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Functional genomics of wood degradation – a project summary

Gry Alfredsen

Background

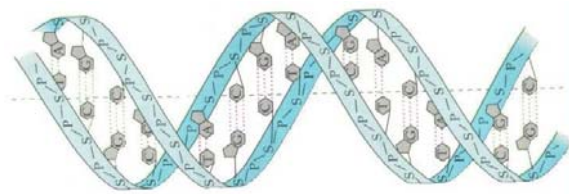
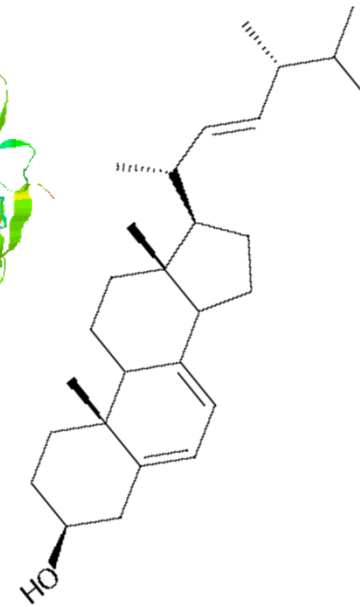
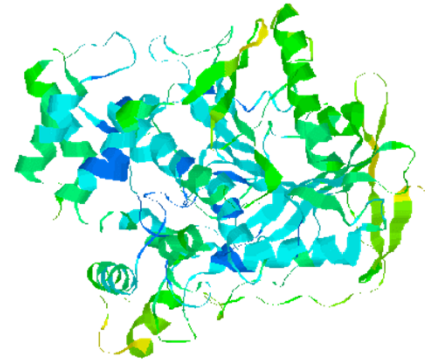
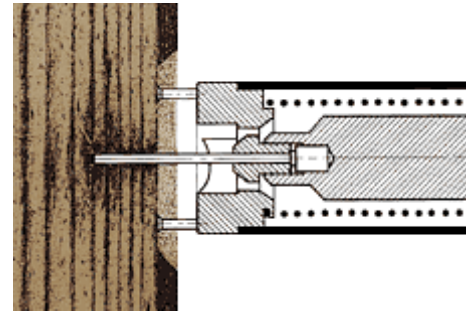
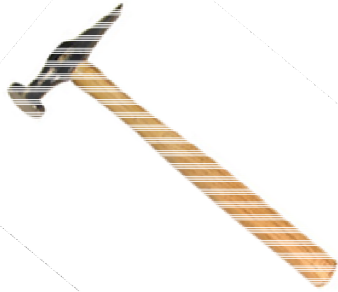


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Background



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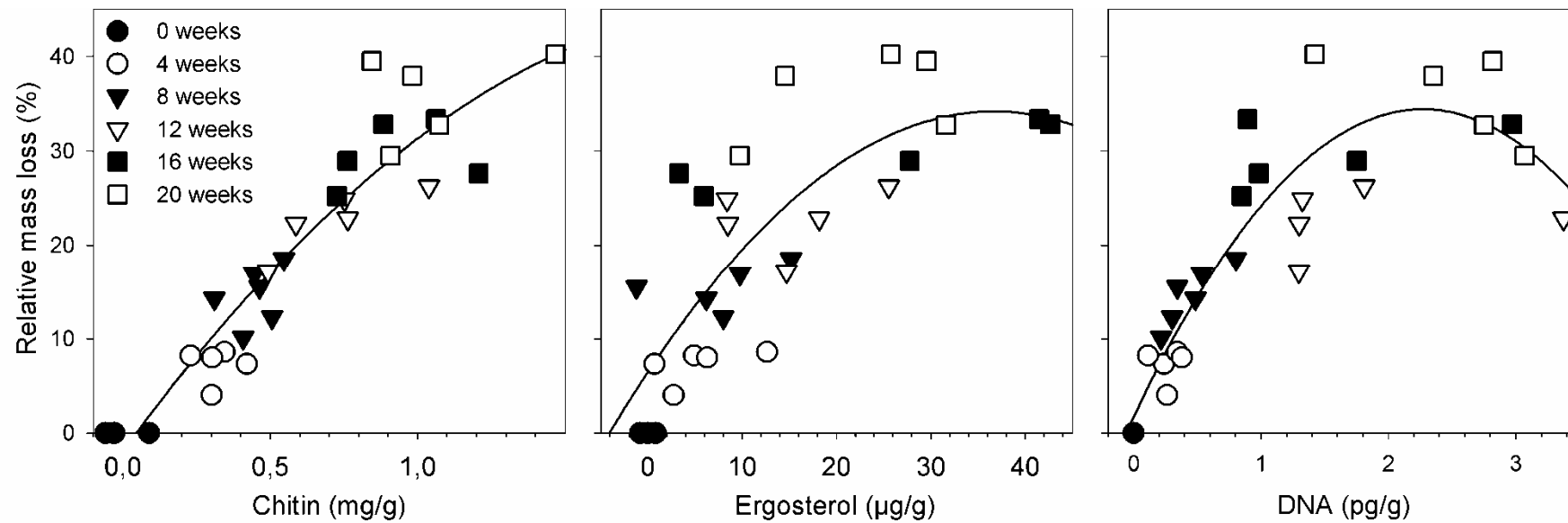
Chitin, ergosterol and DNA (qPCR) vs. mass loss

Eikenes et al. *Holzforschung* 2005



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Aim of study



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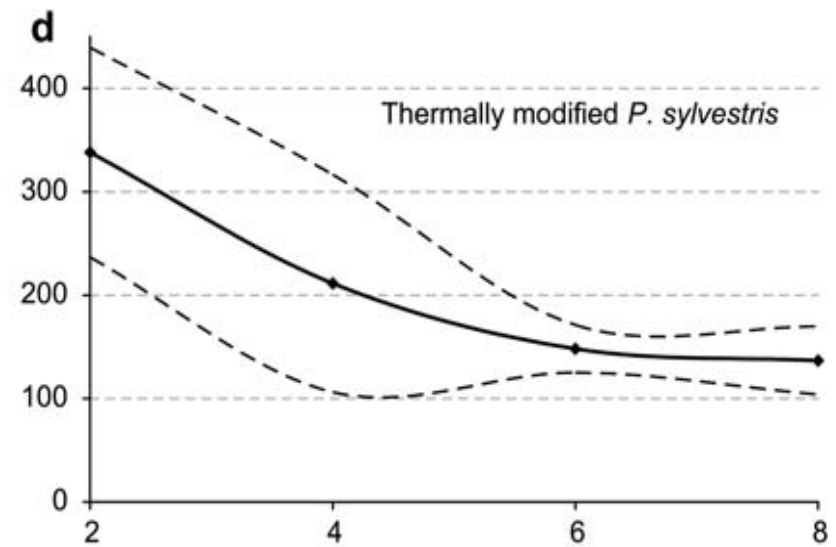
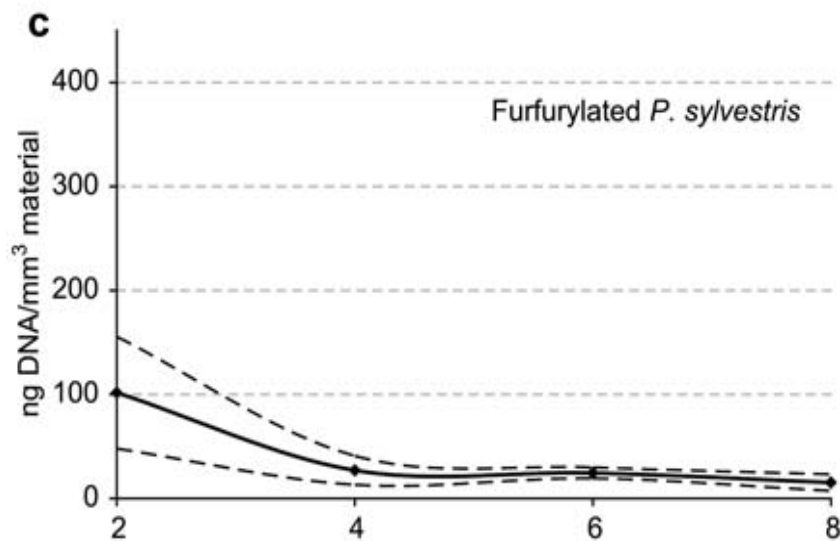
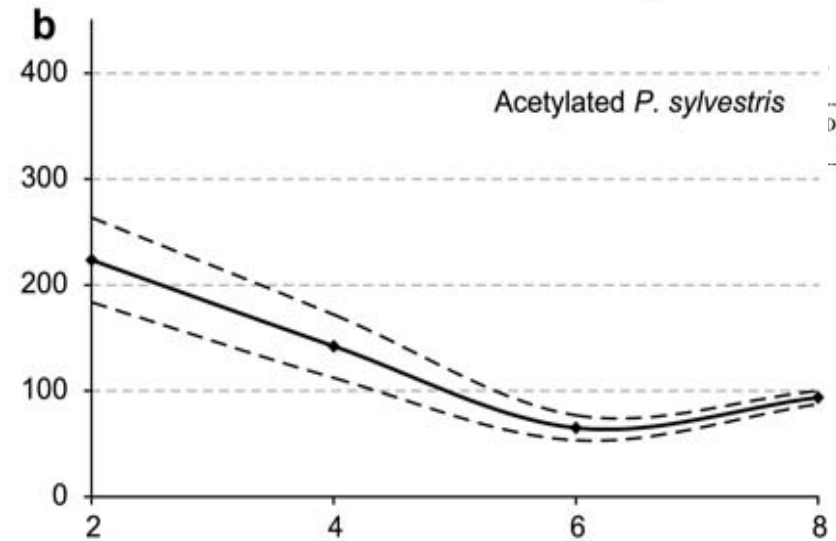
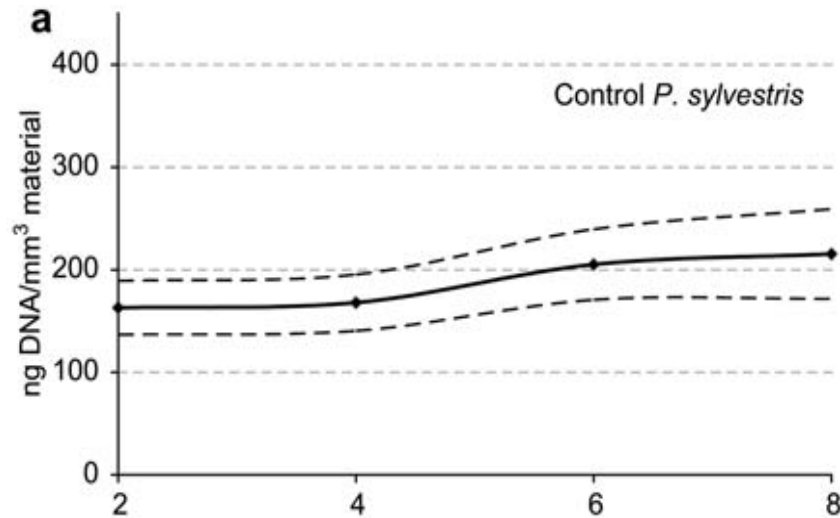
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To summarize the results from the project:

‘Functional genomics of wood degradation: strategies used by decay fungi against wood protection systems and natural host defense compounds’

Comparing DNA content in modified wood

Pilgård et al. *Holzforschung* 2010



Weeks

Weeks

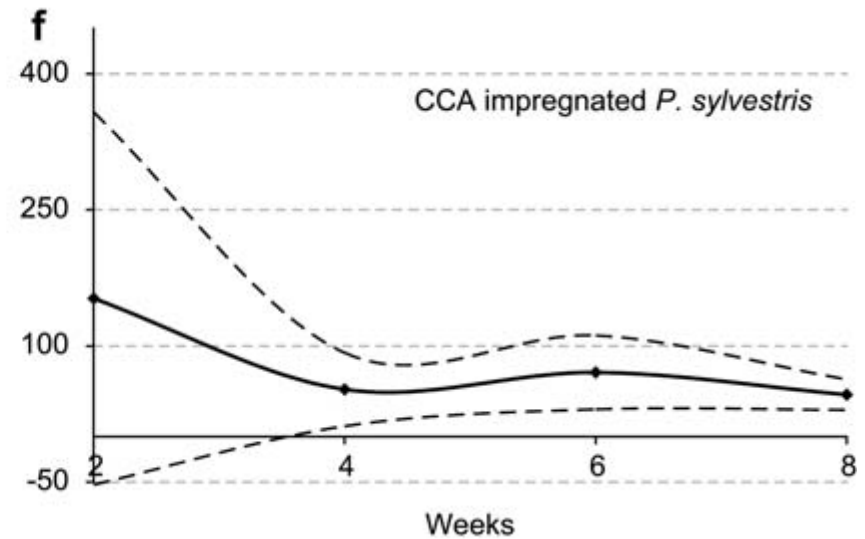
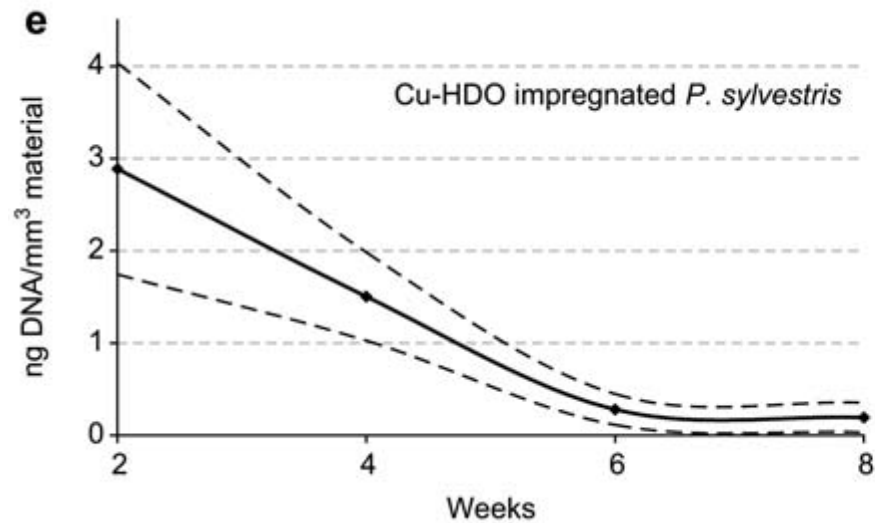
Comparing DNA content in modified wood

Pilgård et al. *Holzforschung* 2010



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Comparing DNA content in modified wood

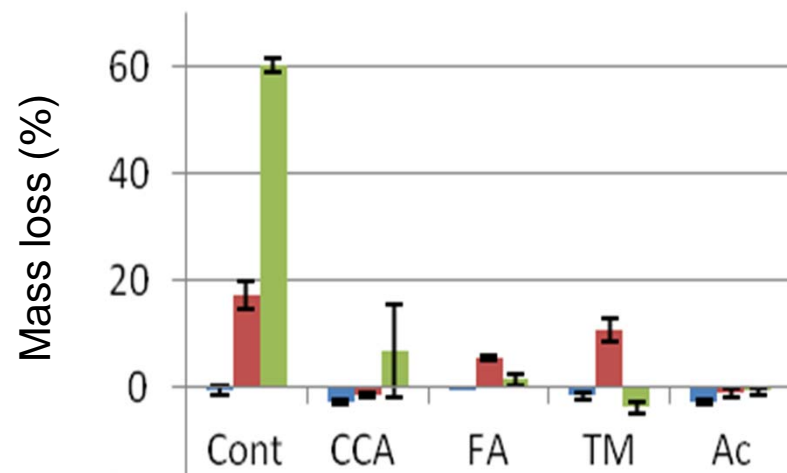
Schmöllerl et al. IRG 2011



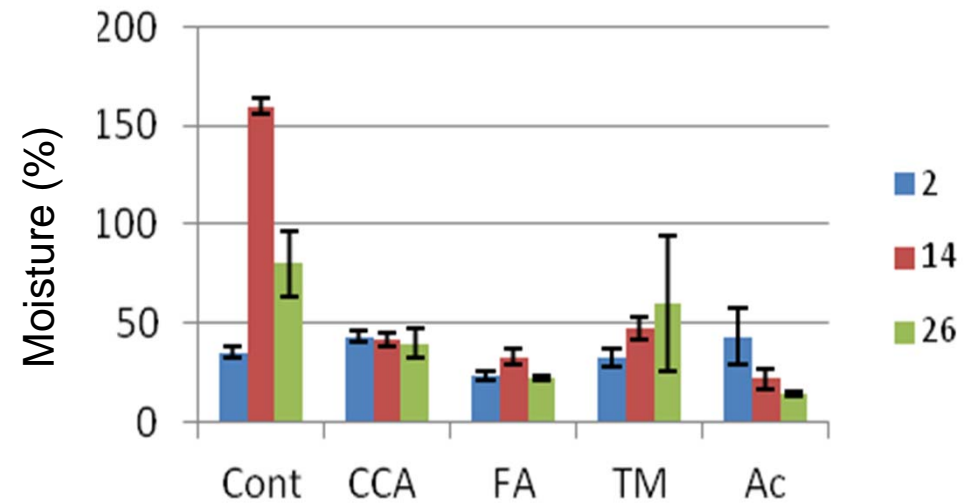
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Mass loss



Moisture



Comparing DNA content in modified wood

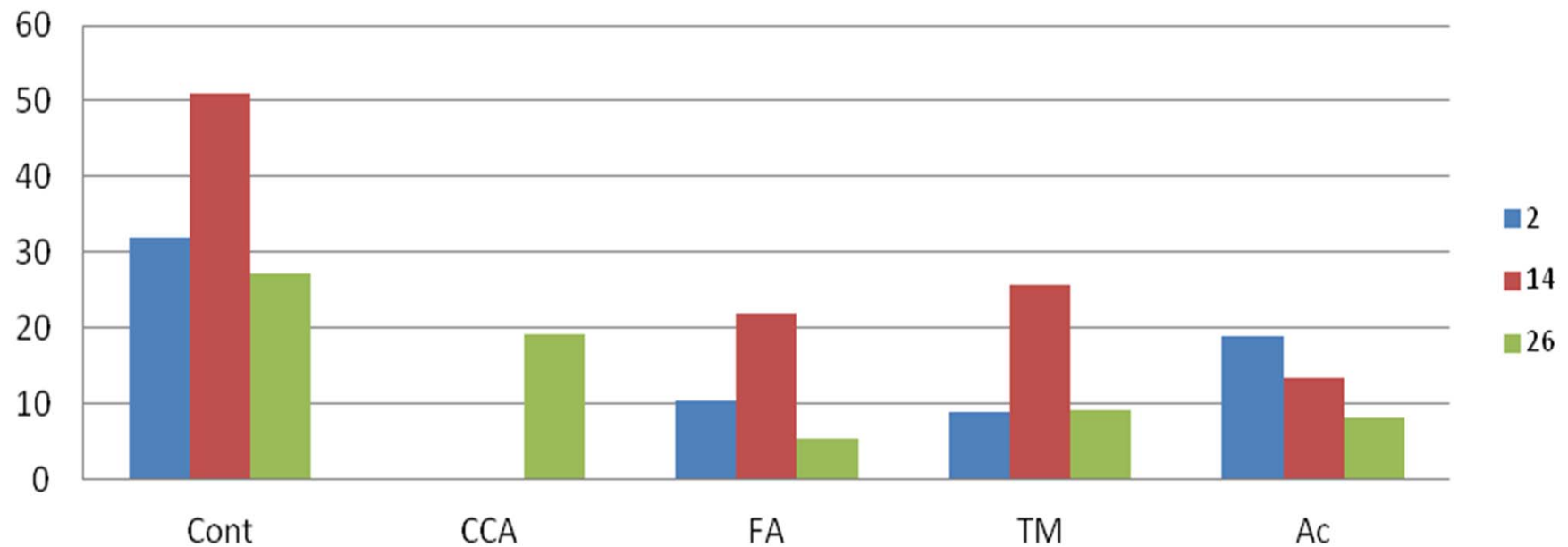
Schmöllerl et al. IRG 2011



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Postia placenta relative DNA content



Gene expression

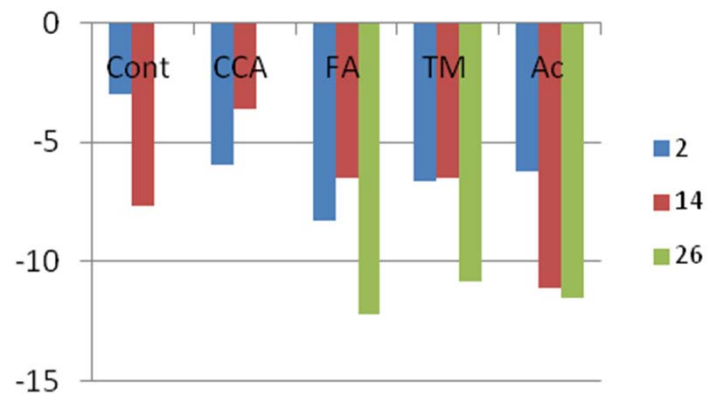
Schmöllerl et al. IRG 2011



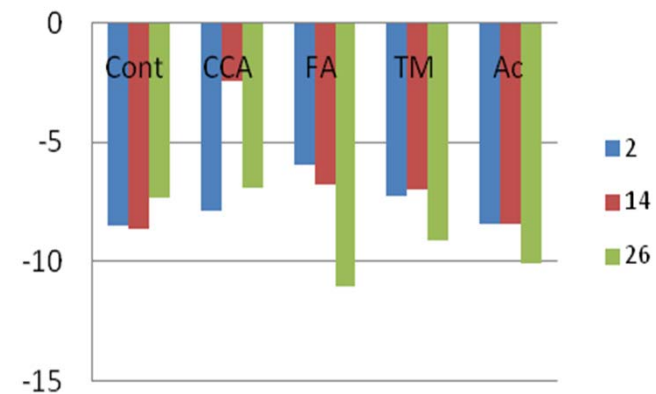
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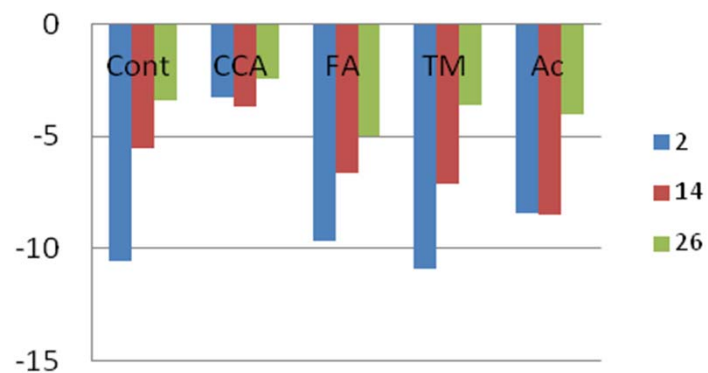
EGLU3



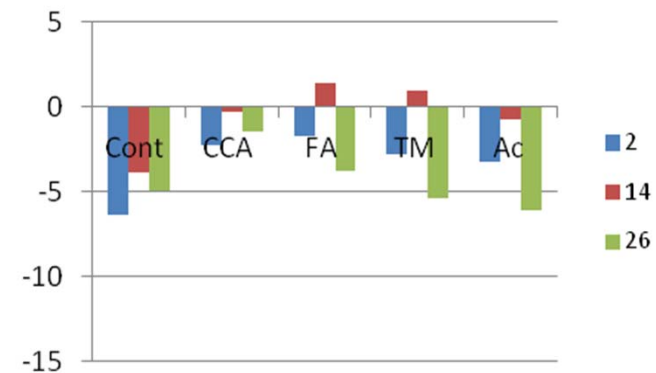
Gamy



MPOX



AIOx



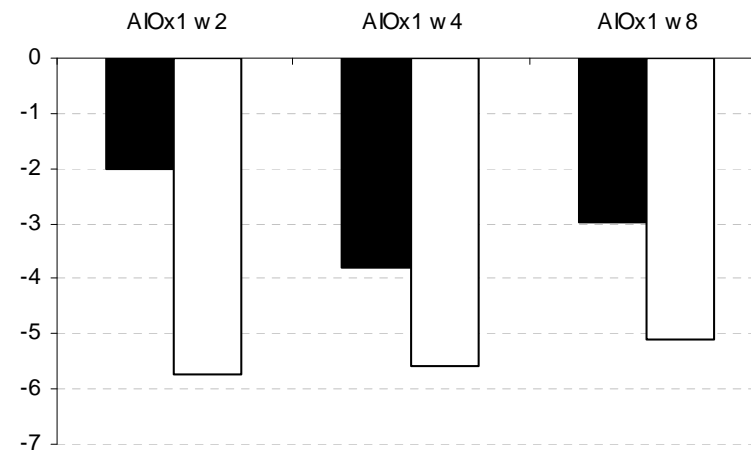
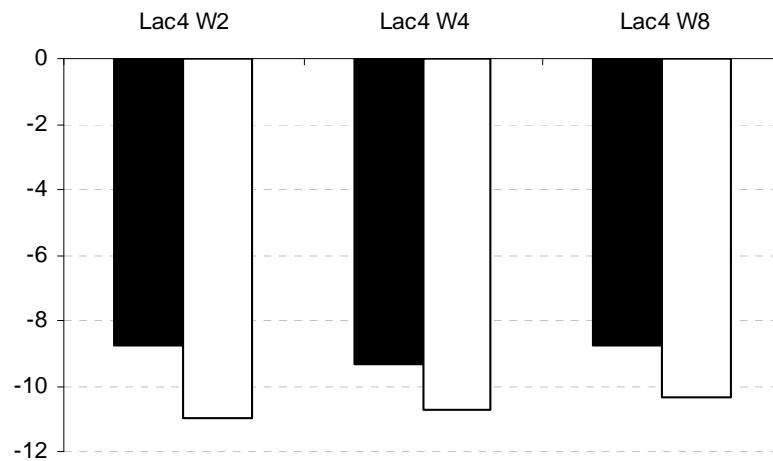
Gene expression

Alfredsen and Fossdal IRG 2010



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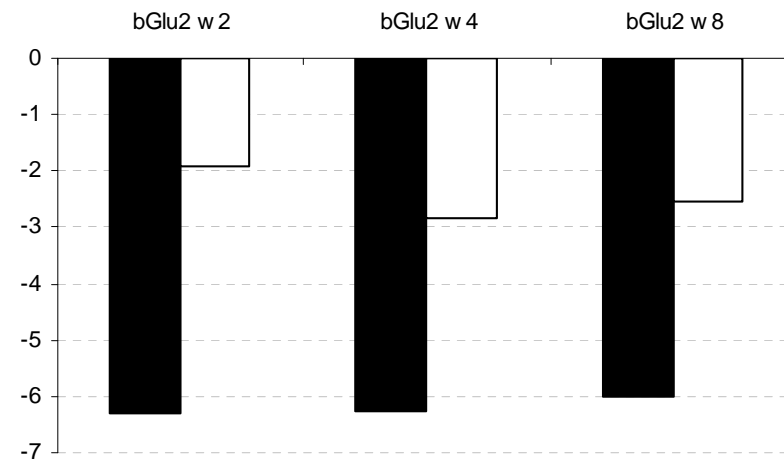
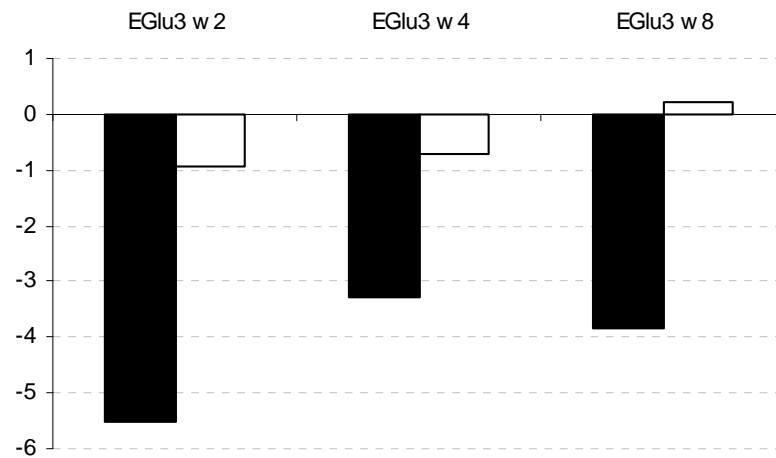
Gene expression

Alfredsen and Fossdal IRG 2010



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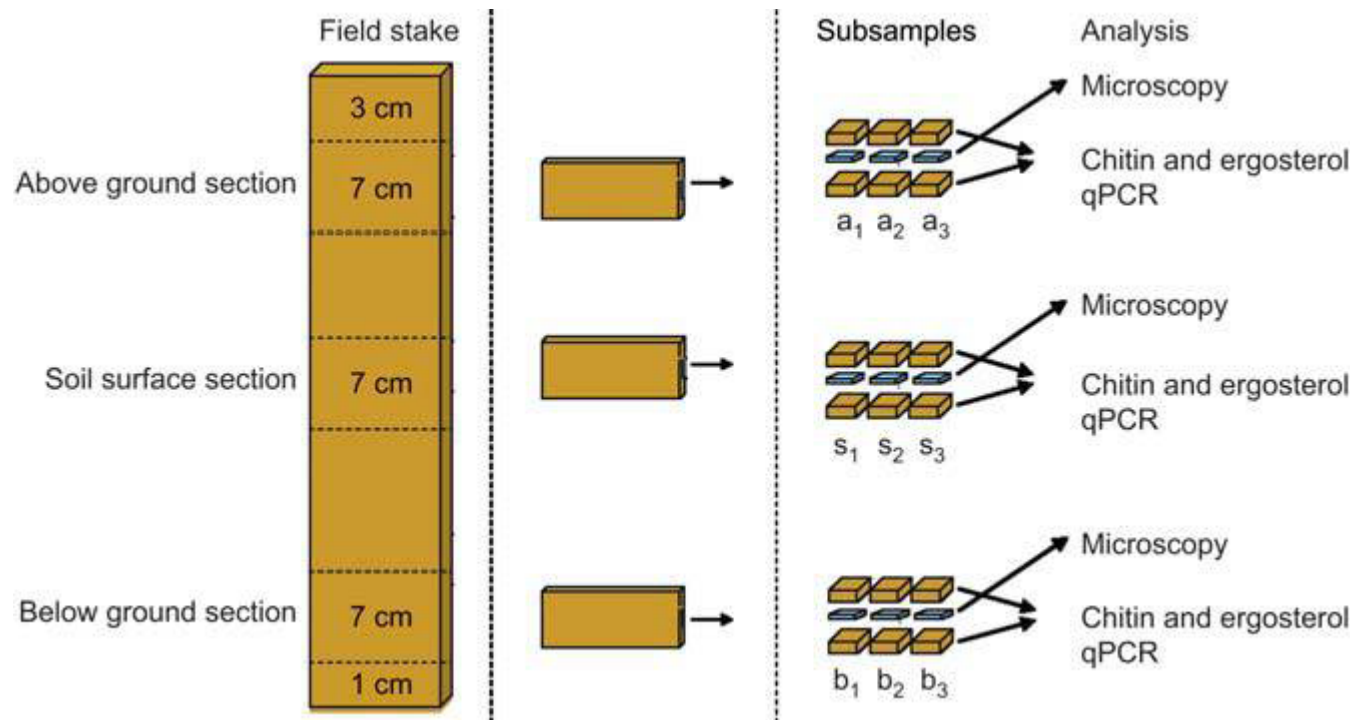
Basidiomycete colonization in field stakes

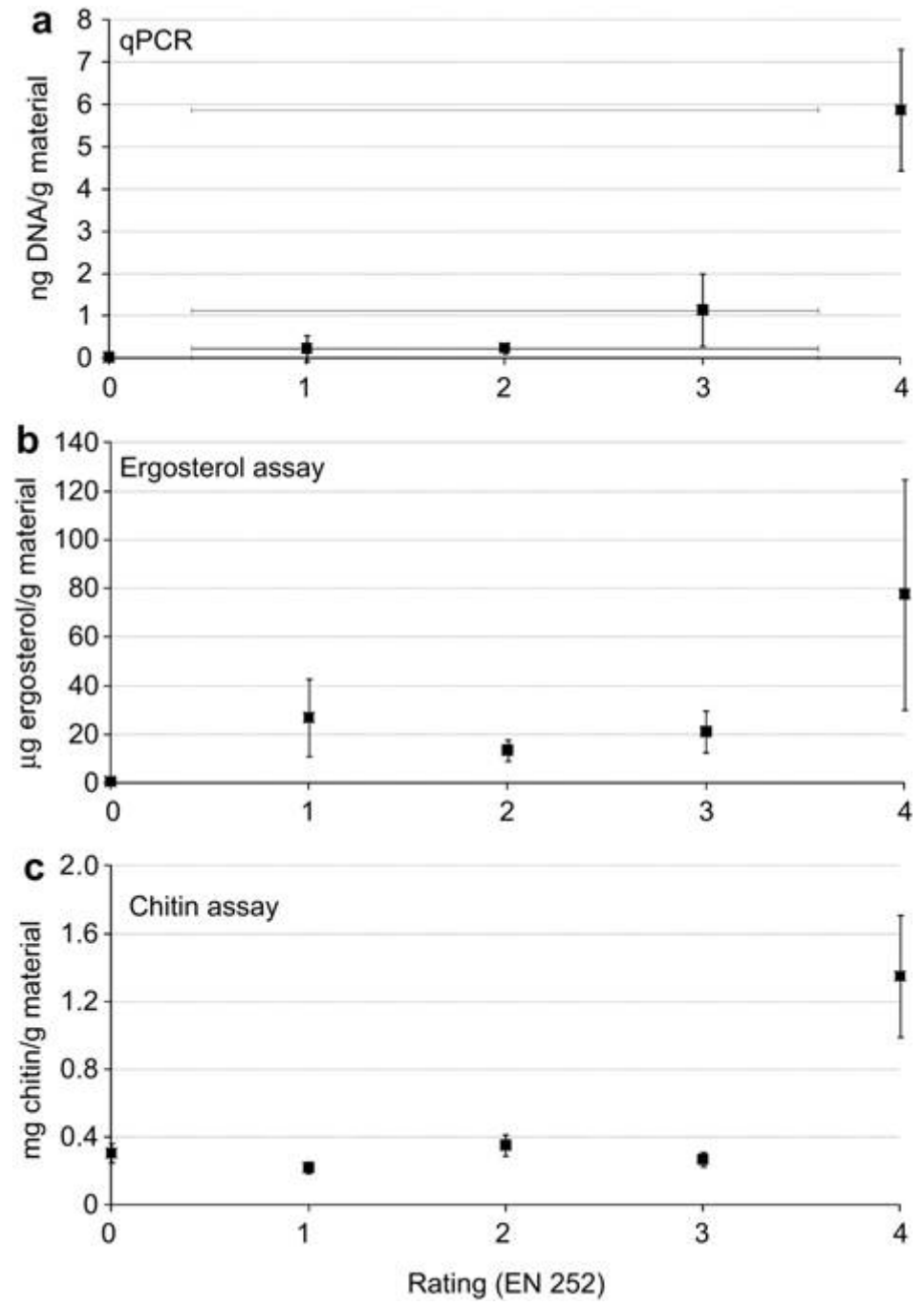
Pilgård et al. *Holzforschung* 2011



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Conclusion

- > Wood modifications have an effect on the exploitation face of both brown and white rot colonization, but not on the exploration face
- > The effect of wood moisture content was confirmed within this project
- > New information was gathered about the effect on gene expression
- > Even before any mass loss was detected, differences in gene expression were measured



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