

Spray Dried Coconut Milk Powder

Introduction

Using coconut milk is not a cumbersome or time consuming process anymore for those who want to include this wholesome nut in their regular diet. The spray dried coconut milk powder is now available in convenient and ready to use packs with same freshness of a fresh coconut milk. It has a longer shelf life and is convenient to use. This can be used in place of fresh coconut milk for food preparations / beverages in households and food industries by dissolving it in water. Central Food Technological Research Institute, Mysore with the financial assistance of the Board has developed the technology for spray dried coconut milk powder which is available to entrepreneurs at a total know-how fee of Rs.5 lakhs. The total capital investment for plant and machinery along with working capital margin comes to around Rs.2.36 crores. The internal rate of return works out to be about 16 per cent with a pay back period of about 3 years. On an average Twenty thousand coconuts would yield about one tonne of spray dried coconut milk powder. Spray dried coconut milk powder has a tremendous market potential in India and in international market. Direct employment potential is around 40 personnel.

Present Status

The first step is breaking the dehusked nuts into halves. The split nuts are deshelled to separate the kernel. These two operations usually are done manually. Kernel is washed and then blanched by immersing in hot water at 80oC for 10 minutes. The next step is comminution of kernel into small gratings using a hammer mill. The gratings are subjected to pressing using, continuous screw press to extract the milk. The coconut milk thus obtained is filtered by passing through a vibrating screen. The coconut milk is then homogenized and mixed with maltodextrins and other emulsifiers in an additive mixing tank. The milk mixed with additives is then spray dried into a fine milk powder using a spray drier. The product is then packed in Aluminum foil packets in various sizes as per customer requirement.

Product specification

Moisture	2%
Fat	66 - 72%
pH	5.8 - 6.5
FFA	0.2% max
Density	0.3 - 0.45 g/cc

Project Cost

(20000 coconuts per day)	
Land	60 cents
Building - 6000 sq ft.	Rs.45 lakhs
Plant & machinery	Rs.200 lakhs
Contingencies	Rs.10 lakhs
Preliminary & pre-operative expenses	Rs.15 lakhs
Working capital (Margin money)	Rs.25 lakhs

Machinery

Hammer mill	Elevator	Screw press
Coconut milk storage tanks	Vibrating sieving machine	Coconut residue mixer
Additive mixing tank	Emulsifier	Homogenizer
Pasteurizer	Volumetric filling machine	Exhaust box
Can seaming machine	Horizontal rotary retort	Spray drier
Agro waste vertical boiler	Sterilization tank	Coconut residue storage bins

Product yield

2000 coconuts would yield about 1 ton of coconut milk powder

Salient Features

Capacity	20,000 nuts per day
Annual sales turnover	Rs.7.5 crores
Payback period	3 years
Employment potential	40 persons
IRR	18%

N.B.: Technology available from the Coconut Development Board, Kochi - 682 011 on payment. The cash estimates and return are variable.



Manufacturing unit

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