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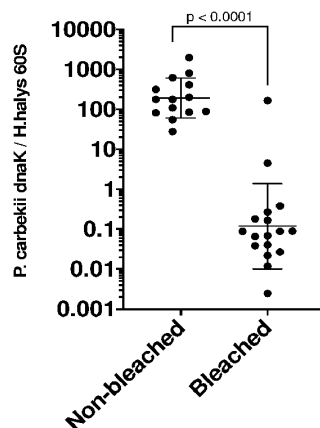
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(54) Title: COMPOSITIONS AND RELATED METHODS FOR AGRICULTURE

FIG. 1



(57) Abstract: The invention comprises methods for decreasing colonization by a bacterium of a gut of a stink bug, the method comprising providing a composition comprising vanillin or an analog thereof; and delivering said composition to an egg from which the stink bug will hatch, whereby colonization by the bacterium within the gut of the stink bug hatched from the egg treated with the composition is decreased relative to a stink bug hatched from an untreated egg. In some embodiments, the decrease in colonization by the bacterium decreases the fitness of the stink bug, e.g., decreases reproductive ability, survival, rate of development, number of eggs, number of hatched eggs, adult emergence rate, body length, body width, body mass, or cuticle thickness. In some embodiments of the methods herein, the bacterial colonization-disrupting agent is an inhibitor of bacterial metabolism. In some embodiments, the bacterial colonization-disrupting agent is a polyhydroxyalkanoate (PHA) synthesis inhibitor.

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