CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE, MYSORE

HOT AIR POPPING MACHINE, USING FLUE GAS

1. Introduction

It is a dedicated pilot-unit for popping of maize, paddy, jowar and rice. The system is versatile, compact, rugged and economical. The process parameters of popping can easily be varied to suit different products. The process parameters like feed rare popping temperature; velocity of air can be varied easily and quickly. The product obtained is hygienic and free from sand, saw dust and ash. LPG is used as a source of heat energy and the product of combustion is eco-friendly i.e., H_2O and CO_2. The hot air is re-circulated in order to have higher thermal efficiency, and also to reduce the cost of processing. Presently popping is done in batches involving human drudgery and unhygienic practices. The cost of the unit is estimated at Rs.35,000 (Rupees Thirty Five Thousands only).

2. Market

Presently, there are about 50,000~ 60,000 small-scale popping units in the country, which are using tabletop popping machine. Using continuous hot air popping machine using flue gas, clean and hygienic product can be produced. Using the same machine various types of paddy, Jowar and rice can be popped. Besides this every year, about 100 to 200 new popping units are coming up in the country and there is a vast untapped market. The popping machine is ideal for rural industry wherein it has a good potential for employment generation.

3. Materials and Process

Raw materials: Temperature indicator, Screw feeder, Combustion chamber, Hot air blower, LPG burner assembly, Recirculation duct and Set of castors.

4. Plants and Machinery

Sheet bending unit, S.S. Welding unit, Grinder, Hand tools etc.

5. Process Cost – Fixed Cost – Working Capital (in Rs.'000) (estimate for a model project)

Land and building	200.00
Plant and equipment	200.10
Total project cost	400.10

6. Production Capacity – (estimate)

Feed rate 25 Kg/hr

7. Technology / Manufacturing Process – availability

CFTRI has standardized the technology and general methods of processing hot air popping machine, using flue gas. Apart from this procedure for quality control, packaging and packaging material specifications, the institute also provides equipment details.