

Team Name:

Just AD Algae

Team School/Organization:

Santa Fe Community College, Santa Fe, NM

Abstract:

Just AD Algae, will create a scalable system to co-digest microalgae with organic lipid waste that will: (1) overcome the biogas production lag that occurs in AD systems when high concentrations of lipids are introduced, (2) increase the biogas yield through co-digestion by using a wild, self-flocculating algae polyculture compared to AD biogas from algae or lipids alone, and (3) increase the overall energy yield by decreasing energy inputs in both cultivation and harvesting.

This system of using algae to convert lipid waste to algae biomass will help overcome the methanogenic lag cycle by heterotrophically metabolizing a portion of the organic lipid waste during the cultivation stage, decreasing the time to convert the lipids to biogas. This system can be placed in remote settings (i.e., land fill transfer stations, food service centers, or off grid applications) and will remediate large volumes of environmental waste in a way that creates a high-energy, value-added product.

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BIOENERGY TECHNOLOGIES OFFICE

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