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## PROJECT REPORT

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PROJECT:

Wheat Gluten Manufacturing unit

**PROJECT REPORT  
OF  
WHEAT GLUTEN  
MANUFACTURING UNIT  
PURPOSE OF THE DOCUMENT**

This particular pre-feasibility is regarding Wheat Gluten Manufacturing unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

## PROJECT AT GLANCE

<b>1 Name of Proprietor/Director</b>	XXXXXXXXXX
<b>2 Firm Name</b>	XXXXXXXXXX
<b>3 Registered Address</b>	XXXXXXXXXX
<b>4 Nature of Activity</b>	XXXXXXXXXX
<b>5 Category of Applicant</b>	XXXXXXXXXX
<b>6 Location of Unit</b>	XXXXXXXXXX
<b>7 Cost of Project</b>	22.85 Rs. In Lakhs
<b>8 Means of Finance</b>	
<b>i) Own Contribution</b>	2.30 Rs. In Lakhs
<b>ii) Term Loan</b>	17.55 Rs. In Lakhs
<b>iii) Working Capital</b>	3.00 Rs. In Lakhs
<b>9 Debt Service Coverage Ratio</b>	2.98
<b>10 Break Even Point</b>	33%
<b>11 Power Requirement</b>	30 KW
<b>12 Employment</b>	10 Persons
<b>13 Details of Cost of Project &amp; Means of Finance</b>	

COST OF PROJECT	
(in Lacs)	
PARTICULARS	Amount
Land & Building	Owned/Rented
Plant & Machinery	18.00
Miscellaneous Assets	1.50
Working capital Required	3.35
<b>Total</b>	<b>22.85</b>

MEANS OF FINANCE	
PARTICULARS	Amount
Own Contribution @ 10%	2.30
Term Loan @ 90%	17.55
Working Capital (Bank Finance)	3.00
<b>Total</b>	<b>22.85</b>

# WHEAT GLUTEN MANUFACTURING UNIT

## 1. INTRODUCTION



Gluten may be defined as the cohesive, viscoelastic proteinaceous material prepared as a by- product of the isolation of starch from wheat flour. Gluten, the dough-forming protein of wheat flour, is important for a range of technological applications from supporting the baking performances of leavened products to the development of new food protein ingredients and other biomaterials. According to the International Wheat Gluten Association (IWGA), gluten can be marketed in two forms: “nonvital” and “vital.” Nonvital wheat gluten is gluten that has been subjected to irreversible denaturation and, therefore, cannot be “revived”. It is usually used for protein enrichment, but not for its viscoelastic properties. On the other hand, vital wheat gluten, when in contact with water, can be rapidly hydrated and recover its viscoelastic properties (elasticity and extensibility), due to gliadins and glutenins, which form the gluten network. Vital wheat gluten is a protein concentrate (approximately 80% protein) obtained from wheat flour, and it can be used to fortify flours considered weak for bread-making. It is a beige to light-brown powder. Wheat gluten is widely applied in the food products meant for vegans. The texture and taste make wheat gluten an ideal ingredient in artificial meat products and other products such as Surimi. vital wheat gluten is a flour-like powder that contains nearly all gluten and minimal starch. It's made

by hydrating wheat flour, which activates the gluten protein, and it's then processed to remove everything but the gluten. It's then dried out and ground back into a powder again.

## **2. MARKET POTENTIAL**

The wheat gluten market is expected to witness market growth at a rate of 6.60% in the forecast period of 2021 to 2028. Wheat gluten is known to be extensively utilized in food products meant for vegans. The taste and texture make wheat gluten a perfect ingredient in artificial meat products and other products such as surimi. Major factors that are expected to boost the growth of the wheat gluten market in the forecast period are the rise in the customer inclination for meat analogs. Furthermore, the nutritional advantages for lactose-intolerant and health and fitness-conscious consumers is further anticipated to propel the growth of the wheat gluten market. Moreover, the rise in the applications of wheat protein in varied end-user industries is further estimated to cushion the growth of the wheat gluten market. On the other hand, the rise in the discussion on gluten intolerance and gluten-free diets is further projected to impede the growth of the wheat gluten market in the timeline period. In addition, the rise in the potential for plant-based proteins because of the augmented affinity for sustainable food sources will further provide potential opportunities for the growth of the wheat gluten market in the coming years. However, the inadequate technological developments might further challenge the growth of the wheat gluten market in the near future. Consumers suffering from lactose intolerance and increased demand for high-fiber foods among consumers act as the key factors driving the demand for wheat gluten in the global market. The increasing use of wheat gluten in bakery and confectionery followed by supplements is expected to drive the growth. As the vegetarian and vegan movements grow in strength in the United States, the demand for wheat gluten protein is expected to increase. During the forecast period, the impact of this driver is expected to climb steadily. The regions such as Asia-Pacific, Middle East & Africa and South America have the highest percentage of consumers suffering from lactose intolerance. Consumers are considering on vegan diet as a sustainable and a healthy choice, thus wheat gluten market has gained popularity in recent years.

### 3. PRODUCT DESCRIPTION

#### 3.1 PRODUCT USES

Wheat gluten used while baking. Baking, The other main use for vital wheat gluten is seitan, also known as wheat meat, which is a vegan meat alternative. Seitan is often made by mixing vital wheat gluten with spices and seasonings, then adding a liquid. Once a stiff dough forms, it's either steamed, baked, or boiled to create a chewy and savory texture similar to meat. The use of vital wheat gluten in the baking industry and wheat flour mills aims to improve the rheological characteristics of flour considered unsuitable to obtain products such as sliced bread, French bread, high-fiber breads, and other products that require strong flours.

#### 3.2 PRODUCT RAW MATERIAL

- **Wheat flour:** Wheat or wheat flour essentially free from other seeds and foreign matter in accordance with Good Manufacturing Practice.



- **Other:** Fragrances, Preservatives, Packing material etc.

### **3.3 MANUFACTURING PROCESS**

This process can be broken down into the following steps-

- **Raw material procurement**
- **Production Process**
- **Packing**
- **Testing**

#### **➤ Raw Material Procurement**

The raw materials are checked strictly as per established quality standards and requirements. Individual supplier assessment and supplier rating are done depending upon the rejection levels at the incoming quality control stage. Sorting of raw material will be done as per material type or specifications. The material will be stored in; dust-free, moisture-free, neat, and clean environment. Wheat gluten shall be packed in suitable hygienic containers which will maintain the product during storage and transport in a dry and sanitary condition.

#### **➤ Process of Manufacture**

- 1) Mixing
- 2) Dough preparation
- 3) Extraction
- 4) Second extraction
- 5) Drying

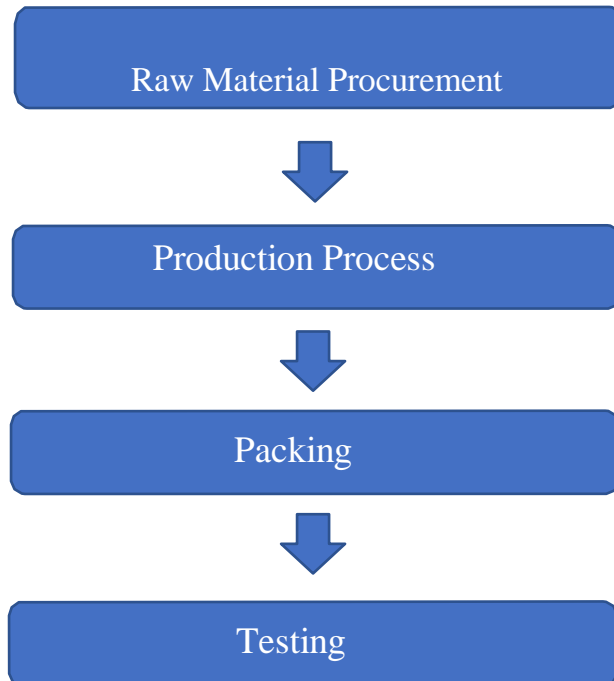
#### **➤ Packaging**

The material shall be packed in dry and leak-proof packets. By an automatic filling machine product will be weighted and filled automatically and sealed. Product labelling will be done after or before packaging.

➤ **Testing**

- Quality control

FLOW CHART OF THE PROCESS



## **4. PROJECT COMPONENTS**

### **Plant & Machinery**

S.No.	Machine
1	Mixing Machine
2	Gluten Extractor
3	Dryer (Ring Dryer)
4	Packing machine (Filling and sealing machine)



<b>PROJECTED PROFITABILITY STATEMENT</b>					
<b>(in Lacs)</b>					
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
Capacity Utilisation %	<b>50%</b>	<b>55%</b>	<b>60%</b>	<b>65%</b>	<b>70%</b>
<b><u>SALES</u></b>					
<b>Gross Sale</b>					
Wheat Gluten	69.60	83.17	95.35	108.30	122.68
<b>Total</b>	<b>69.60</b>	<b>83.17</b>	<b>95.35</b>	<b>108.30</b>	<b>122.68</b>
<b>COST OF SALES</b>					
Raw Material Consumed	40.80	46.99	53.57	61.15	69.22
Electricity Expenses	2.88	3.17	3.46	3.74	4.03
Depreciation	2.93	2.49	2.11	1.80	1.53
Wages & labour	7.32	9.37	11.43	12.80	14.72
Repair & maintenance	0.77	0.91	0.95	1.08	1.23
Packaging	0.14	0.17	0.19	0.22	0.25
<b>Cost of Production</b>	<b>54.83</b>	<b>63.10</b>	<b>71.71</b>	<b>80.79</b>	<b>90.97</b>
<b>Add: Opening Stock</b>	<b>-</b>	<b>1.83</b>	<b>2.10</b>	<b>2.39</b>	<b>2.69</b>
<b>Less: Closing Stock</b>	<b>1.83</b>	<b>2.10</b>	<b>2.39</b>	<b>2.69</b>	<b>3.03</b>
Cost of Sales	53.00	62.82	71.43	80.49	90.63
<b>GROSS PROFIT</b>	<b>16.60</b>	<b>20.35</b>	<b>23.93</b>	<b>27.81</b>	<b>32.05</b>
	<b>23.85%</b>	<b>24.47%</b>	<b>25.09%</b>	<b>25.68%</b>	<b>26.13%</b>
Salary to Staff	3.48	3.76	4.43	5.23	6.18
Interest on Term Loan	1.72	1.52	1.09	0.66	0.23
Interest on working Capital	0.33	0.33	0.33	0.33	0.33
Rent	3.60	4.14	4.76	5.48	6.30
Selling & Administrative Exp.	0.70	1.66	1.91	2.17	2.45
<b>TOTAL</b>	<b>9.83</b>	<b>11.41</b>	<b>12.52</b>	<b>13.87</b>	<b>15.49</b>
<b>NET PROFIT</b>	<b>6.77</b>	<b>8.94</b>	<b>11.40</b>	<b>13.94</b>	<b>16.56</b>
	<b>9.72%</b>	<b>10.75%</b>	<b>11.96%</b>	<b>12.87%</b>	<b>13.50%</b>
Taxation	0.30	0.59	1.03	1.61	2.34
<b>PROFIT (After Tax)</b>	<b>6.47</b>	<b>8.35</b>	<b>10.37</b>	<b>12.33</b>	<b>14.22</b>

<b>PROJECTED BALANCE SHEET</b>						(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>	
<b><u>Liabilities</u></b>						
<b>Capital</b>						
Opening balance		3.76	6.11	8.98	12.31	
Add:- Own Capital	2.30					
Add:- Retained Profit	6.47	8.35	10.37	12.33	14.22	
Less:- Drawings	5.00	6.00	7.50	9.00	10.50	
<b>Closing Balance</b>	<b>3.76</b>	<b>6.11</b>	<b>8.98</b>	<b>12.31</b>	<b>16.03</b>	
Term Loan	15.60	11.70	7.80	3.90	-	
Working Capital Limit	3.00	3.00	3.00	3.00	3.00	
Sundry Creditors	0.95	1.10	1.25	1.43	1.62	
Provisions & Other Liability	1.00	1.20	1.44	1.73	2.07	
<b>TOTAL :</b>	<b>24.31</b>	<b>23.10</b>	<b>22.47</b>	<b>22.36</b>	<b>22.72</b>	
<b><u>Assets</u></b>						
<b>Fixed Assets ( Gross)</b>						
Gross Dep.	2.93	5.41	7.52	9.32	10.85	
<b>Net Fixed Assets</b>	<b>16.58</b>	<b>14.09</b>	<b>11.98</b>	<b>10.18</b>	<b>8.65</b>	
<b>Current Assets</b>						
Sundry Debtors	1.62	1.94	2.22	2.53	2.86	
Stock in Hand	2.78	3.20	3.64	4.12	4.65	
Cash and Bank	2.33	2.38	2.63	3.04	3.56	
Loans & Advances /Other Current Assets	1.00	1.50	2.00	2.50	3.00	
<b>TOTAL :</b>	<b>24.31</b>	<b>23.10</b>	<b>22.47</b>	<b>22.36</b>	<b>22.72</b>	

<b>PROJECTED CASH FLOW STATEMENT</b>					(in Lacs)
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b><u>SOURCES OF FUND</u></b>					
Own Margin	2.30				
Net Profit	6.77	8.94	11.40	13.94	16.56
Depreciation & Exp. W/off	2.93	2.49	2.11	1.80	1.53
Increase in Cash Credit	3.00	-	-	-	-
Increase In Term Loan	17.55	-	-	-	-
Increase in Creditors	0.95	0.14	0.15	0.18	0.19
Increase in Provisions & Oth labilities	1.00	0.20	0.24	0.29	0.35
	-				
<b>TOTAL :</b>	<b>34.49</b>	<b>11.77</b>	<b>13.91</b>	<b>16.20</b>	<b>18.63</b>
<b><u>APPLICATION OF FUND</u></b>					
Increase in Fixed Assets	19.50				
Increase in Stock	2.78	0.42	0.44	0.48	0.53
Increase in Debtors	1.62	0.32	0.28	0.30	0.34
Repayment of Term Loan	1.95	3.90	3.90	3.90	3.90
Loans & Advances /Other Current Assets	1.00	0.50	0.50	0.50	0.50
Drawings	5.00	6.00	7.50	9.00	10.50
Taxation	0.30	0.59	1.03	1.61	2.34
<b>TOTAL :</b>	<b>32.16</b>	<b>11.73</b>	<b>13.66</b>	<b>15.79</b>	<b>18.11</b>
Opening Cash & Bank Balance	-	2.33	2.38	2.63	3.04
Add : Surplus	2.33	0.04	0.25	0.41	0.52
Closing Cash & Bank Balance	<b>2.33</b>	<b>2.38</b>	<b>2.63</b>	<b>3.04</b>	<b>3.56</b>

<b><u>CALCULATION OF D.S.C.R</u></b>					
<b>PARTICULARS</b>	<b>1st year</b>	<b>2nd year</b>	<b>3rd year</b>	<b>4th year</b>	<b>5th year</b>
<b>CASH ACCRUALS</b>	9.39	10.83	12.48	14.13	15.75
Interest on Term Loan	1.72	1.52	1.09	0.66	0.23
<b>Total</b>	11.12	12.35	13.58	14.79	15.98
<b><u>REPAYMENT</u></b>					
Instalment of Term Loan	1.95	3.90	3.90	3.90	3.90
Interest on Term Loan	1.72	1.52	1.09	0.66	0.23
Total	3.67	5.42	4.99	4.56	4.13
<b>DEBT SERVICE COVERAGE RATIO</b>	<b>3.02</b>	<b>2.28</b>	<b>2.72</b>	<b>3.24</b>	<b>3.87</b>
<b>AVERAGE D.S.C.R.</b>	<b>2.98</b>				

# REPAYMENT SCHEDULE OF TERM LOAN

Interest 11.00%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
<b>1st</b>	Opening Balance						
	1st month	-	17.55	17.55	-	-	17.55
	2nd month	17.55	-	17.55	0.16	-	17.55
	3rd month	17.55	-	17.55	0.16	-	17.55
	4th month	17.55	-	17.55	0.16		17.55
	5th month	17.55	-	17.55	0.16		17.55
	6th month	17.55	-	17.55	0.16		17.55
	7th month	17.55	-	17.55	0.16	0.33	17.23
	8th month	17.23	-	17.23	0.16	0.33	16.90
	9th month	16.90	-	16.90	0.15	0.33	16.58
	10th month	16.58	-	16.58	0.15	0.33	16.25
	11th month	16.25	-	16.25	0.15	0.33	15.93
	12th month	15.93	-	15.93	0.15	0.33	15.60
					<b>1.72</b>	<b>1.95</b>	
<b>2nd</b>	Opening Balance						
	1st month	15.60	-	15.60	0.14	0.33	15.28
	2nd month	15.28	-	15.28	0.14	0.33	14.95
	3rd month	14.95	-	14.95	0.14	0.33	14.63
	4th month	14.63	-	14.63	0.13	0.33	14.30
	5th month	14.30	-	14.30	0.13	0.33	13.98
	6th month	13.98	-	13.98	0.13	0.33	13.65
	7th month	13.65	-	13.65	0.13	0.33	13.33
	8th month	13.33	-	13.33	0.12	0.33	13.00
	9th month	13.00	-	13.00	0.12	0.33	12.68
	10th month	12.68	-	12.68	0.12	0.33	12.35
	11th month	12.35	-	12.35	0.11	0.33	12.03
	12th month	12.03	-	12.03	0.11	0.33	11.70
					<b>1.52</b>	<b>3.90</b>	
<b>3rd</b>	Opening Balance						
	1st month	11.70	-	11.70	0.11	0.33	11.38
	2nd month	11.38	-	11.38	0.10	0.33	11.05
	3rd month	11.05	-	11.05	0.10	0.33	10.73
	4th month	10.73	-	10.73	0.10	0.33	10.40
	5th month	10.40	-	10.40	0.10	0.33	10.08
	6th month	10.08	-	10.08	0.09	0.33	9.75
	7th month	9.75	-	9.75	0.09	0.33	9.43
	8th month	9.43	-	9.43	0.09	0.33	9.10
	9th month	9.10	-	9.10	0.08	0.33	8.78
	10th month	8.78	-	8.78	0.08	0.33	8.45
	11th month	8.45	-	8.45	0.08	0.33	8.13
	12th month	8.13	-	8.13	0.07	0.33	7.80

				1.09	3.90		
4th	Opening Balance						
	1st month	7.80	-	7.80	0.07	0.33	7.48
	2nd month	7.48	-	7.48	0.07	0.33	7.15
	3rd month	7.15	-	7.15	0.07	0.33	6.83
	4th month	6.83	-	6.83	0.06	0.33	6.50
	5th month	6.50	-	6.50	0.06	0.33	6.18
	6th month	6.18	-	6.18	0.06	0.33	5.85
	7th month	5.85	-	5.85	0.05	0.33	5.53
	8th month	5.53	-	5.53	0.05	0.33	5.20
	9th month	5.20	-	5.20	0.05	0.33	4.88
	10th month	4.88	-	4.88	0.04	0.33	4.55
	11th month	4.55	-	4.55	0.04	0.33	4.23
	12th month	4.23	-	4.23	0.04	0.33	3.90
				0.66	3.90		
5th	Opening Balance						
	1st month	3.90	-	3.90	0.04	0.33	3.58
	2nd month	3.58	-	3.58	0.03	0.33	3.25
	3rd month	3.25	-	3.25	0.03	0.33	2.93
	4th month	2.93	-	2.93	0.03	0.33	2.60
	5th month	2.60	-	2.60	0.02	0.33	2.28
	6th month	2.28	-	2.28	0.02	0.33	1.95
	7th month	1.95	-	1.95	0.02	0.33	1.63
	8th month	1.63	-	1.63	0.01	0.33	1.30
	9th month	1.30	-	1.30	0.01	0.33	0.98
	10th month	0.98	-	0.98	0.01	0.33	0.65
	11th month	0.65	-	0.65	0.01	0.33	0.33
	12th month	0.33	-	0.33	0.00	0.33	-
				0.23	3.90		
DOOR TO DOOR		60	MONTHS				
MORATORIUM PERIOD		6	MONTHS				
REPAYMENT PERIOD		54	MONTHS				

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