

PRE-FEASIBILITY REPORT FOR THE PRODUCTION OF POLYMUCIL

Name of the R&D Organization: PCSIR Laboratories, Complex Peshawar
Name of contact person: Mr. Muhammad Arif
Designation: Scientific Officer
Address: PCSIR Laboratories, Complex Jamrud Road,
Peshawar
Phone: 091-9216240-42
Fax: 091-9216232
Mobile: 03215774383
Email: Arif_nutrition@yahoo.ca

1. Introduction of Technology/Process/Product

Name of Technology/Process/Product:

Polymucil

Summary:

Polymucil is a premium psyllium fiber. It is prepared from indigenous raw materials. It is natural fiber therapy for irritative bowel syndrome (IBS), irregularity and heart diseases. It is anti constipative, cholesterol reducing, antidiareal, slimming and also preventive against ulcer, acidity, and cancer of large intestine. It is sugar free, natural soluble dietary fiber supplement and is a bulk forming laxative that contains no chemical stimulants .it is available in powder form. It has a smooth texture and is sugar free, orange flavor and could be used by diabetics.

Project brief (*Local/International Perspective*)

Polymucil is a sugar free natural soluble dietary fiber supplement is a bulk forming laxative that contains no chemical stimulants. Polymucil will help to get relief from bowel irregularity, constipation associated with irritable bowl syndrome (IBS) and lowering the cholesterol.

Dietary fiber is an important food product that consists of plant material, which is resistant to hydrolysis by endogenous enzymes of mammalian digestive tract. Modern eating habits and lack of fiber in the diet leads to chronic disorders such as constipation, heart disease, cancer of large intestine as well as risk of obesity and diabetes.

The most abundant component of dietary fiber are found in or associated with cell walls of plants. These include several compounds such as cellulose, hemi cellulose, pectin's and lignin's. The non-structural polysaccharides include various gums and mucilage's.

Polymucil can be taken one to three times daily with 8 ounces of liquid. Polymucil can also be used with your favorite liquid of different varieties.

Mostly such type of products is imported from developed countries like USA and UK. Presently there is no such type of Pakistani product that may compete the imported products. A lot of foreign exchange is spending on its purchase. Keeping in view the importance of fiber in the diet and its huge import, a product has been developed by the scientists of PCSIR. The developed product fully competes the imported products and is in a position that if investment has been made for its local production, it will result to save huge foreign reserves. As the raw material (best quality psyllium husk) is available in our country it will create employment opportunities both in agricultural sector and on industrial level.

2 Main Parameters of Technology/Process/Product

Main Feature:

- Sugar free
- Natural soluble fiber
- Anti constipation
- Beneficial for irritable bowel syndrome
- Anti cancer in large intestine
- Anti diarrhea
- Cholesterol reducing
- Also preventive against ulcer and acidity

Input (*Raw materials with specifications*)

- Psyllium Husk
- Maltodextrin
- Guar gum
- Food acid
- Food colour
- Artificial Sweetener
- Orange flavour
- Anti caking agents
- Preservatives

Output (Products, byproducts with specification)

- Polymucil

Application/Uses

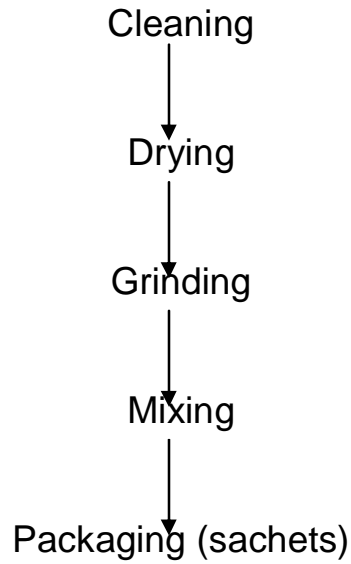
- Polymucil is a premium psyllium fiber made from high quality husk. It is a natural fiber therapy for IBS , irregularity and cholesterol reducing daily source of soluble fiber. It is anti constipation, anti diarrhea and also preventive against ulcer, acidity and cancer of large intestine .

Trail Results: Satisfactory

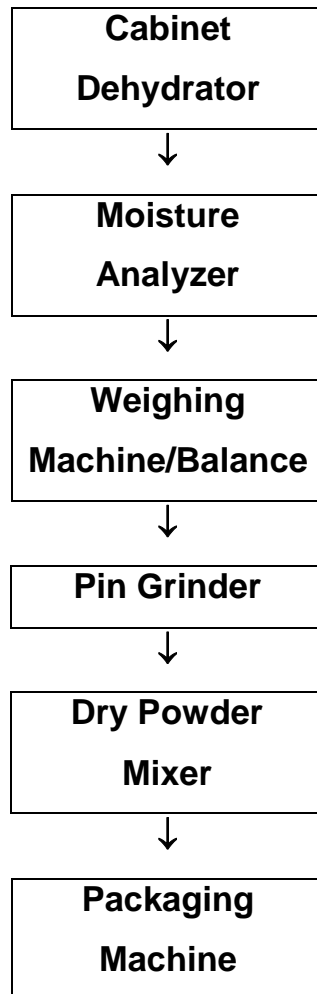
Technical data

- Proposed capacity: 200 kg / day
- Production time per batch: 8 hr
- Packing size:50 gm

Production Process/ Flow Diagram of Polymucil



Equipment layout diagram



Machinery required with specification

S. No	Items	Specification	Qty	Cost (Million Rs.)
1	Cabinet Dehydrator	200 kg capacity	One	3.0
2	Moisture Analyzer	Sartorius Model NA 30	One	0.26
3	Pin Grinder	50 kg/hr.	One	0.5
4	Dry Powder Mixer	200kg/hr.	One	0.5
5	Packaging Machine	50 kg/hr.	One	1.6
	Weighing Balance	100 kg capacity	One	0.1
	Weighing Balance		One	0.04
Total				6.0

Standard specifications & test methods

Standard specifications	Test methods
Swelling capacity	British Pharmacopia
Moisture	AOAC 2000

Quality control equipment with specifications

S. No	Items	Quantity
1	Moisture Analyzer	One
2	Other General Laboratory Equipment.	One

xii. Environmental Impact:

Friendly

xiii. Availability of technical support:

Available

xiv. Available of Brochures/Pamphlets:

Available

xv. Status of registration/Patent/Trade Mark:

Patented

3. Estimation of Fixed Capital Investment (PKR)

Fixed Capital Investment

Land 03 Kanal

9.0 million

Building (covered area) 5440 Sq. feet

13.056 million

Furniture & Fixture (Office /Factory)

1.5 million

Plant & Machinery

6.0 million

Technology Transfer fee

Total Fixed cost of the project

29.556 million

Add: working capital

4.264 million

Total project cost

33.82 million

4 Marketing Aspects

Total industry and annual growth	Data not available
Current demand	Data not available
Local production facilities	Data not available
Imports	Nil
Major users	Nutraceutical Industries
Marketing strategy	

- **Hold regional exhibition & seminars**
 - i) Supplied samples to SMEDA for marketing
 - ii) Displayed samples at various chamber of commerce & industries
 - iii) Exhibited in various exhibitions held in capital cities of Pakistan
- **Publicity through electronic & print media Nil**

5 Detail of Cost::

Direct Production Cost	Rs.49.65/Packet
Raw materials cost per Unit	Rs.128000/batch
Direct wages cost per unit (Annexure-I)	Rs.6600/batch
Production overhead cost per unit	Rs.3300/batch
Admin. & Selling Expenses, Salaries & benefits per month	
Utilities charges per month	Rs.165000
Communication expenses per month	-
Other expenses per month	-
Publicity, advertisement expenses per month	-

Operating Cost/Labour Cost/batch

S. #	Description	Employees required	Charges per batch	Wages per month
1	Production Manager	One	Rs.800	Rs.20000
2	Electrician/Foreman	One	Rs.400	Rs.10000
3	Skilled workers	Two	Rs.1000	Rs.25000
4	Unskilled workers	Five	Rs.1000	Rs.25000
5	Accountant/Cashier	One	Rs.400	Rs.10000
6	Sales Representative	Three	Rs.1200	Rs.30000
7	Storekeeper-cum-Purchase Officer	One	Rs.400	Rs.10000
8	Armed Guard/Security Guard	Two	Rs.560	Rs.14000
9	Driver	Three	Rs.840	Rs.21000
	Total	Nineteen	Rs 6600	Rs.165000

Annexure-II**Product Cost**

S. #	Description	Cost
1	Raw material	Rs.128000/batch
2	Operating cost (Labour)	Rs.6600/batch
3	Utilities	Rs.10000/batch
4	Depreciation charges	Rs.2000/batch
5	Packing material	Rs.52000/batch
	Total Cost	Rs.198600/batch

Cost per packet (50g/Ten sachets)

Rs.49.65