



Antagonistic assay report

Client Details :**Report Date :**

Client: Eco Health Industries Ltd Contact person: Darcy Lepine Account #	August 4, 2020
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Objective

To test inhibitory effect of Liquid concentrate (Beneblend) and Liquid concentrate amended with activator (Acceler8) (6:0.5 ratio) against fungal pathogens *F. oxysporum*, *R. solani* and *P. aphanidermatum*.

Methods and Results

Liquid concentrate with and without activator was streaked on potato dextrose agar amended with nutrient agar (PDA-NA). The product appeared to be a mix of bacterial and fungal origins (Fig. 1).

All pathogenic fungi as listed above were plugged onto PDA- NA media plates. A thin line of a tested product was placed at the opposite side from a fungal plug. Each set included fungal only control plate. Plates were kept at 25 °C for 5 days prior taking pictures. Results for each fungus were listed in Table 1 and Figure 2. *P. aphanidermatum* seemed to demonstrate certain resistance, however close look up suggested that Liquid concentrate covered the fungus with bacterial colonies. “Slimy” bacterial film was presented on both versions of Liquid concentrate, with and without an activator, although it was much more visible on the Liquid concentrate only plate (Figure 3).

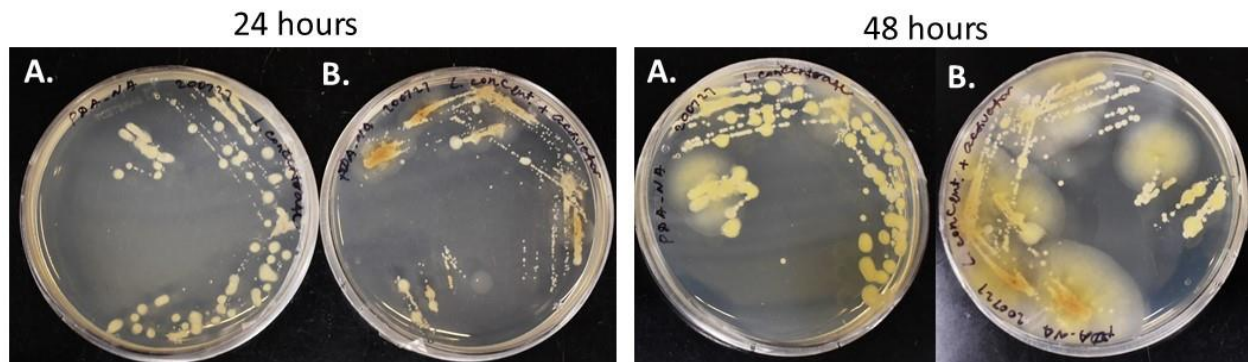


Figure 1. Liquid concentrate growing on PDA-NA 24 (left) and 48 (right) hours at 30 °C. A. Liquid concentrate; B. Liquid concentrate and activator.

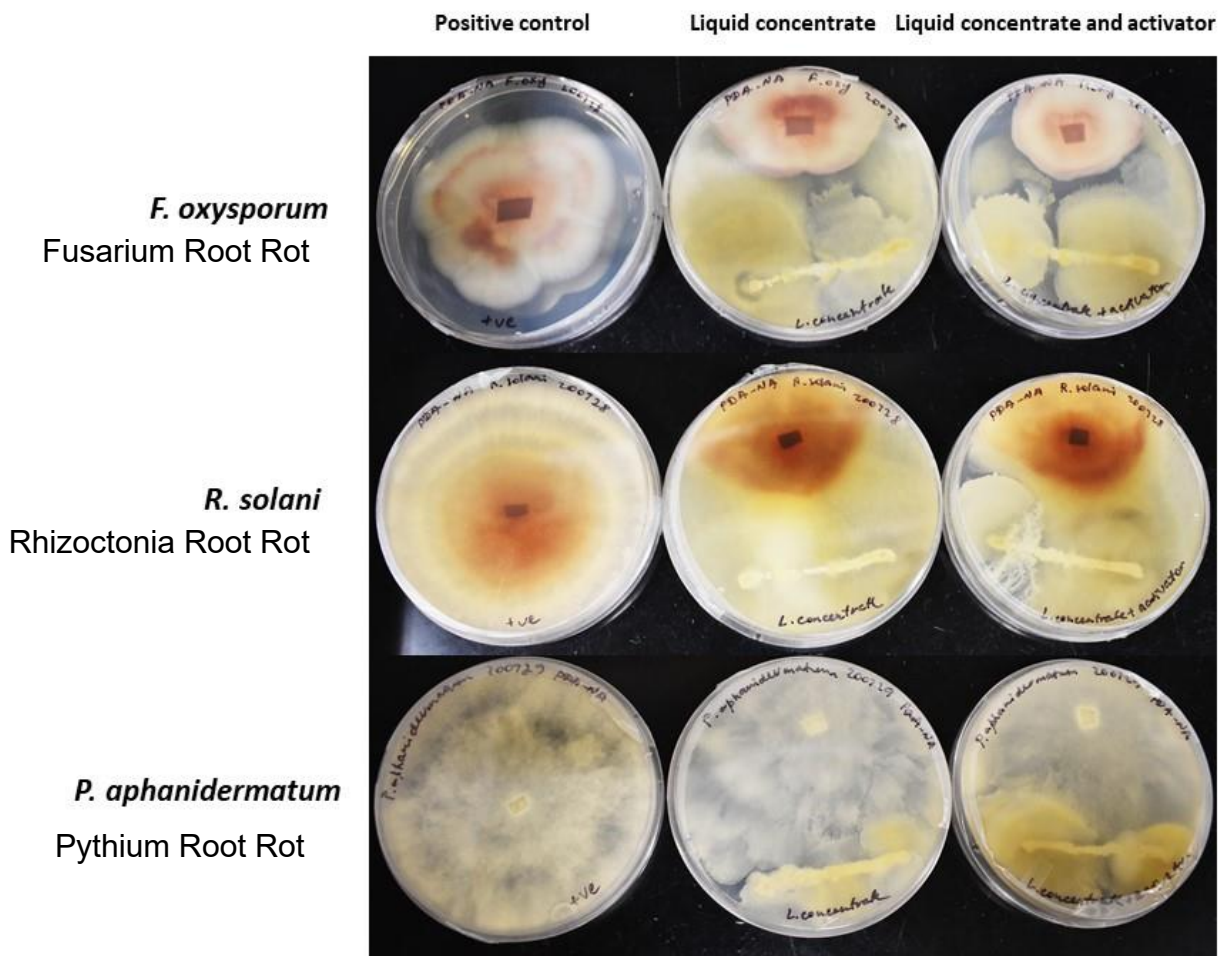


Figure 2. Antagonistic assay results.

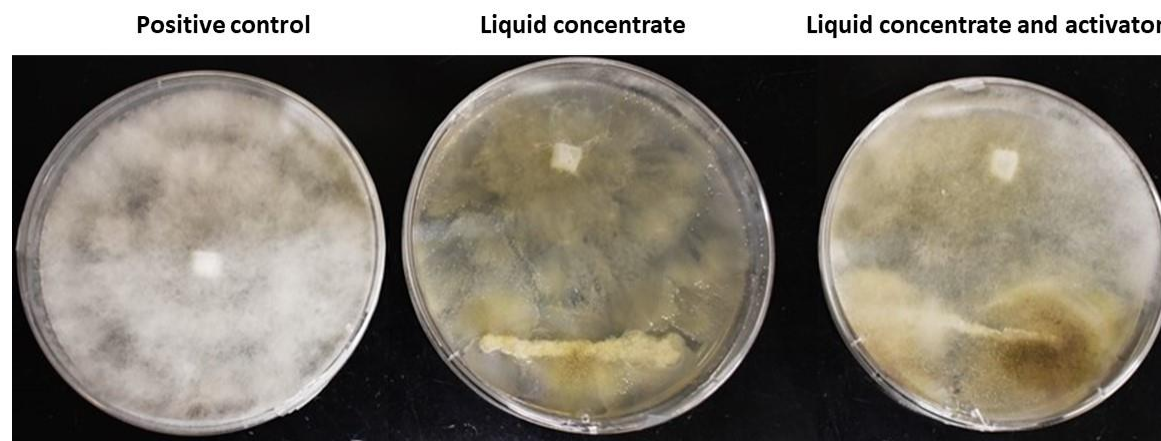


Figure 3. *P. aphanidermatum* assay. Close up on reversed plates.

Table 1. Antagonistic assay results.

	Sample	<i>F. oxysporum</i>	<i>R. solani</i>	<i>P. aphanidermatum</i>
1	Liquid concentrate	Positive	Positive	Positive
2	Liquid concentrate and activator	Positive	Positive	Positive

Conclusion

Liquid concentrate either with or without activator demonstrated strong antifungal activity against three common plant pathogens tested viz., *F. oxysporum*, *R. solani*, and *P. aphanidermatum*.