Advances and improvements in the design and implementation of a pilot plant for biodiesel batch production and development of a pilot program of urban management in the district of San Miguel

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Nowadays, there is increased production of biodiesel from vegetable oils. However, there is controversy regarding the use of this fuel because it would be using land and agricultural inputs that could be used for food production. Furthermore, in 2002, Europe took the alarm about the harmfulness of vegetable oils which household waste that may contain toxic components, come to man through the food chain, therefore they should be an appropriate disposal and not be removed by the drains.

This project provides studies for the design, construction and implementation of a pilot plant controlled in real time for the production of biodiesel from waste oils. The production process involves three main steps: pretreatment, transesterification and purification of the product.

The results obtained are as follows:

- Design, construction and implementation of the transesterification module for the management of a production process that monitors the pressure, with real-time control of temperature and agitation.

- Progress in the development of protocols for chemical characterization of the raw material and quality control of process.

- Preliminary survey of the availability of (domestic) oils in the district of San Miguel.

- Guidelines to follow for urban management of domestic oils obtained from bibliography.