



# AGRICULTURAL WASTE SOLUTIONS, INC.

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August 1, 2017

California Air Resources Board  
Dairy and Livestock Subgroup #1 Meeting

Subject: Comment letter for CARB Dairy and Livestock Working Group Subgroup #1

To Whom It May Concern,

Agricultural Waste Solutions, Inc. (“AWS”), headquartered in Westlake Village, California, wishes to express our gratitude to CARB for allowing us the opportunity to present comments on the Dairy and Livestock Subgroup #1 Meeting of July 17, 2017 and for inviting comments from stakeholders and the public. AWS works with California dairy farms to produce low carbon transportation fuels and carbon negative co-products that reduce GHG emissions and improve water quality while creating new profit centers from manure and other ag resources.

Please see below our comments from the July 17, 2017 Dairy and Livestock Subgroup #1 Kickoff Meeting

- Based on the pie chart included in the presentation on July 17<sup>th</sup>, dairy manure accounts for 25% of total methane emissions in California. The methane emissions created from dairy manure are created mostly from the lagoons and other storage and handling practices where manure is purposely allowed to anaerobically decay. Although lagoons account for most methane emissions from dairy farms, methane and other SLCP’s are also created during the anaerobic decaying processes of solids storage, handling and transportation, composting, and land application. We believe the state needs to enable and support technologies that process raw manure, AD digestate and other manure co-products at their freshest state – before they have had the opportunity to anaerobically decay and create methane and other SLCPs. Pyrolysis/gasification, when used in conjunction with AD as a stand-alone solution with fresh manure feedstock, is a proven technique to prevent methane from ever forming due to anaerobic decay of manure. Biochar, as a co-product of pyrolysis, is a carbon negative soil amendment that will further reduce GHGe from dairy farms. We believe that the prevention of open anaerobic decay of manure and manure digestate co-products is the only reasonable method of reaching the 40% methane reduction mandate from dairies.
- More research incentives are needed to recognize and qualify non-digester technologies for the reduction of SLCP’s that have a more holistic approach encompassing all environmental needs and benefits. Water quality goals associated with individual dairy nutrient management plans are an example of this. These goals increasingly cannot be met with AD alone unless the suspended and dissolved solids (e.g. salts) are kept out of the lagoons and converted into inert, carbon negative co-products that can be either be used on the farm as soil amendments or exported off the farm in a dramatically reduced volume. The lagoon then becomes a fertigation or clean water reservoir instead of the most significant methane generator on the farm, allowing farmers to meet their water quality and nutrient management goals as well as their methane emission reduction goals.

- Evaluation metrics and models should be based on GHGe and overall environmental benefits that include the environmental implications of long-term practices. The models and metrics needs to be developed and implemented in advance of the technologies being included as approved technologies or techniques based on their abilities to reduce total GHGe from dairies by a greater percentage than AD and other approved technologies and techniques. An example of this is the “Pyrolysis/Gasification” category that was recently added to the CDFA list of AMMP technologies and practices. Although we fully support the addition of Pyrolysis/Gasification as an AMMP technology, we recently learned that it will not be accepted as a 2017 CDFA DDRDP AMMP grant program application because there exists no CA Greet or other evaluation metric and model to evaluate its overall ability to reduce GHGe from dairy farms. We were told that such models will need to be generated and approved by CARB, so we respectfully request that this work begin as soon as possible.

Sincerely,

A handwritten signature in black ink, reading "Stephen McCorkle". The signature is written in a cursive, flowing style.

Stephen McCorkle, CEO  
Agricultural Waste Solutions, Inc.