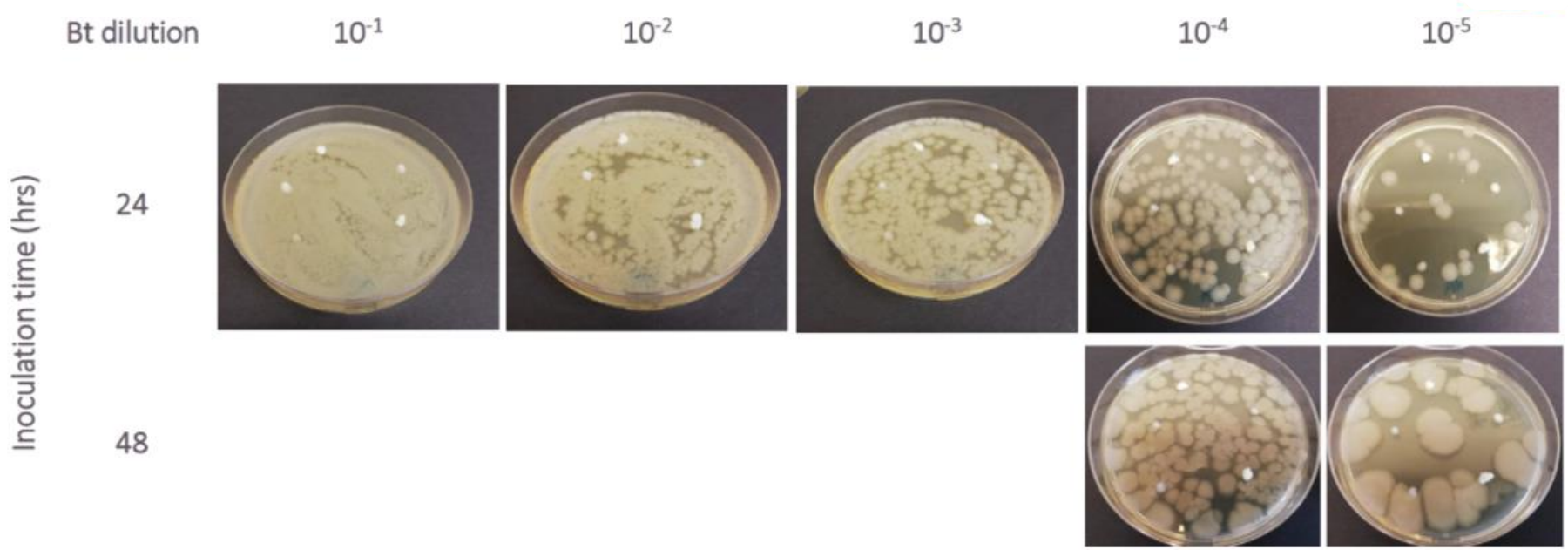
MICROBIAL COMPATIBILITY

Borregaard

Exilva’s compatibility with biologicals

Compatibility test with **Bacillus thurigiensis bacteria** (Bt): Exilva dropped directly on the agar plate. Bt can be used as a bioinsecticide in biocontrol applications.

- No microbes other than Bt could be seen in the plates after incubation.
- No inhibition zone visible around Exilva cellulose fibrils’s samples.
- Similar observations are made with other organisms (**Pseudomonas Fluorescens**; **Beauveria Bassiana**).
- In general, no indication of toxicity of Exilva to biologicals.



Borregaard

Lignosulfonate’s compatibility with biologicals

Borregaard’s lignin biopolymers were tested against four different microorganisms:

- Bacillus thuringiensis bacteria (gram +ve)
- Pseudomonas fluorescens bacteria (gram –ve)
- Beauveria bassiana fungi
- Metarhizium anisopliae

For the qualitative screening, a disk diffusion assay was performed where filter paper disks soaked in 10% (w/w) lignin biopolymer solution were placed in agar plates containing microbial suspension in appropriate dilution and they proved to be compatible with the different microrganisms.

Microorganism	Activance UV	BP4	BP3	BP2
Bacillus thuringiensis	OK	OK	OK	OK
Pseudomonas fluorescens	OK	OK	OK	OK
Beauveria bassiana	OK	OK	OK	OK
Metarhizium anisopliae	OK	OK	OK	OK