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<u>Quality of the Science</u>		<u>Importance of the Science</u>		<u>Quality of Presentation</u>	
Experimentally and/or theoretically excellent reliable data, no flaws	<input type="checkbox"/>	Research of major significance on topic of central importance; highly novel	<input type="checkbox"/>	well presented	<input checked="" type="checkbox"/>
Competent; no major flaws	<input checked="" type="checkbox"/>	Important research on topic of broad significance; novel aspects	<input type="checkbox"/>	Needs to be shortened substantially	<input type="checkbox"/>
Mostly competent, but suffering from serious flaws	<input type="checkbox"/>	Useful research on topic that lacks originality; sound but routine	<input checked="" type="checkbox"/>	Contains unnecessary figures and/or tables	<input type="checkbox"/>
Weak, major flaws or inconsistencies	<input type="checkbox"/>	Research on topic of limited significance, or outside the scope of <i>P, C&E</i>	<input type="checkbox"/>	Requires substantial revisions in grammar and/or syntax	<input type="checkbox"/>

Comments for the authors (type in space below; add pages as necessary.

Overall Comment

I think this is a useful paper that makes a useful contribution to our knowledge and understanding about the adaptation of the tree physiology and structure with age and how this might vary with species.

The paper should be published but only after the authors have produced a version that has been edited more carefully than the present one and which provides some further information.

Specific Comments

Page 3. It would be helpful if the authors would define what they mean by isohydric and non-isohydric.

Page 4, $h\rho_w g$ is called the gravitational pull but then ρ_w and h are further defined.

Page 6. E_L has been defined in the abstract but is that good enough? Where was E_C defined?

Page 7 – Materials and Methods

The first sentence seems to imply that the studies were carried out at two areas Thompson, Manitoba and the BOREAS site. Is this so. Perhaps some further clarification is required.

Page 7. The sentence at the bottom of the page does not seem complete.

Page 9. Text at the top of the second paragraph suggests that the trees in the young stands were of small diameter. There is no explanation about the case of the oldest stand although Table 1 indicates there were 8500 trees per hectare. Were those trees of sufficient diameter?

On this same page (9), penultimate sentence. What is meant by “from 0500 to 0430

Page 10, Middle paragraph. The meaning of the first sentence is not clear.

Page 13, second line from the top. What does SBC mean ?

Page 15, 7 lines from the bottom. What is meant by “exponential saturation”?

Diagrams

I suggest that Fires ExB is removed from all the diagrams. It is not explained.

Table There are a very large number of trees (8500 per hectare) in the oldest stand. What is the explanation?

Reference List

The authors have not been very careful in cross-checking the referencing. The reference list has a number of references that are not in the text. These are I believe:

Baldocchi, Vogel & Hall (1997)

Ewers, Oren, Albough & Dougherty (1999).

Hatton, Moore & Reece (1995)

Kimball, White & Running (1997)

Meinzer & Grantz (1991)

