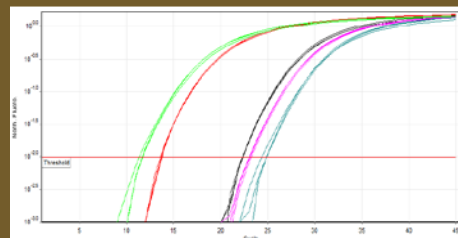


Diagnostics and risk management for plant health threats in wood chips and bark for bio-energy imported from other continents (Q-WOODCHIP)



Funding

Virtual Common Pot. Each funder only pays for the participation of their own national researchers. Total funding € 450

Research consortium

DASTI-DK, DEFRA-UK

Contact information

Project coordinator: Mogens Nicolaisen

mogens.nicolaisen@agrsci.dk

Objectives

- Prioritize P&Ps according to relevance of detection
- Produce recommendations on relevant pre-treatment methods for reduction of P&Ps in woodchips/bark
- Establish collection of specimens and DNA based on prioritized list of P&Ps
- Design and optimize methods for effective sampling in large wood chip/bark commodities.
- Select and optimize methods for efficient extraction of P&P DNA from woodchip and bark
- Design quantitative PCR (qPCR) assays for 10-12 of most relevant P&Ps and validate 5-6 of these assays
- Explore next generation sequencing (NGS) methods for generic detection of P&Ps
- Explore NGS for tree species determination
- Use information on tree species/microbe composition to infer geographical origin
- Investigate stable isotope probing to infer geographical origin of commodities

Goals

The aims of this study is to provide stakeholders with: (a) information about how P&Ps are likely to be distributed in wood chips; (b) validated analytical methods for detecting the presence of P&Ps in wood chips; and (c) guidance on how to design sampling and analysis

Key outputs and results

The expected results for this project are:

- Confirmed priority list of pests and pathogens
- Recommendation of pre-export treatments
- Completed optimal sampling plan design
- Completed measurement uncertainty tool
- DNA extraction protocol
- Report on detection performance of NGS and protocol
- A set of validated protocols for Real-time PCR of selected P&Ps
- Report of review of wood chip species composition
- Geographic wood chip sample reference collection completed
- Report on NGS species composition study
- Report on SSR and SI analysis (M22)