

NATURAL FOOD COLOURANTS

(CPS – 1560)

INTRODUCTION

Colour is an important constituent of food as every food is associated with a certain type of colour. Addition of colour gives food an attractive and appetizing appearance, and it enhances the acceptability.

Natural colourants are extracted from natural herbs, plant parts, like kokum, beetroot, safflower, purple grapes and a very large source. The natural colourants could be a good substitute for the synthetic food colours. Use of synthetic colours in food products come to be looked upon with certain amount of apprehension with regard to their safety. Many countries have restricted the use of synthetic colours in food products. This has provided the impetus and need for development of alternate colours and natural colours are now being considered as a good alternative. CFTRI, Mysore has standardized the process of extraction of natural colours from kokum, beetroot, safflower and purple grapes.

PROCESS IN BRIEF

The raw materials are cleaned, cut into small pieces and after preprocessing, subjected to extraction. The extract is centrifuged, pasteurized, concentrated, dried and packed in suitable container. The process involves a number of unit operations depending on the raw material used.

Yields:

1. 100 Kg of dry kokum rind will give 50 Kg of 65° brix liquid concentrate having a pigment content of 2 - 3% or 64 Kg powder with 1.5 – 2.3% pigment content (anthocyanins).
2. 100 Kg red beet will give 10 Kg of 65° brix liquid concentrate with 0.4 – 1% pigment or 19.4 Kg powder with 0.2 – 0.5% pigment content (betalaines).
3. 100 Kg Safflower florets give 20 kg of 70° brix liquid concentrate or 28 Kg of powder (chalcones).
4. 100 Kg purple grapes will give 1 kg colour concentrate of 60° brix having 2 - 3% pigment or 2.4 Kg powder having 0.8 – 1.25% pigment (anthocyanin)

Major equipment required in the process

All the equipments are indigenously available. Major ones are rotary washer, screw press, shredder, percolators, centrifuge, vacuum shelf drier, evaporator, pulverisers, etc.

UTILITIES

Power required : 60 KVA
Water required : 4500 KL/Annum
Fuel : 50 KL/Annum

PRODUCTION CAPACITY

- a) Products : Natural food colours from kokum, beetroot, safflower and grapes (both liquid & powder form)
b) Capacity : 68 tonnes/annum
c) Working : 300 days/annum

ESTIMATED PROJECT COST

	Rs. ('000)
1. Land and land development	700.00
2. Building and civil works	2100.00
3. Plant and Machinery	6000.00
4. Other fixed assets	1600.00
5. Preliminary & preoperative expenses	1200.00
6. Total fixed capital	11600.00
7. Working capital (margin)	700.00
8. Total project cost	12300.00

Means of Finance

- Promoters contribution	3600.00
- Term loan	8700.00

TECHNOLOGY / MANUFACTURING PROCESS -AVAILABILITY

The technology for processing of natural food colours has been developed at CFTRI, Mysore using appropriate equipment optimal product recovery of right quality. The institute has the necessary expertise to provide technical assistance and guidance for setting up the project and implementation, under technical consultancy arrangements.

For Technology and Technical assistance please contact

THE HEAD
Technology Transfer & Business Development
Department
CFTRI, Mysore - 570 020
Phone: 0821 – 2514534; Fax: 0821 - 2515453;
E-Mail: ttbd@cftri.res.in; Webpage: www.cftri.com