BIOETHANOL PLANT FROM CASHEW (Anacardium Occidentale) WITH FERMENTATION PROCESS

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ABSTRACT
Bioethanol is ethanol produced from biomass as raw material such as cassava, corn, potatoes, wheat, sugarcane, beet, sorgum and molasses. Raw materials used in this factory is pseudo cashew fruit 11095.37 tons/year. Bioethanol can be used as an alternative biofuel that is renewable and can be used as an a substitute for fossil fuel.

Bioethanol production process involves five stages. The first stage is the process of pressing. The second stage is pre fermentation process consisting of decreasing the pH by adding 98% H\textsubscript{2}SO\textsubscript{4}, sterilization process, and preparation the process of a starter with the addition of nutrients and Sacharomyces cerevisiae. The third stage is the process of fermentation for 48 hours with the addition of inoculum from the starter and antifoam tank. The fourth stage is distillation. The fifth phase is a dehydration molecular shieve to increase ethanol content to be 99.5%.

Bioethanol plant is operated for 24 hours per day with a period time of 330 days a year. The main product is bioethanol. Bioethanol plant capacity is 751.32 tons / year and required to 1489,336 m\textsuperscript{3}/year.

Keywords : bioethanol, fermentation, anacardium occidentale