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INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

“INTEGRATING CLEANER PRODUCTION INTO SUSTAINABILITY STRATEGIES”

Suggestions for Implementation of Cleaner Production in Cassava Starch Industry

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Abstract

The market is becoming increasingly demanding, requiring companies not only offering quality products, but also the implementation of responsible administration of the environment and the community in which they operate. In this scenario, the Cleaner Production may favor the emergence of competitive advantage in business, and a big step towards the economic and sustainable development, enabling enterprises to function with socially and environmentally responsible, reflecting also on economic and technological improvements. The objective of this work is the suggestion of applying actions of Cleaner Production in cassava starch factories, as these industries are found in large number in the state of Parana and have a potential pollutant due to the toxicity of manipueira (liquid from the pressing of cassava), amount of waste generated and water consumed in the processing of cassava for the production of starch. To this end, the production process was mapped, in accordance with the literature, and was identified in each step opportunities of improvement and implementation of Cleaner Production. Were identified two types of solid residue in process, the cassava's peels and the residual mass, and two types of liquid residue, the manipueira and the residual water. According to the CNTL / SENAI methodology of cleaner production program implementation, was proposed to the cassava's peels the commercialization to cattle farmers, for animal feed. To the residual mass, was recommended the double-milling to the recovery of starch, and its use in feed for beef cattle. Regarding to manipueira, was suggested the implementation of a anaerobic horizontal reactor, with the possibility of using the gas generated in the production process, for burning in boilers. For the residual water were proposed several suggestions, like using systems with pressurized water and hoses with reducer nozzles to control water flow, best practice training to the employees, water reuse in the process (when possible), and use of the cleaning system (CIP cleaning in place). The adoption of an environmentally correct posture by companies is becoming increasingly common, because of the prerequisites of national and global trade and compliance with laws. The cleaner production is a viable alternative to combat environmental problems of the companies, whatever its segment of industry. The cleaner production programs requires constant revision and commitment of all employees of the companies, so that it becomes part of your organizational culture. That way, they can obtain competitive advantages generated by clean production strategy.

Keywords: *Cleaner production, cassava starch industry, waste.*