

ANTIFUNGAL ACTIVITY OF CHEMICALS DERIVED FROM FORESTRY SIDE STREAMS



UNIVERSITY OF
EASTERN FINLAND

Aitor Barbero-López¹ // Nicola Roncen¹ // Martti Venäläinen² // Antti Haapala¹

¹ - University of Eastern Finland, School of Forest Sciences, Joensuu, Finland.

² - Natural Resources Institute Finland (LUKE), Punkaharju unit, Punkaharju, Finland.



INTRODUCTION

- Increasing concern in society about the use of different chemicals: More **strict legislation** about chemicals
 - Sustainable** alternatives needed
- HYPOTHESIS:** Chemicals derived from forestry side streams may contain antifungals, which may be of interest in wood preservative formulations

MATERIALS & METHODS

- Wood decay fungi:
 - Coniophora puteana*,
 - Rhodonina (Poria) placenta*
 - Gloeophyllum trabeum*
- Antifungal test in agar plates.
 - Growing media in petri dish amended with extracts from forestry side products
 - Growth of fungi compared to growing media with no other chemicals

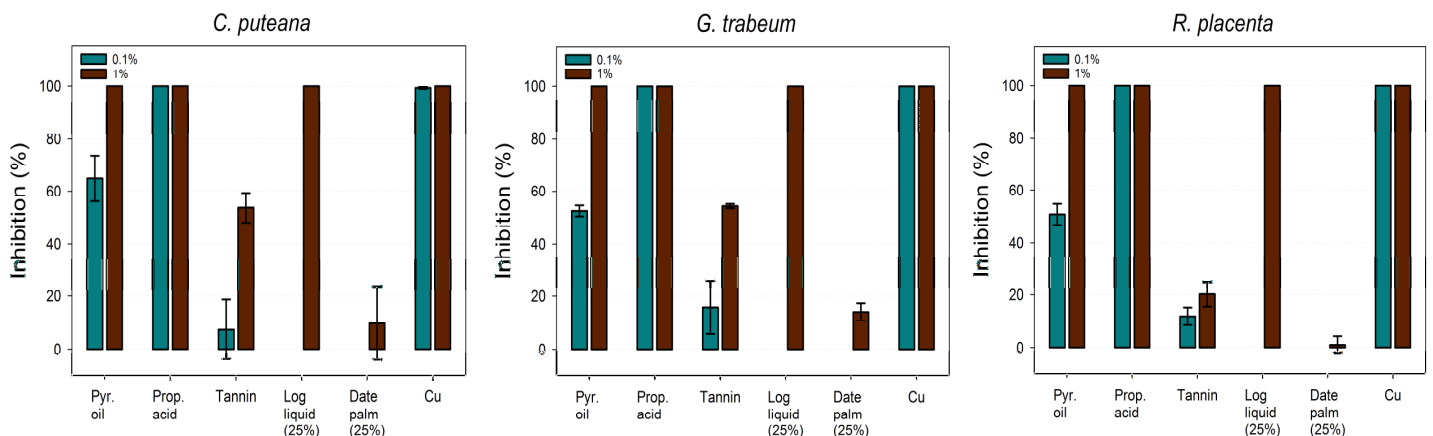
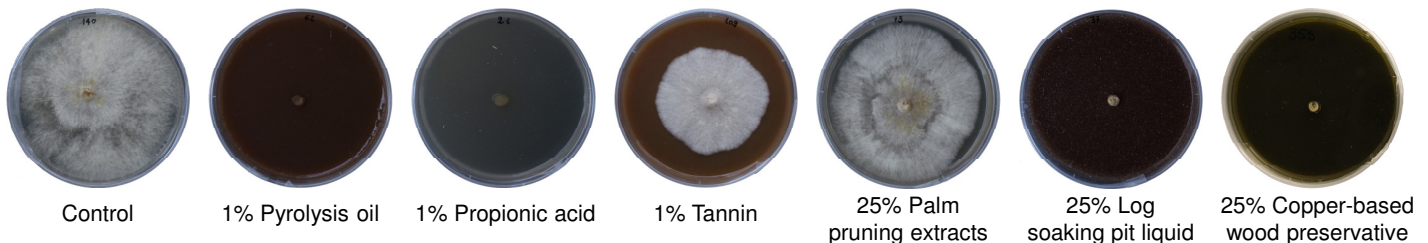
- Chemicals tested:
 - Commercial pyrolysis oils
 - Propionic acid
 - Tannin extracts
 - Copper-based wood preservative**0.1% and 1%

 - Palm pruning extracts
 - Log soaking pit liquid

25% dilution

RESULTS

Growth of *C. puteana* at day 14 in different medias:



CONCLUSION: Some of the tested chemicals have a high antifungal activity, what may be of interest in wood preservative formulations.

CONTACT INFORMATION

Aitor.barberolopez@uef.fi

martti.venalainen@luke.fi

antti.haapala@uef.fi

UNIVERSITY OF EASTERN FINLAND | WOOD MATERIALS SCIENCE

4th Karelia Symposium: Building with Wood: *Citius, altius, levius* - 26.4.2018, Kuopio, Finland