# ANTIFUNGAL ACTIVITY OF CHEMICALS DERIVED FROM FORESTRY SIDE STREAMS

UNIVERSITY OF EASTERN FINLAND

*Aitor Barbero-López[1] // Nicola Roncen[1] // Martti Venäläinen[2] // Antti Haapala[1]*

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

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

Luke NATURAL RESOURCES INSTITUTE 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,*
  - *Rhodonia (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%

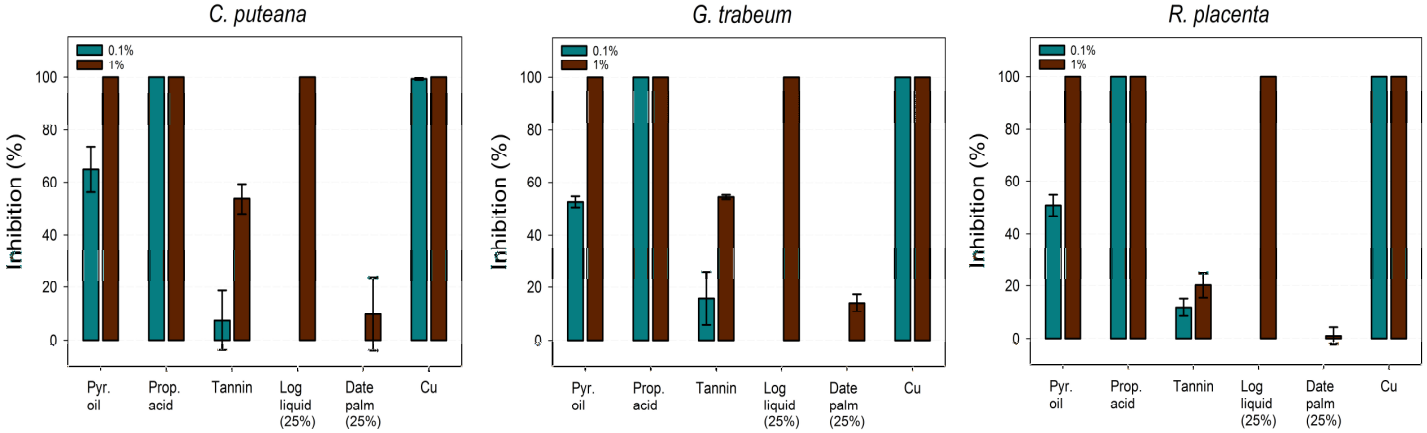
  - Palm pruning extracts
  - Log soaking pit liquid

  } 25% dilution

## RESULTS

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

Control | 1% Pyrolysis oil | 1% Propionic acid | 1% Tannin | 25% Palm pruning extracts | 25% Log soaking pit liquid | 25% Copper-based wood preservative




**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