

# Assess or Not Assess? That is the Question

Sir

I read the article on the "Bark scoring system for resin defects" from Jim Park in Volume 49 (4) of the Journal (February 2005) with interest and general agreement until I reached the section on conclusions. These conclusions made me realise that a little clarity is needed in the industry on exactly what we are trying to assess with the assessment of features on the bark.

So firstly there is a need to understand the various resinous features and to realise that they are not necessarily related to any single root cause; and that we have little hard evidence as to what exactly are the fundamental initiating factors.

Without wanting to get too technical there are 3 types of resin pockets, plus streaks, and something more akin to a smudge but which is commonly referred to as a blemish, plus resinous heartwood or latewood bands. And all can downgrade final products.

In Fig. 1 I have shown an example of the classic 'wet' resin pocket. In Fig. 2, on the left is a defect probably as a result of a stem gall and on the right a resin blemish. They all have differing causes but in most appearance final products all have one thing in common. The customer doesn't want them!

Fig. 1: Typical Type 1 or 'wet' resin pocket

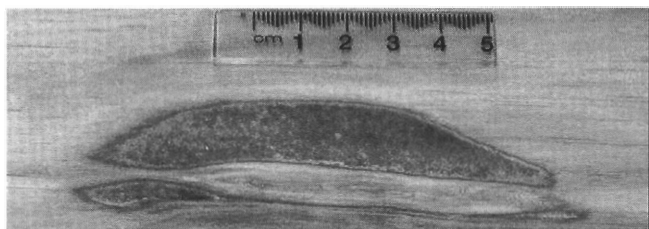
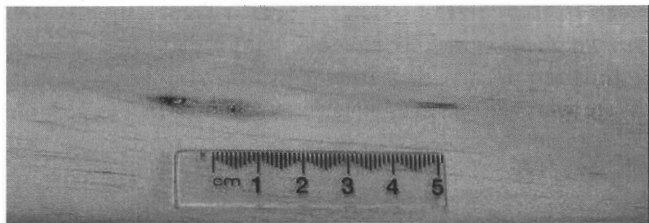


Fig. 2: Defects resulting from a stem gall (on the left) and a resin blemish (on the right).



So each of these defects has an impact in assessment of lumber grades. As an example in my own studies, admittedly from resinous supplies, 45% of recorded resinous defects are types not covered in Jim's analysis but which are accounted for in standing tree bark features.

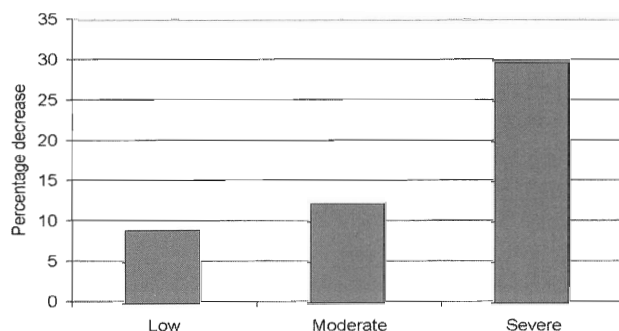
In Jim's study he quite rightly points out that only certain types of resinous defects are related to the appearance of lesions (or in some cases bleeding) on the bark surface. So it is no surprise when you include the effects of wet pockets and resin streaks into the assessment that these did not correlate well with the standing tree assessment. However Jim's study did not include either of the two defects shown in Figure 2, both of which do correlate well with the method.

The tool is not intended, and never was intended to be a panacea for rating all resinous defects in a stand and

therefore placing value on a final product. In the same way that an increment core measurement of wood density doesn't explain all the variation in timber stiffness but is a damn good start, this technique is an excellent beginning in what will hopefully be a suite of tools for resource evaluation of clearwood defects.

However, in 2002 the results of a batch sawing study of logs selected from the standing resource in the Tikitere stocking trial were published. Twenty trees of nil, light, moderate and severe features were sawn with value recovery losses as shown in Fig. 3. Subsequently WQI Ltd (the industry's wood quality research consortium) has undertaken a series of similar trials from five other regions around New Zealand to determine how well log segregation using this technique identifies clearwood quality. Given all of the above comments the answer was surprisingly well, with all conforming to the overall general result of the Tikitere study.

Fig. 3: Decrease in timber value expressed as a percentage of that for 'Clean' logs.



Variation between sites was mostly due to the differences in prevalent defect types, but in every case there was a very strong trend of increasing loss in timber quality and therefore values as you step through the severity grades.

This technique is not new. If we had taken more note of the work of S.G. Chandler (NZFS Nelson Conservancy Forester) in the early 1980s or of Ard Zandvoort (NZFRI Forest Biology Observer) in the early 1990s we would all be a lot further ahead than we are now in understanding both distribution and fundamental causes.

It is a technique that breeders now use, that is being investigated as a thinning selection tool, and that I as a pruned log purchaser take into consideration when determining suitability of supply or setting a value for a stand. Our knowledge of the accuracy, variability and overall usefulness of the tool is still developing but we would be extremely unwise, as an industry to discard it.

Jim's article is accurate in what it set out to assess but without some understanding of the wider related issues could well be misleading. There is a lot of unpublished or confidential information around that supports this tool. I would hate anyone who doesn't understand the relevance of the external signs of resin defects to stop assessments. To those not yet converted; copies of 'Field Guide to Assist Recognition and Classification of Resinous Defects on the Bark of Radiata Pine' are available from Scion (Forest Research).

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