Design an Extruder Machine to Make Artificial Rice

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More than half of the world's population consume rice as a staple meal. Sri Lankans consume 2.34 million metric tons of rice per year on average. But rice shortage occurs due to natural disasters in Sri Lanka. Sri Lanka produced 1.471 million tons of paddy during the Yala cultivation season in 2019. Rice peases are procuced as a by-product during the milling process and therefore the value of the rice is droped down. As a solution of this low value products, more nutrition, taste rice varieties with good appearance can be prepared for different purposes. In order to facilitate these reqerements, artificial rice production has attracted the attention of other countries in the world. It is our defeating goal to establish this in our country too. extrusion technology is used to achieve this goal. The purpose of this study is to develop a new type of rice using extrusion technology using raw rice and other protein ingredients as raw material. Extraction is the process by which a mixed ingredient passes through a narrow opening called a die to form and get the desired shape of food. Processing flowcharts of some extruded food products ingredient storage 1. Ingredient Feeding 2. Mixing, Extrusion 3. Drying 4. Cutting 5. Packaging. this machine is designed with three main units feeding unit, compressing unit, and cutting and rolling unit. stainless steel SUS 304 is used for every part of contact with food. shape of the rice produced using this machine is basmati rice. Construction is based on Single screw extrusion. This machine can be used to produce artificial rice and content of the rice material can be modified in order to have good taste, apearace and nutritions. Indeed, it is a value addition to the grain grown in Sri Lanka and make a new quality product for the local market as well as export to the global market.

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