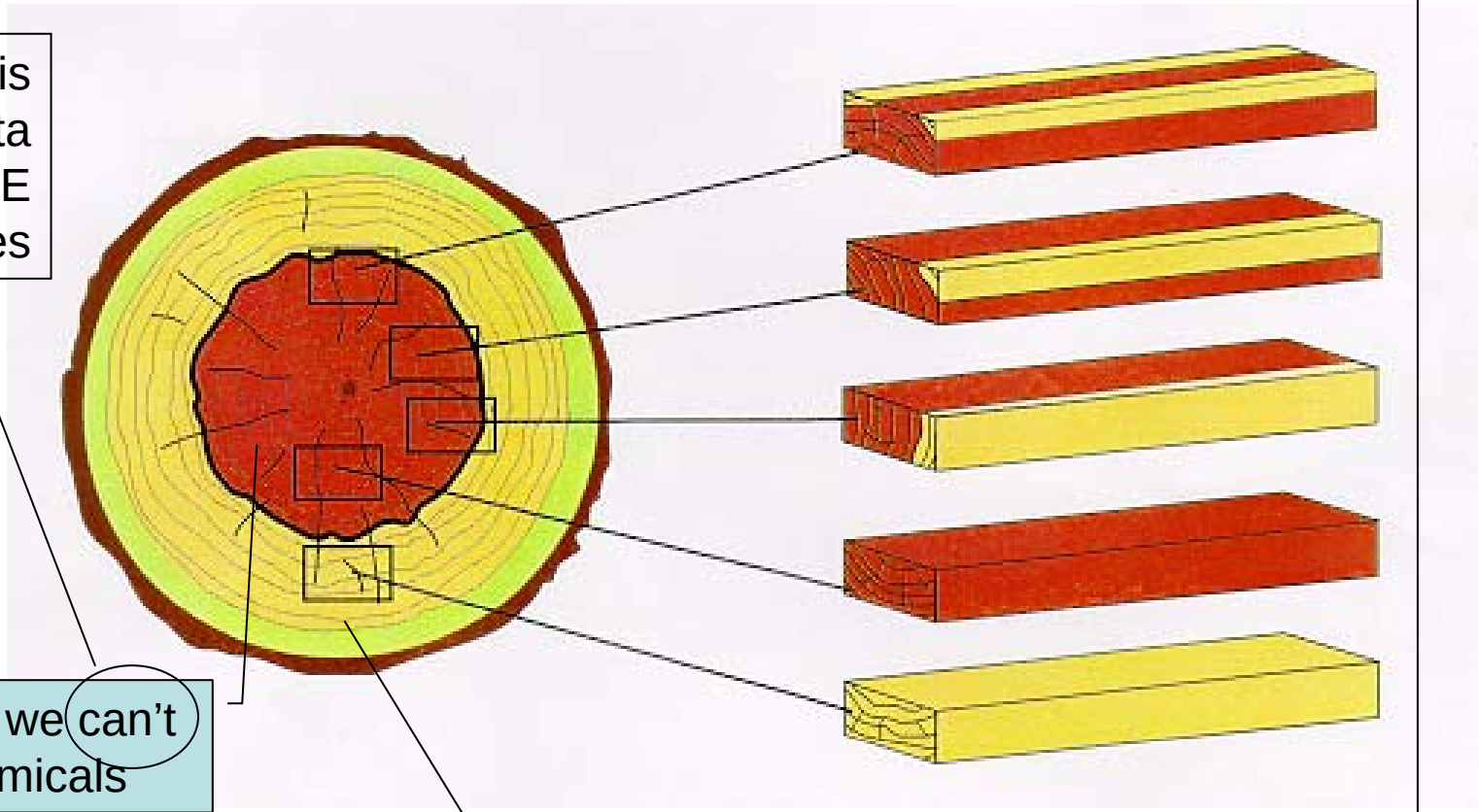
Blocked fluid pathways



Soooooooooo

Some exceptions e.g. cypress pine

Exception is SOME radiata from SOME sources



This is the bit we can't treat with chemicals

This is the bit we can treat with preservative chemicals

Sooooo

- We can fill the sapwood with protective chemicals (more about envelope treatments later)
- We rely on the natural resistance of the heartwood for protection

If I put a piece of slash pine heartwood and a piece of ironbark heartwood in the ground – which one will last longest??

Soooooooo

The heartwood of all native & the most common imported species has been classified into natural durability classes based on how long the heartwood (unprotected) lasts in the ground.

AS5604-2005

The Australian decay durability system

Durability class	In-ground (years)	Above ground (years)
1	25>	40>
2	15 – 25	15- 40
3	5 – 15	7 – 15
4	Up to 5	Up to 7

Where is Wood likely to be used – Hazard class system

Hazard Class	Exposure
H1	Inside – insects
H2	Inside - termites
H3	Outside above ground - decay
H4	Ground contact
H5	Ground contact – critical
H6	Marine

Linking natural durability, hazard class & treatment

Preservative [nominated preservative element or compound for expressing retention]	**Minimum retention in the analytical zone (Note (a)) and Penetration Pattern Code (shown in bold type) of nominated preservative element or compound in treated timber**		
CCA preservatives (Note (b)) [% total active element (%Cu+%Cr+%As)]	conifer and hardwood	0.380% (Note (c))	**D or P**
ACQ2100 (Note (d)) [% total actives (%Cu + %didecyl-dimethylammonium chloride [DDAC])	conifer	0.350% (Note (e))	D or P
	hardwood	0.390% (Note (e))	
Tanalith E (Note (w)) [% total actives (%Cu + % tebuconazole)]	conifer and hardwood	0.2290% (Note (x))	**D**

Link between natural durability and penetration required

Product	Preservative distribution code	Description of Penetration Pattern				H-levels involved
		Heartwood Durability Class (Note (s))				
		Class 1	Class 2	Class 3	Class 4	
Sawn & Round	A	ALL SAPWOOD				H1
	B	ALL LYCTINE SUSCEPTIBLE SAPWOOD				H1
	C	All sapwood		All sapwood, and not less than 5mm from any heartwood surface (Notes (t) & (h))		H2
	D	All sapwood		All sapwood, and not less than X mm from any heartwood surface (Note (t)), where for timber less than or equal to 35mm thick, X = 5 and for timber over 35mm thick, X = 8		H3
	E	All sapwood		All sapwood and not less than 10mm from any surface (Note (t))		H4

How do you get a new **System** into the specifications?

System =

- The chemical(s)
- The species (natural durability)
- The concentration of chemical and
- The penetration required

Preservative [nominated preservative element or compound for expressing retention]	**Minimum retention in the analytical zone (Note (a)) and Penetration Pattern Code (shown in bold type) of nominated preservative element or compound in treated timber**		
CCA preservatives (Note (b)) [% total active element (%Cu+%Cr+%As)]	conifer and hardwood	0.380% (Note (c))	**D or P**

How do you get a new **System** into the specifications?

- Prove to the Feds (APVMA) that the system works << Data pack
- Data Pack is assessed by independent experts - usually
  - CSIRO
  - An x-CSIRO Division Chief
  - PIF in DEEDI
  - NZ Forest Research Institute
- If it gets the tick then may be submitted to. . . .
  - Australian Standards
  - Timber Utilization & Marketing Act
  - Timber Marketing Act (NSW)

Protocols for testing preservatives

Download from……

http://www.tpaa.com.au

CSIRO
An x-CSIRO Division
Chief
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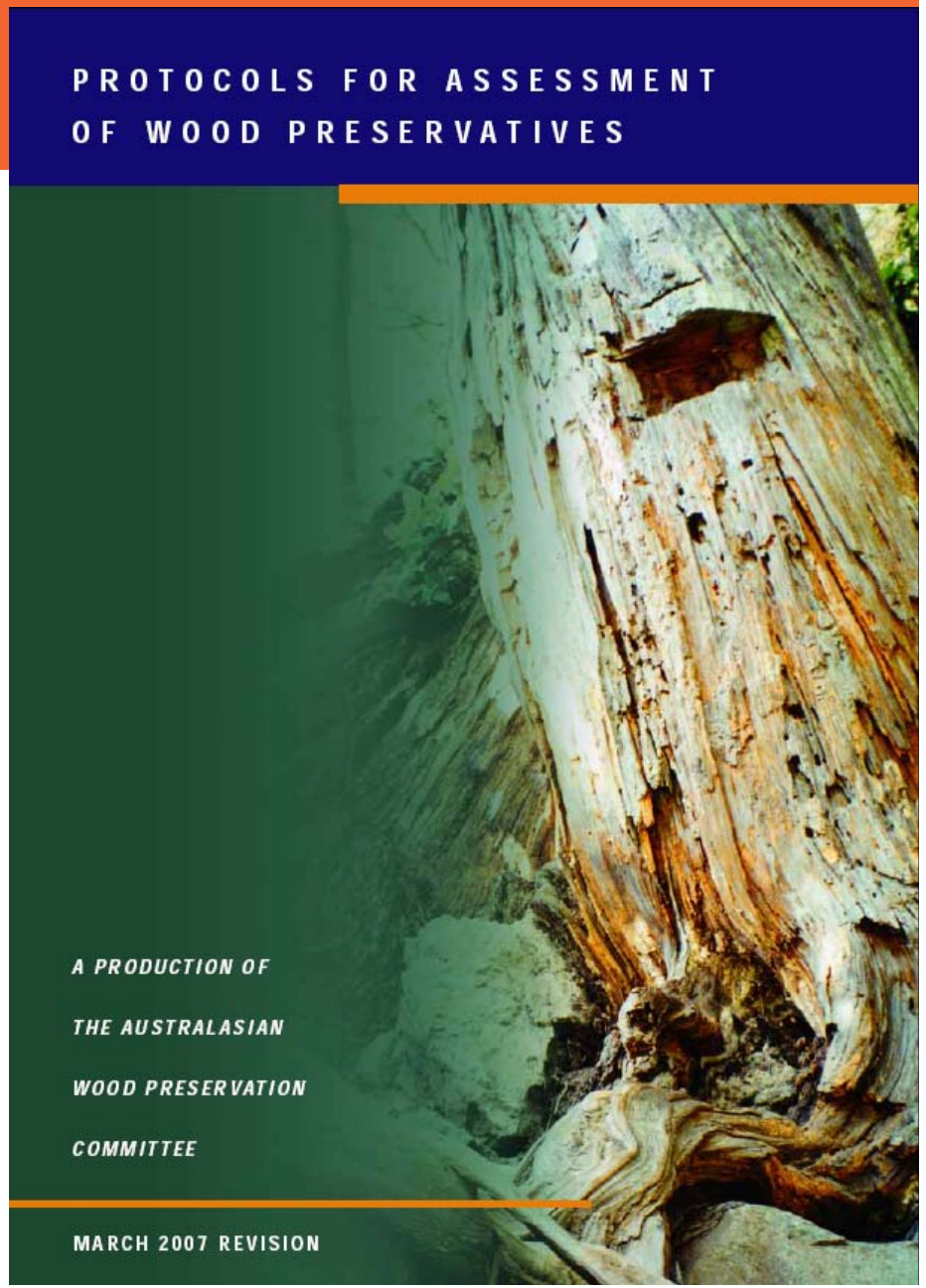
NZ Forest Research Inst.

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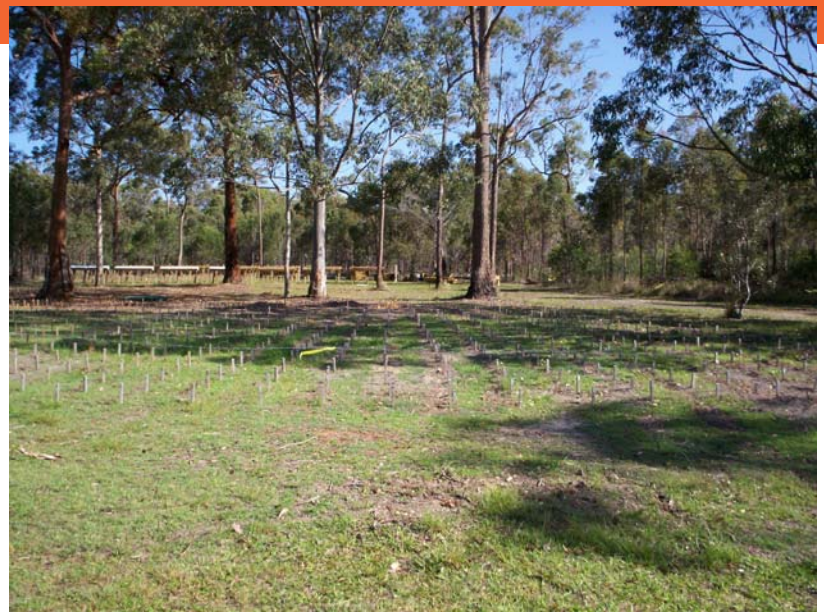


Are you asleep yet?

Worth mentioning

- As well as actual performance in the field, the penetration and retention of the active ingredients (chemicals) is confirmed by chemical analysis

Preservative systems currently approved

- Waterborne – full penetration of the sapwood
  - CCA
  - CuAz
  - ACQ
  - Boron
- Organic solvent (LOSP) – full sapwood penetration
  - Permethrin
  - Bifenthrin
  - Cypermethrin
- Organic solvent (LOSP) – envelope
  - Permethrin
  - Bifenthrin
- Glueline for laminated veneer products only
  - Bifenthrin
  - Imidacloprid
- Oilborne
  - creosote

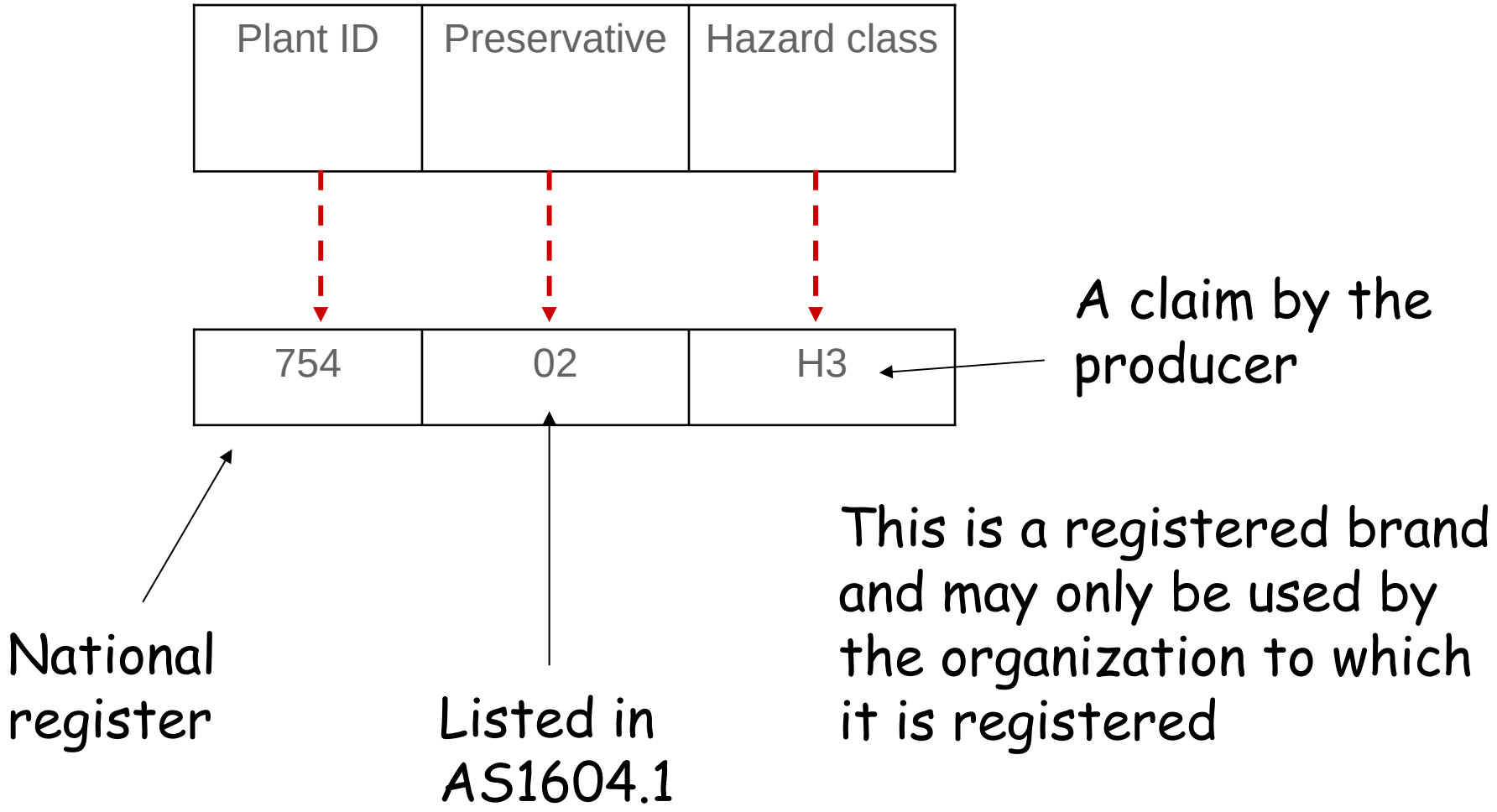
What is approved where

	H1	H2	H3	H4	H5	H6
CCA	✓	✓	✓	✓	✓	
ACQ	✓	✓	✓	✓	✓	
Boron	✓	✓				
CuAz		✓	✓	✓	✓	
Syn Pyr	✓	✓	< ✓ >			
Imidc'rid		✓				
Creosote	No need	No need	✓	✓	✓	✓
TBT	No need	No need	< ✓ >			
Teb/prop	No need	No need	< ✓ >			

How do you sort through this mess?????

- You don't have to
- We have done it for you
- You can trust us – we are from Government!

Quality Systems – identifying treated timber



The brand in action

Comments on H2F/branding

- The H2F brand (part) is not approved for use in Queensland.
- H2 is the brand (part) that is approved for use BUT/AND . . . .
- If the treatment is only for South of the Tropic. . . .
  - *All products treated to this penetration pattern must advise the following printed information on each piece – Envelope treated framing. Use only South of the Tropic of Capricorn*"
- H2 is H2 is H2!
  - A H2 brand & no note can be used all over Queensland
  - A H2 brand plus a note can be used where the note tells you . . . . . South of the Tropic

Specifying treated timber

TUMA is not intended to address bad building practice – eg poor or no sealing & flashing

- You can specify anything you want.
- Specifying H3 when you only need H2 is overkill – like specifying 90 x 45 mm framing when 70 x 35 mm framing will do the job.
- Only specify H3 when decay is an issue
- In Queensland, all pieces over 16 mm thick and 50 mm wide MUST be branded when sold.
- Only the Hazard part of the brand needs to be specified. The H brand is supported by science & bureaucracy.
- Under TUMA, there is no restriction on what else/information can be put on the timber.
- Specifications should include a level of quality compliance results.

Topics covered

- What wood preservation is & is not about
- What parts of a stem/log can be penetrated
- Natural decay durability system
- The hazard class system
- Linking treatment specifications to durability
- Approval of preservatives
- Proving preservative systems work
- Currently approved systems & where they can be used
- Branding

If all else fails . . . . .

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Any Questions. . . . .