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(54) Title: COMPOSITIONS AND RELATED METHODS FOR MODULATING ENDOSYMBIONTS

(57) Abstract: Provided herein are methods and compositions for modulating the fitness of a host invertebrate (e.g., insect, mollusk, or nematode) by altering interactions between the host and one or more microorganisms resident in the host. The invention features a composition including a modulating agent (e.g., a polypeptide, nucleic acid, small molecule, or combinations thereof) that can induce changes in the host's microbiota in a manner that modulates (e.g., increases or decreases) host fitness. The modulating agent described herein may modulate the fitness of a variety of invertebrates that are important for agriculture, commerce, and/or public health.

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