To: Ken Decio
Waste Permitting, Compliance, and Mitigation Division
California Department of Resources Recycling and Recovery
P.O. Box 4025
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Fax: (916) 319-7244
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From: Lloyd L. Barker, IV
Owner at Local Worm Guy Worm Farm
1054 Sun Rd.
Mckinleyville, CA 95519
(707) 385-9676
Email: LocalWormGuy@gmail.com

Re: CalRecycle Draft Regulatory Revisions to Title 14 and 27 Regarding Compostable Materials Handling and Transfer/Processing

5/6/15

Dear Ken Decio,

My name is Lloyd Barker and I represent the Local Worm Guy worm farm and compostable material processing company in Humboldt County, California. I have been working with a scientist named Galen O'Toole on integrating "Black Soldier Fly Composting" into the California legal framework as a much-needed option in compostable materials processing for our state. We agree that the appropriate section for this regulation would be under the Title 14, chapter 3.1, article 2, section 17855 "Excluded Activities."

Attatched is Mr. O'Tooles carefully reasoned draft of potential legislation, which shows an understanding for the underlying principles and standards that the regulations must satisfy. It is followed by a list of accredited, peer review studies, which support the principles that justify exception and inclusion in the Title 14, Chapter 3.1, Article 2, section 17855. I hope you will consider amending this or similar language for "Black Soldier Fly Composting" and material processing into the section 17855 "Excluded Activities" as a **practical**, **safe**, and **economical** solution to compostable material processing in California.

If there is anything else that I may do for you, please do not hesitate to contact me by any means listed above. Thank you again for your consideration.

Sincerely,

Lloyd L. Barker, IV
Owner at Local Worm Guy Worm Farm
Humboldt County, CA

Attatched:

May 6, 2015
Graduate Student of
Environmental Systems Engineering
Humboldt State University

Mr. Ken Decio
Senior Environmental Scientist
California Department of Resources Recycling and Recovery
1001 " I" Street
PO Box 4025
Sacramento, CA 95812-4025

Re: CalRecycle Draft Regulatory Revisions to Title 14 and 27 Regarding Compostable Materials Handling and Transfer/Processing

I would like to call to your attention to a topic that I have devoted considerable personal research: **black soldier fly composting**. Black soldier flies offer a food waste and manure management strategy which is potentially **more efficient at cycling nutrients and converting organic wastes to usable forms of energy** than anaerobic digesting, vermiculture, and other forms of aerobic and anaerobic composting. Projects are under way around the country to develop large-scale waste management systems using black soldier flies [(Pollock, 2014),(Profita, 2012)]. Using black soldier flies for waste management and nutrient cycling has similar or better greenhouse gas reduction potential than anaerobic digesting, it requires less capital, and it facilitates distributed solutions which greatly reduce transportation impacts. By **including language in Title 14** concerning black soldier fly larvae (BSFL) we could **facilitate the development of more robust nutrient-cycling strategies in California.**

Background

Black soldier fly larvae (BSFL) ,*Hermetia Illucens*, are **voracious eaters** of organic wastes, including manures [(S. Diener, 2009) ,(D. Craig Sheppard G. L., 2001), (D. Craig Sheppard J. K., 2002),(Stefan Diener, 2011),(Jeffery K. Tomberlin, 2009)] which also **inhibit pest flies** (Susan W. Bradley, 1984) and **reduce some pathogenic micro-organisms** [(Marilyn C. Erickson, 2004),(Soon-Ik Park, 2014),(Cecilia Lalander, 2013)]. The **products** of processing organic wastes with BSFL **are nutrient-rich stable compost, protein and oil-rich larvae** (appx 42%, 35% respectively)[(D. Craig Sheppard J. K., 2002),(Stefan Diener, 2011)*J.* **Leachates** from wet wastes processed with BSFL **are rich in ammonia and more stable** than leachates from other composting techniques (Green, 2012). In addition, the **energy**

value of biodiesel from larvae fed on manure rivals the energy value of methane captured from anaerobic digestion [(Longyu Zheng, 2012), (Qing Li, 2011), *among others*].

Proposed Additions:

17852: Definitions

"Black Soldier Fly Composting" means an activity producing stabilized compost or stabilized compost leachates using the activity of black soldier fly (*hermetia illucens*) larvae. The EA may determine whether an activity is or is not black soldier fly composting. The handling of compostable material prior to and after use as a growth medium is subject to regulation pursuant to this chapter and is not considered black soldier fly composting. Larvae or protein meal derived from black soldier fly composting is subject to testing and approval for animal feed use pursuant to the California Food and Agricultural Code, Division 7, Chapter 6: 14901-15103.

17855: Excluded Activities

Black soldier fly composting is an excluded activity. The handling of compostable material prior to and after its use as a growth medium during the black soldier fly composting process is not an excluded activity and is subject to the requirements of this chapter or the Transfer/Processing Operations and Facilities Regulatory Requirements (Title 14, California Code of Regulations, Division 7, Chapter 3, Article 6.0-6.35), whichever is applicable, as follows:

(A) when the compostable material is active compost or is likely to become active compost, as determined by the EA, the requirements of this chapter apply;

(B) at all other times when it is not being used as a growth medium during black soldier fly composting, the compostable material is subject to the Transfer/Processing Operations and Facilities Regulatory Requirements.

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