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Obtaining and study of the packing papers with antibacterial properties using plant extracts

COST FP₁₄₀₅

ACTIVE AND INTELLIGENT FIBRE-BASED PACKAGING – INNOVATION AND MARKET INTRODUCTION

9.11.2017



COST is supported by
the EU Framework Programme
Horizon 2020

Investigation



St. John's Wort
(*Hypericum perforatum*)



Thyme
(*Thymus vulgaris*)



Rosemary
(*Rosmarinus officinalis*)



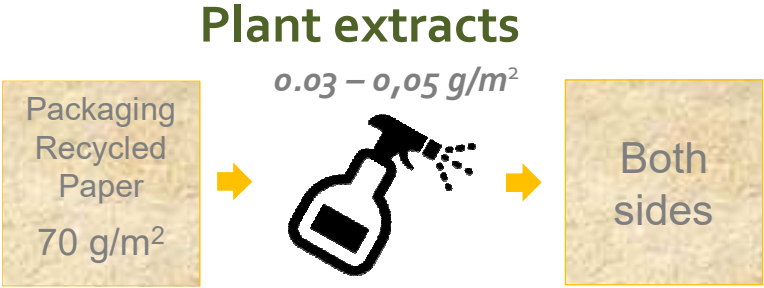
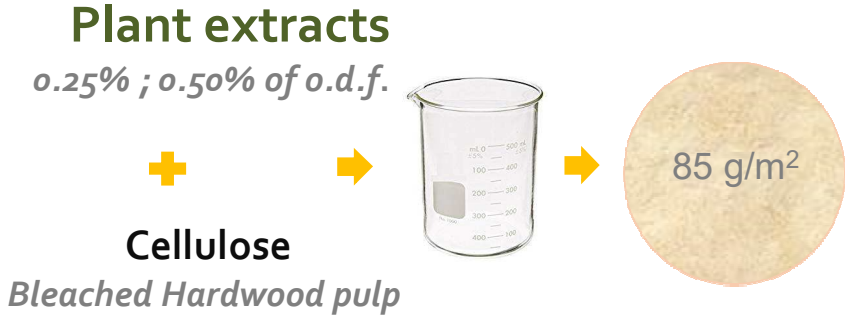
Basil
(*Ocimum basilicum*)



Cym
(*Carum carvi*)

➤ **In pulp suspension**

➤ **At surface application**

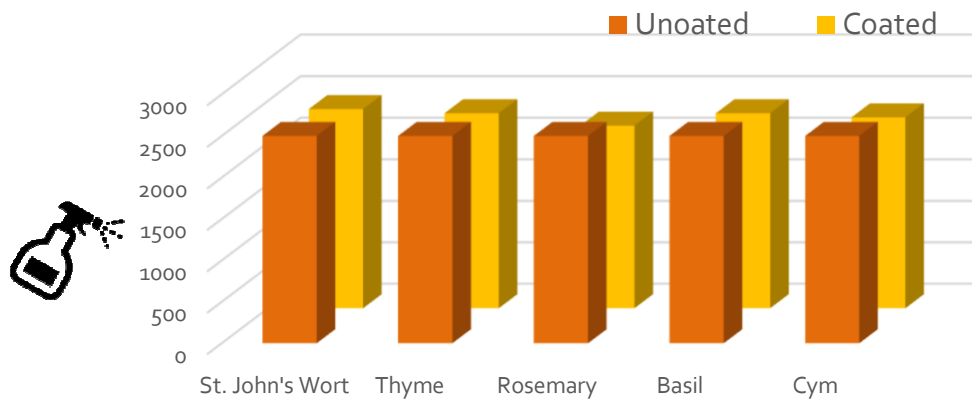
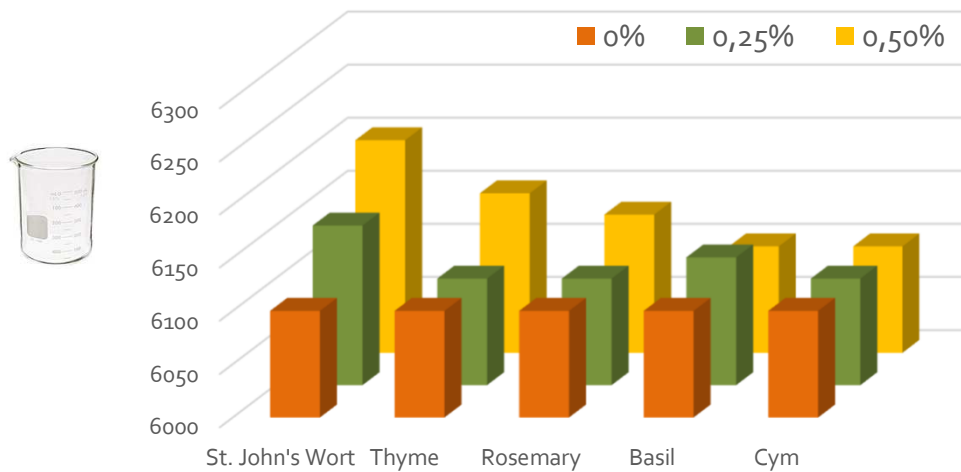


Paper samples with antibacterial properties

Results

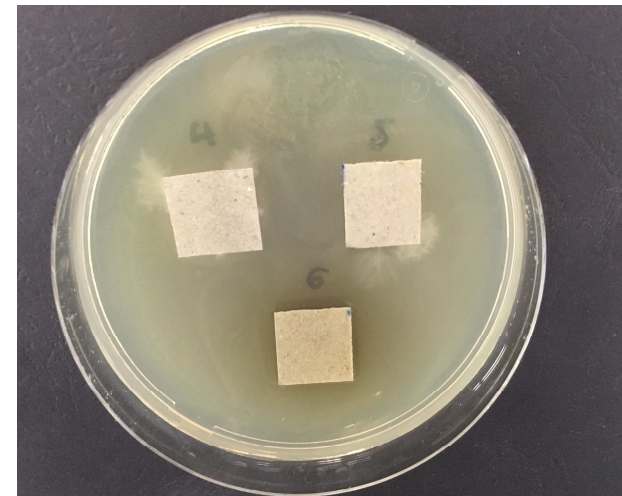
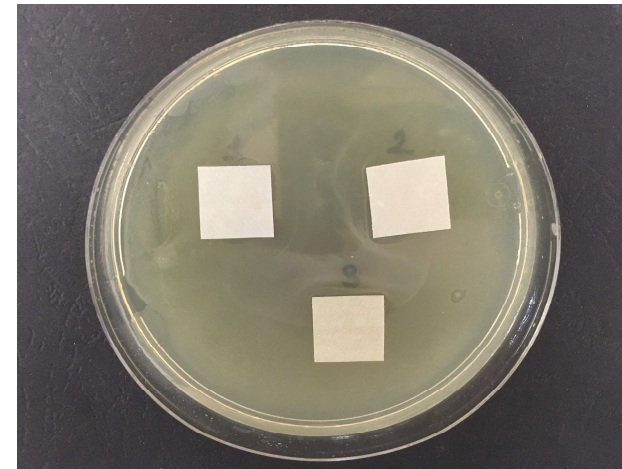
➤ Physico-mechanical

Tensile Length, m



➤ Antibacterial properties

Bacillus subtilis (G+); Escherichia coli K12 (G-)



Conclusion



St. John's Wort
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- The extracts of the Bulgarian herbs were **successfully** used in **suspension and surface application**.
- The **physico-mechanical** properties of the obtained samples are practically **unchanged**.
- **Better antibacterial effect** is observed at paper samples with the **surface application**.
- **At pulp suspension application – the higher the consumption, the higher the effect is.**
- The results show **possibility** of obtaining **packaging papers** with antibacterial properties **with herb extracts** to be used for **active packaging**.



ACKNOWLEDGEMENT

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