Creating Biofuel from Food Waste

Staten, Tyler
Midgley, Riley

With increasing energy demand and increasing strain on the world’s resources, including supplies of fossil fuels and agricultural capacity, sustainable renewable energy is needed. Using discarded food to create fuel from waste could help satisfy this demand for energy, while reducing strain on the environment. Is it possible to efficiently extract a biofuel from wasted food, and is it necessary to sort the food before turning it into biofuel? Transesterification is the process by which triglycerides are broken down into fatty acid methyl esters (biofuel) and glycerin. Foods high in fat should produce a good amount of quality fuel, those low in fat should produce a poor fuel in smaller amounts, and a mix of high and low-fat foods should produce a poor fuel due to the presence of low-fat foods. After a gas chromatograph analysis, the data partially supported the hypothesis: the foods high in fat produced a high quality fuel while those low in fat did not. The data did not support the hypothesis when it came to the mix. There was a high quality fuel extracted, but in lower quantity.

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