

Enhanced Production of Biological Hydrogen from Food Waste

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Categories:

- Chemical Engineering
- Green Technology

Keywords:

- Agriculture
- biological production
- clean fuel
- food waste
- Green Technology
- Hydrogen

Researchers at Purdue University have developed a method to improve the production of hydrogen from food waste using yeast. The process was optimized by using statistical response surface modeling. Traditionally, the production of hydrogen for use as clean fuel has largely been through bacterial degradation of food waste. Slower production rates and complex pre-processing of the raw material are few of the bottlenecks associated with this method. This new method uses yeast to break down food waste to clean hydrogen for further use with minimal pre-processing steps. It significantly improves the production rate and volume of hydrogen. Researchers have validated this technology using a variety of yeast strains. This technology can also be easily multiplexed with solar thermal technology to make a stand-alone power source in addition to being a clean fuel source and having numerous application is the agro-food industry.

Advantages:

- Cost Effective
- No pre-processing of food waste
- Greater volume of hydrogen produced in shorter time
- Simplified operations

Potential Applications:

- Agro-food industries
- Green technology
- Clean fuel sources

People:

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