High Productivity and Cost-Effective Machine for Splitting Cocoa Pods

A MECHANICAL DEVICE TO FACILITATE COCOA PROCESSING

Currently all stages of cocoa processing has been mechanised except for splitting cocoa pods to expose the cocoa beans inside and separating the beans from the split-open pods. Due to non-availability of suitable machine for splitting in the market, the job is entirely done manually using knife to split open the pods and later remove the cocoa seeds from the split-open pods.

Traditional method of splitting the cocoa pods is a labour intensive and slow process resulting in low productivity. Although the job can generate decent income compared to general labour in industrial sector, it fails to attract young workers to take up the job especially in developing country like Malaysia where job opportunity in industrial sector is plentiful. Consequently, Malaysia has to highly depend on foreign workers to carry out the tasks. The solution for this problem is by making the splitting and separating job much easier through the introduction of machinery so that every worker regardless of gender or age is able to do the job.

A machine for splitting cocoa pods to expose the cocoa beans and separating the beans from the split-open pods has been invented. Keeping in mind all the factors and the scenario highlighted above, the cocoa splitter and separator of the present invention is made simple so that cost of acquiring, running and maintaining are minimized. On top of that, the cocoa splitter and separator should be able to run and be maintained by an operator with basic skill without much training and supervision.

COBRE will address the problems and drawbacks associated with manual pod breaking as below.

- **Labour intensive** – The number of labours needed is reduced, and the efficiency and reliability in production is increased
- **Human fatigues and skilled labour required** – the operation procedure is very simple by only putting the cocoa into the machine and the pod breaking job is taken over by the machine
- **High percentage of bean damage** - COBRE is capable of splitting open cocoa pods and then separating the cocoa beans from the split-open cocoa pods without causing any damage to the cocoa beans.
- **Safety issue** – current manual pod breaking is entirely done by using knife. The application of COBRE where the operator only needs to place the cocoa into the machine will definitely avoid accidents

COMMERCIAL POTENTIAL

Cocoa is cultivated on roughly 17,000,000 acres worldwide, where top 20 cocoa producing countries included Ivory Coast, Ghana, Indonesia, Nigeria, Brazil, Cameroon, Ecuador, Colombia, Mexico, Papua New Guinea, Malaysia, Dominican Republic, Peru, Venezuela, Sierra Leone, Togo, India, Philippines, Congo and Solomon Islands. Nevertheless, the current cocoa pod breaking practice is by manual using knife, which is not only tedious and time consuming, but also creating more safety issues. As such, the COBRE has very high commercial value.

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