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Testing For Cellulose Degradation

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Works for me

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Bark Beetle Mycobiome Research Coordination Network

ABSTRACT

This protocol describes how to test for cellulose degradation using the congo red method.

This protocol is part of the Bark Beetle Mycobiome (BBM) Research Coordination Network. For more information on the BBM international network: Hulcr J, Barnes I, De Beer ZW, Duong TA, Gazis R, Johnson AJ, Jusino MA, Kasson MT, Li Y, Lynch S, Mayers C, Musvuugwa T, Roets F, Seltmann KC, Six D, Vanderpool D, & Villari C. 2020. Bark beetle mycobiome: collaboratively defined research priorities on a widespread insect-fungus symbiosis. *Symbiosis* 81: 101–113 <https://doi.org/10.1007/s13199-020-00686-9>.

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Cellulose Degradation Test using the Congo Red method

Isolate possible cellulose degraders on CMC (5 g/L & salts, false positives possible).

Use Carboxymethyl cellulose media for Congo Red test – grow isolate in the plate center for a week, overlay with Congo Red, wash with water, wash with salt (3M NaCl), check for clearing. When isolating cellulose degrading bacteria from wood, it's good to add antifungal antibiotics, otherwise *Trichoderma* takes over.

