

## **BBFuels of Puerto Rico, LLC: A Sustainable Industrial Model for Bioethanol Production in Puerto Rico**

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BBFuels of Puerto Rico, LLC is a green company that proposes a novel approach to biomass conversion to energy that reduces the overall process complexity required to produce ethanol by means of wet water hyacinth of Puerto Rico (*Eichhornia crassipes*). The problems that this project solves are the lack of E85 supply for FFV owners and the overpopulation of hyacinths. Due to hyacinths high lignocelluloses content they can be considered a promising substrate for the production of bioethanol. The research innovation proposed consist of the study of endemic tropical bacteria population from three different, non food waste biomass and their way to development of a third generation's fermentation process the future conversion into ethanol. It could be useful as a source of biomass because of its abundance and feasible cultivation. The impact of this innovation could have over society will consists of improving the quality of life and the environment while providing an alternative fuel that is less pollutant at a lower cost than fossil fuels. BBF's and R&D component will be developing a new anaerobic fermentation process for the conversion of biomass in ethanol, biogas and byproducts. Experimental trials showed a good percent of glucose per mg/L of biomass. A special strand of acetogen bacteria in addition to a simple pre-treatment process effectively breaks lignocelluloses/lignin recalcitrance. Funding are running by and NSF/DOE SBIR proposal. Our goal is to integrate sustainability into industrial process. BBF will lead biofuel business Puerto Rico, but seeking to expand his arms to attend the Caribbean Region in order to promote a sustainable and green economy bridge.