Second Generation Biofuel from the Reuse of Discarded Citrus Fruits

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Ethanol is considered a sustainable energy resource that offers various advantages over petroleum derivatives such as: reduction in the generation of greenhouse gases, lower fuel costs, greater energy security and support for agricultural production. This is obtained from the fermentation of sugars found in fruit juices in the form of glucose and is made by microorganisms such as yeast (Saccharomyces cerevisiae). The novelty of our research is that this fuel is not obtained from the traditional highly polluting fossil sources, but from discarded organic waste that represents approximately 55% of the waste that goes to solid waste dumps thereby increasing its negative impact in the environment, this is Second Generation Biofuel. Unlike the first generation, these waste not only have no economic value in the context in which they are generated, but can contribute more to the care of the environment. Our final product will be used for any internal combustion engine bearing in mind the care in the stoichiometric reaction that will be carried out inside the piston cavity.

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