29.

Banana Wastes for Fuel and Fertilizer

Ilboru High School

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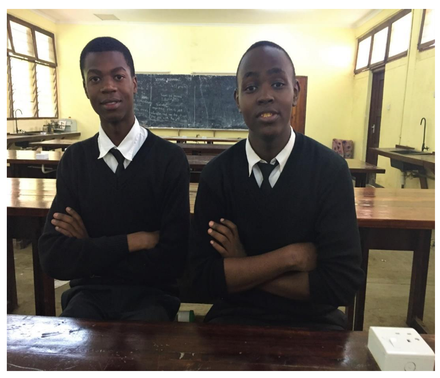

Introduction

This project was carried out to investigate the production, usage and consumption of bananas in Arusha region. Topping up to that, Tanzania is among the top leading banana producers worldwide, as it produces almost 4.08 Million tons annually.

A sample of 10 businessmen in 2 largest markets in Arusha region; Kilombero market and Arusha central market was used to collect data.

Several experiments were conducted accompanied with simple questionnaires for the businessmen in order to investigate about the consumption, production and usage of bananas in those markets. All the data collected was analyzed, interpreted, summarized and presented graphically and using charts. The result of the experiment we had done, proved the success that there is a great need of finding a way to handle the high production of bananas in Arusha region in such a way that it will produce something casual in the community.

Due to this kind of situation it gave birth to the idea of producing a renewable energy and fertilizer specifically to handle the high production and help the community.

Method

For the production of the fertilizer from the consumed rotten bananas. The rotten banana peels were collected from the markets of interest, they were then chopped into a half-way size and they were exposed to direct sunlight so as to dry out for some days. Logically followed the grinding of the dried rotten banana peels in order to obtain fine particles that were processed to form manure.

Procedure

Observation

The team walked round the Kilombero and Arusha central markets to observe on the quantity of rotten bananas and ripe bananas that are not yet consumed by users. The team was able to collect varieties of data according to the observation done.

Questionnaires

Questionnaires were given to the businessmen in these markets in order to assess on the alternative method used by them after rotting of the bananas and general waste concentration. Questionnaires also aimed at collecting personal views upon the concentration of rotten bananas in their markets.

Results

The results obtained from the experiments done were as follows;

The fertilizer and ethanol were successfully collected from the processes.

For the case of fertilizer, it was tested with different types of plants and it was able to produce and supply adequate nutrients to the sample of plants.

For the case of ethanol, it was tested in the laboratory and it exhibited its chemical characteristics since it was flammable and therefore ignited readily when lit. It was also burned in air with a blue flame hence it produced carbon dioxide and water.

Below are samples of the questionnaires prepared:

1. Je, uuzaji wa ndizi ukoje kwa miezi tofauti?

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2. Ndizi zilizooza au kuharibika hutumika kwa kazi gani baada ya kuwa ni kero ya uchafu?

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3. Je, ni miezi gani ambapo ndizi huwa zinabaki nyingi sana.....

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4. Je, ni yapi mapendekezo na maoni yenu juu ya swala hili la ndizi zilizooza?

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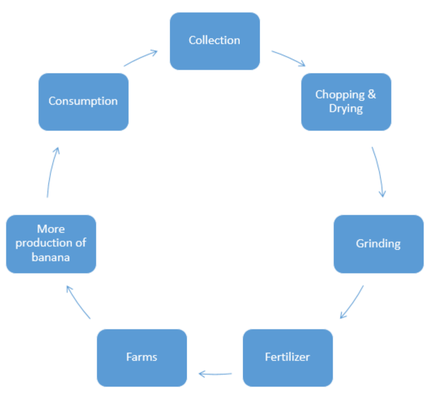

Fig: A block circle diagram showing the circulation of banana peels.

Conclusions

Conclusively, food wastes take a large percent of total produced wastes in the region. When people were asked about viewing the future with optimism, many of them reacted positively by saying that the project will bring about revolution in the region by positively re-using the produced food wastes in a manner that will help students at school and as well as farmers.

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