

Mycelium Under Cover: Coatings and the longevity of MBMs

Use a short, meaningful title of two lines maximum

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Inroduction

Mycelium biocomposites hold great potential as a sustainable material for the future across a wide range of industries. However, like all organics, they have limits. So when coated, how much weathering can these Biocomposites survive?



Methods

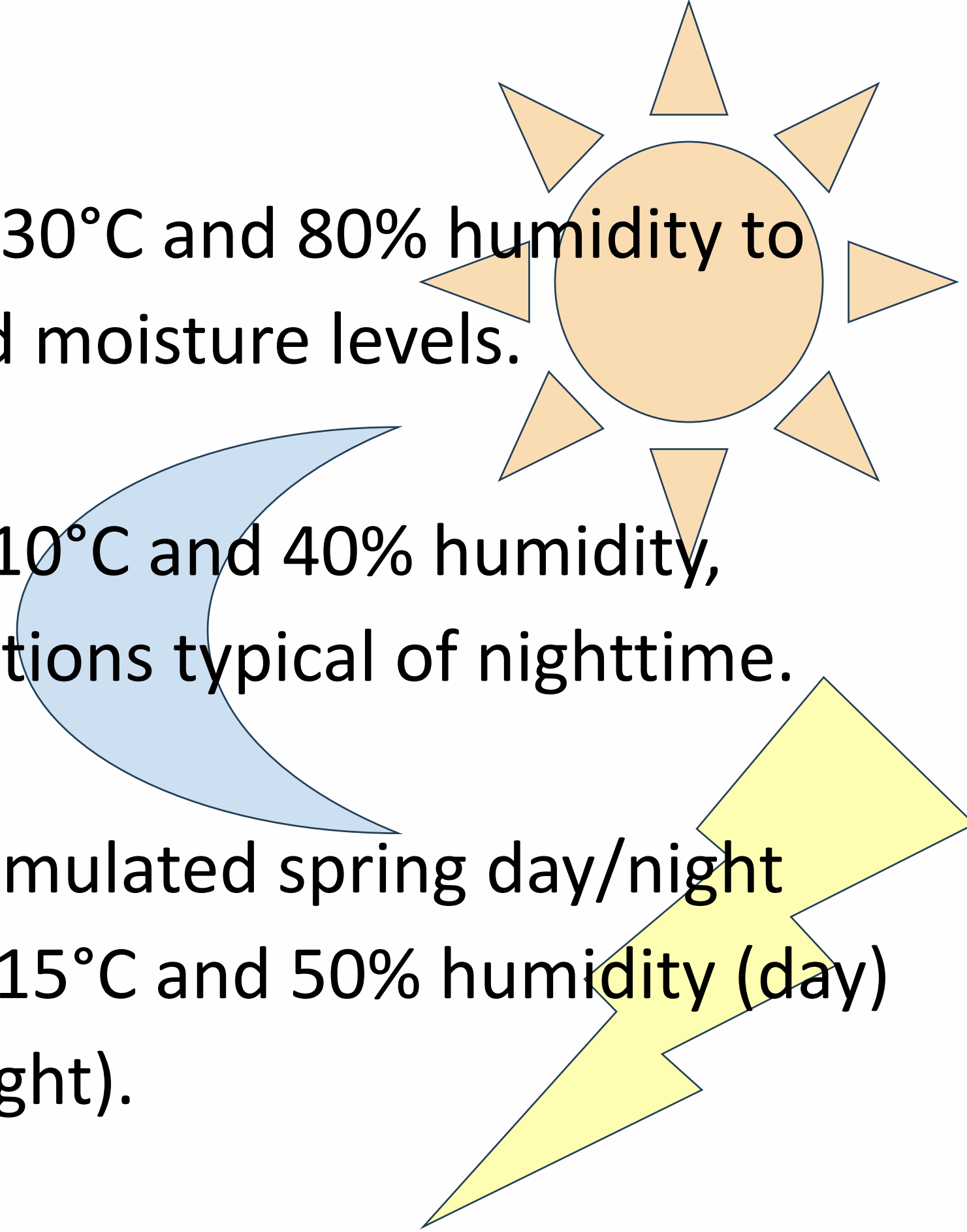
The coatings used in this project are either provided by Impershield or widely available and are designed to enhance the moisture resistance of the MBCs. The following two application methods will be used:

- 1. **Spray coating:** The coating will be applied evenly across the surface of the samples using a spray apparatus to ensure uniform distribution.
- 2. **Submersion coating:** Samples will be submerged in the coating solution to achieve full coverage, ensuring penetration into the material for maximum protection.

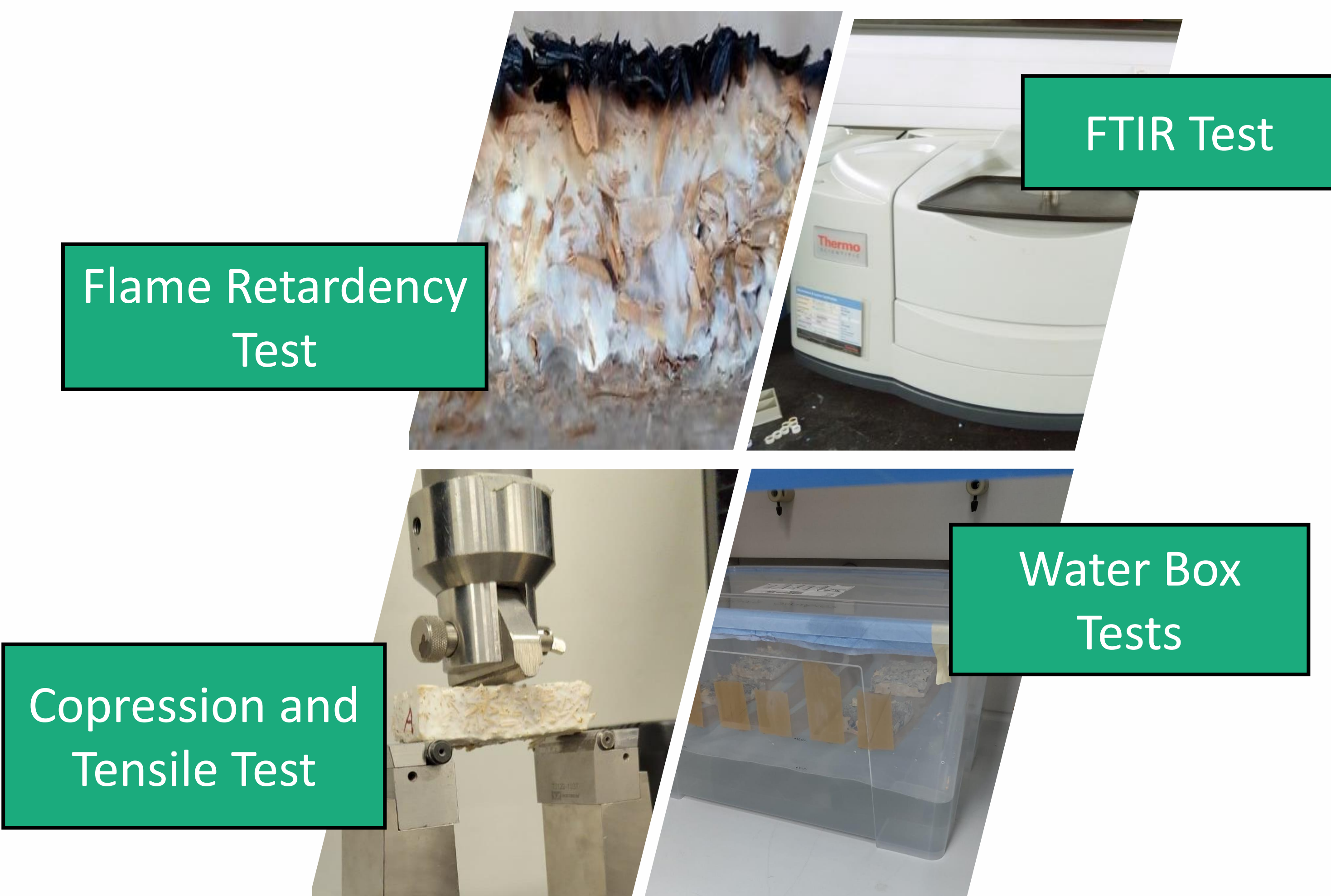
Weathering Testing:

The weathering tests are to simulate real-world environmental conditions that MBCs might encounter:

- **High Conditions:** Exposure to 30°C and 80% humidity to replicate extreme warmth and moisture levels.
- **Low Conditions:** Exposure to 10°C and 40% humidity, representing cooler, dry conditions typical of nighttime.
- **Day/Night Cycles:** Exposure simulated spring day/night cycles will alternate between 15°C and 50% humidity (day) and 5°C and 70% humidity (night).

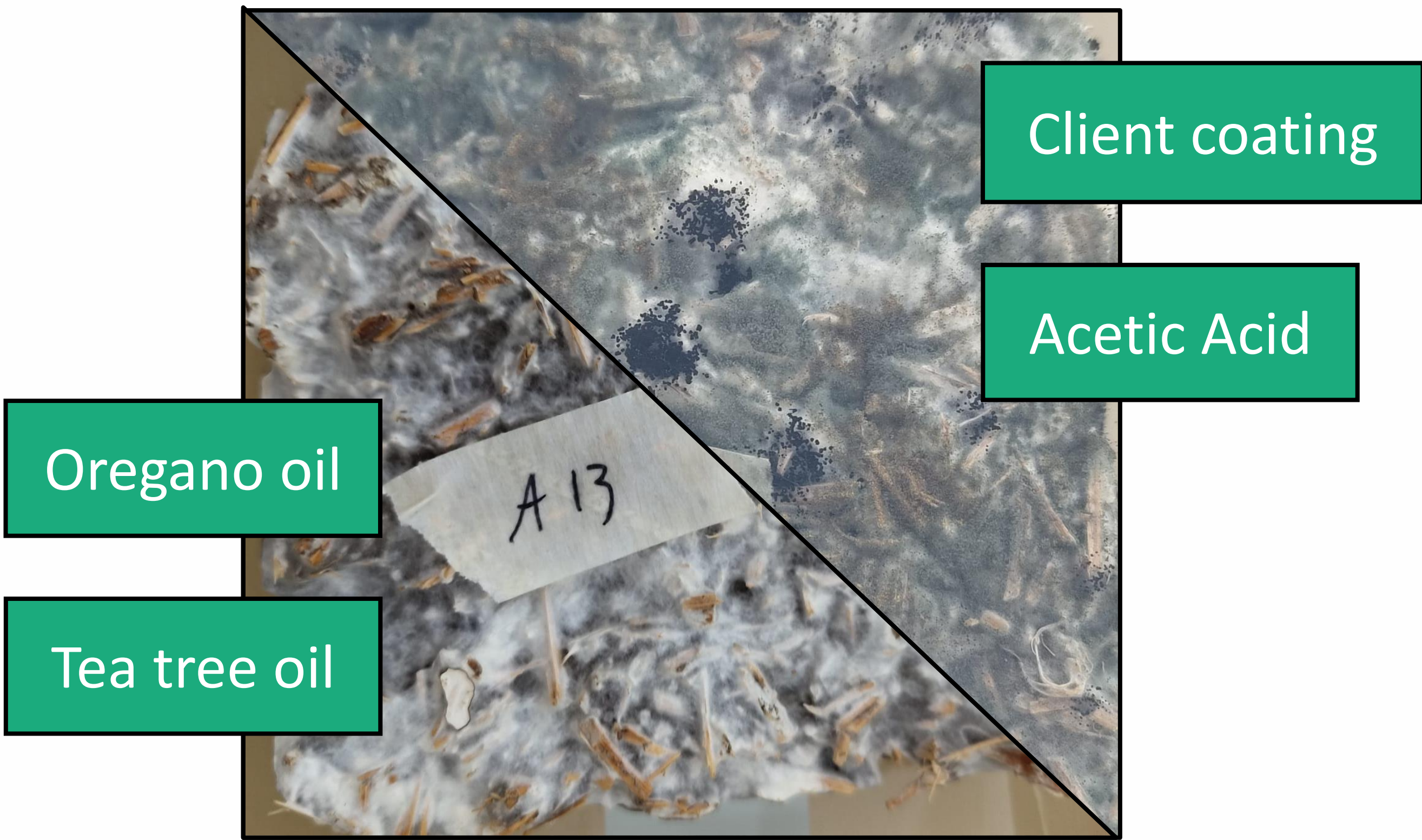


Testing



Results

Of the available results, The most significant come from the water box tests as coatings “Imper A”, “Imper B”, “Imper P” and “Acetic Acid” failed within 1-2 weeks of testing, where as coatings “Oregano oil” and “Tea Tree Oil” have survived over 6 weeks and counting.



Partners and References



SCAN ME