

NEW PRODUCT DEVELOPMENT



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PINEAPPLE FERTILIZER TOOL

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1.0 EXECUTIVE SUMMARY

There are many problems that the pineapple farmers have to face such as the difficulties in the process to fertilize the pineapple every three months. If the pineapple farmers want to increase the production of pineapple, they need to possess a technology that can fasten the process in order to be more productive. Thus, a traditional fertilizer tools that currently used must be improvise in order to reduce time of fertilization process. Actually, the advanced technology of the Pineapple Fertilizer Tool (PFT) has already existed in the market but it is not convenience for people who will use it and also quite pricey. The PFT that will be made by HANS is a new innovation and invention to help everyone change their lifestyle into more organized and would work as indirectly solve the problem of the pineapple farmers. Hence, this new product development really helps us in order to prepare and design product development according to the customer needs and to make sure customers understand about our product concept.

2.0 INTRODUCTION

2.1 PROBLEM STATEMENT

Most of pineapple farmers use traditional fertilizer tools to fertilize their pineapple cultivation. Proper fertilization needs to be done to get good results and fresh pineapple. Basically, pineapple needs 12 months to 18 months to get a natural flowering. Between that 18 months, fertilization will be done three times every three months using mixed fertilizer based on NPK in a ratio of 15:15:15 for the first and second fertilization while NPK 12:12:12:2 TE for the third fertilization. The fertilizer will be put between two rows of plants instead of the root. In the process of the fertilization, the worker will carry the fertilizer at the side of the body and this will burden them. The worker will put the fertilizer to the plant through a polypipe HDPE. The polypipe HDPE is used because of the pineapple plant have a sharp leaf that may danger to the workers. In addition, the lack of workers doing the fertilization process will take a lot of time to complete the task since the tools used are not efficient. Thus, a traditional fertilizer tools that currently used must be improvise in order to reduce time of fertilization process.

2.2 METHODOLOGY: DATA COLLECTIONS

There are three ways of data collection has been used which are:

a. Interview

The interview has been done with one of pineapple farmer. The owner shares all the information in term of process, type of fertilizer used and other related information. The owner also came up with a problem of tools when using NPK fertilizer. The current method they are using is traditional method where it is time consuming and not convenient.

b. Survey or questionnaire

Several online surveys or questionnaires were conducted to identify the number of people that face the same problem, and the probability of the proposed product to be accepted by the market.

c. Internet search

Internet search was performed in order to search the idea to improve or solve the problem faced by the owner. Based on the problem statement, it is found that the owner need a fertilizer tools that is convenient, safe and reduce time consuming hence PFT is the solution to the problem.

2.3 LIMITATIONS

To introduce the new innovation of pineapple fertilizer tool, there are some limitations needed to be countered:

a. **Size of product**

The size of the fertilizer tool should be large enough to fill the fertilizer for all pineapple plants at one time. With the extra features, the size will increase and take much space to keep it.

b. **Cost of product**

Design, features and materials used in the product developing will increase the cost of the product. Design and features include use of pipe PVC, Polypipe HDPE, and Arduino smart car motor which can be expensive.

c. **Prototype**

Difficult to choose suitable component for the prototype to make it productive and efficient product because we are not familiar and not well experienced in the process of making new product.