Poultry Feed Making Unit

Introduction

Poultry feed is a carefully formulated blend of nutrients designed to meet the specific needs of different types of poultry, such as chickens, ducks, turkeys, and geese, at various stages of their life cycle. It typically consists of a combination of grains, protein sources, vitamins, and minerals.

The composition of poultry feed varies depending on the age, breed, and purpose of the birds. For example, starter feeds for young chicks are high in protein to support rapid growth, while layer feeds for egg-laying hens are formulated to promote strong egg production and shell quality.

Key components of poultry feed include:

- **Grains:** Grains like corn, wheat, and barley provide energy and carbohydrates.
- **Protein sources:** Protein sources such as soybean meal, fishmeal, and meat and bone meal supply essential amino acids for growth and development.
- **Vitamins and minerals:** Vitamins and minerals like calcium, phosphorus, and vitamins A, D, and E are added to support overall health and egg production.
- **Mash:** A fine, powdery form that is easy to digest for young chicks.

- **Crumbles:** Small, crumbly pieces that are suitable for all ages of poultry.
- **Pellets:** Compressed pellets that are less dusty and more efficient to feed.

Poultry feed plays a crucial role in the health, growth, and productivity of poultry. By providing a balanced and nutritious diet, poultry farmers can ensure that their birds thrive and produce high-quality eggs or meat.

Raw Material

Poultry feed is a carefully formulated blend of various raw materials, each contributing specific nutrients essential for the health and productivity of poultry. The choice of raw materials depends on factors such as the age, breed, and purpose of the birds.

Here are some of the key raw materials used in poultry feed production:

1. **Grains:** Grains are the primary source of energy in poultry feed. Common grains used include:

- Corn: A high-energy grain rich in carbohydrates.
- Wheat: Another energy source, also providing some protein and fiber.
- Barley: A good source of energy, especially for older birds.
- Sorghum: A heat-resistant grain suitable for hot climates.
- Oats: A source of energy and fiber, often used in specialized feeds.

2. **Protein Sources:** Protein is essential for growth, tissue repair, and egg production. Common protein sources include:

- Soybean meal: The most common protein source, providing high-quality protein and essential amino acids.
- Fishmeal: A high-quality protein source rich in essential fatty acids.
- Meat and bone meal: A good source of protein and calcium.
- Canola meal: A protein source with a favourable amino acid profile.
- Peas: A plant-based protein source, often used in organic feeds.

3. **Oilseeds:** Oilseeds are added to poultry feed to provide energy, essential fatty acids, and vitamins. Common oilseeds include:

- Soybean: A major source of protein and oil.
- Sunflower seeds: Rich in oil and vitamin E.
- Canola seeds: A good source of oil and omega-3 fatty acids.
- Flaxseeds: High in omega-3 fatty acids and fiber.

4. **Vitamins and Minerals:** Vitamins and minerals are added to poultry feed to ensure optimal health and performance. Common supplements include:

- Calcium: Essential for strong bones and eggshells.
- Phosphorus: Important for bone health and energy metabolism.
- Vitamin A: Supports vision, immune function, and growth.
- Vitamin D: Aids in calcium absorption and bone development.
- Vitamin E: An antioxidant that protects cells from damage.
- Vitamin K: Essential for blood clotting.
- Trace minerals: Such as zinc, copper, and manganese, which play various roles in metabolism.

5. **Other Ingredients:** Other ingredients may be added to poultry feed to improve palatability, digestibility, or provide specific benefits. These can include:

- Limestone: A source of calcium.
- Salt: Provides essential sodium and chloride.
- Prebiotics and probiotics: Support gut health and digestion.
- Enzymes: Improve nutrient digestibility.
- Antioxidants: Protect feed from spoilage and rancidity.

The market outlook for poultry feed making units is generally positive, driven by several factors:

- **Growing global population:** The increasing global population necessitates a higher demand for protein sources, including poultry. This translates to a greater need for poultry feed.
- **Rising consumer preference for poultry:** Poultry meat and eggs are considered healthier alternatives to red meat, leading to increased consumption.
- **Expanding aquaculture industry:** The aquaculture industry is also growing, further increasing the demand for fishmeal and other feed ingredients used in poultry feed.
- **Technological advancements:** Advancements in feed formulation, processing, and delivery systems are improving feed efficiency and reducing production costs.

However, the poultry feed market also faces some challenges:

- **Fluctuating raw material prices:** The prices of key raw materials, such as grains and protein sources, can fluctuate significantly, impacting production costs.
- **Competition:** The market is becoming increasingly competitive, with numerous players vying for market share.
- **Regulatory pressures:** Environmental regulations and animal welfare concerns are increasing, requiring feed manufacturers to comply with stringent standards.

Overall, the poultry feed market is expected to continue growing in the coming years, driven by global population growth, changing dietary preferences, and technological advancements. However, feed manufacturers need to adapt to changing market dynamics, manage raw material costs, and comply with evolving regulations to remain competitive.

Manufacturing process of Poultry Feed Making

The manufacturing process of poultry feed involves several key steps to ensure a balanced and nutritious product for optimal bird health and productivity.

1. Raw Material Handling and Storage

- **Receiving:** Raw materials, such as grains, protein sources, vitamins, and minerals, are received at the feed mill.
- **Cleaning:** Raw materials are cleaned to remove impurities like dust, foreign objects, and contaminants.
- **Storage:** Cleaned raw materials are stored in appropriate silos or bins to maintain quality and prevent spoilage.

2. Grinding and Milling

- **Grinding:** Large ingredients like grains are ground into smaller particles using hammer mills or roller mills.
- **Milling:** Other ingredients, such as protein sources and minerals, may also be milled to achieve the desired particle size.

3. Batching and Mixing

- **Batching:** Raw materials are weighed and measured according to the specific feed formula.
- **Mixing:** Batched ingredients are thoroughly mixed in large mixers to ensure uniform distribution of nutrients.

4. Pelleting (Optional)

- **Pelleting:** The mixed feed may be pelleted using a pellet mill. Pelleting compresses the feed into small, dense pellets, which can improve feed handling, reduce dust, and increase feed intake.

5. Cooling and Drying

- **Cooling:** If pelleted, the feed is cooled to prevent spoilage and maintain pellet integrity.
- **Drying:** The feed may be dried to reduce moisture content and improve shelf life.

6. Crumbling (Optional)

- **Crumbling:** Pellets may be crumbled into smaller pieces to make them more suitable for young birds or specific feeding systems.

7. Packaging and Storage

- **Packaging:** The finished feed is packaged in bags or bulk containers for storage and transportation.
- **Storage:** The packaged feed is stored in a dry, well-ventilated area to maintain quality and prevent spoilage.

Machine details of Poultry Feed Making Unit with images

Key Machines in a Poultry Feed Making Unit

A poultry feed making unit typically involves several key machines to process raw materials into a balanced and nutritious feed for poultry. Here are some of the essential machines, along with images:

1. Hammer Mill:

- **Function:** Used to grind grains and other coarse materials into smaller particles.
- **Process:** The material is fed into a chamber containing rotating hammers that strike and break down the material.

2. Mixer:

- **Function:** Thoroughly blends various ingredients, including grains, protein sources, vitamins, and minerals, to ensure a uniform distribution of nutrients.
- **Types:** Ribbon blenders, paddle mixers, and twin-shaft mixers are commonly used.

3. Pellet Mill:

- **Function:** Compresses the mixed feed into small, dense pellets, improving feed handling, reducing dust, and increasing feed intake.
- **Process:** The feed is forced through a die with small holes, forming pellets.

4. Cooler:

- **Function:** Cools the hot pellets produced by the pellet mill to prevent spoilage and maintain pellet integrity.
- **Process:** The pellets are passed through a counter-current cooler, where they are cooled by ambient air.

5. Crumbler:

- **Function:** Breaks down pellets into smaller crumbles, making them more suitable for young birds or specific feeding systems.
- **Process:** The pellets are passed through rollers with adjustable gaps that crush them into smaller pieces.

PROJECT AT A GLANCE - TOP SHEET

1	Name of the Beneficiary		**XXXXXX**		
2	Constitution(Legal Status)		**Individual**		
3	Father/Spouse Name		XXXXXXX		
4	Unit Address		XXXXXX		
		Taluk/Block:	**XXXXXX**		
		District :	**XXXXXX**		
		Pin:	**XXXXXX**	State:	**XXXXXX**
		E-Mail :	**XXXXXX**		
		Mobile	**XXXXXX**		
5	Cost of Project	:	**Rs.**	**9.52**	**in Lakhs**
(i)	Plant & Machinery			**6.50**	**in Lakhs**
(ii)	Furniture & Fixtures			**0.80**	**in Lakhs**
(iii)	Working Capital Required			**2.22**	**in Lakhs**
6	Means of Finance	:	**Rs.**		
(i)	Term Loan			**6.57**	**in Lakhs**
(ii)	Working Capital			**2.00**	**in Lakhs**
(iii)	Own Capital			**0.95**	**in Lakhs**
				9.52	**in Lakhs**
7	Debt Service Coverage Ratio	:		**3.21**	
8	Break Even Point	:		40.65%	
9	Plant & Machinery	:	Hammer Mill,Mixer,Pellet Mill,Cooler,Crumbler Other equipments.		
10	Major Raw materials	:	Corn,Wheat,Oatsetc.		
11	Employment	:		6	
12	Power Requirement	:		5	
13	Name of the project / business activity	:	Poultry Feed Making Unit		

PROJECTED CASH FLOW STATEMENT

PARTICULARS	YEAR-I	YEAR-II	YEAR-III	YEAR-IV
SOURCES OF FUND				
Capital	0.95	-	-	-
Reserve & Surplus	2.55	4.46	6.43	8.44
Depriciation & Exp. W/off	1.06	0.90	0.77	0.66
Increase in Cash Credit	2.00	-	-	-
Increase In Term Loan	6.57	-	-	-
Increase in Creditors	0.45	0.14	0.15	0.18
Increase in Provisions	0.50	0.03	0.03	0.03
TOTAL :	**14.08**	**5.52**	**7.37**	**9.30**
APPLICATION OF FUND				
Increase in Fixed Assets	7.30	-	-	-
Increase in Stock	0.49	0.15	0.16	0.19
Increase in Debtors	2.90	1.04	1.08	1.20
Repayment of Term Loan	1.31	1.75	1.75	1.75
Drawings	1.50	2.00	4.00	6.00
TOTAL :	**13.50**	**4.95**	**6.99**	**9.14**
Opening Cash & Bank Balance	-	0.58	1.16	1.53
Add : Surplus	0.58	0.58	0.38	0.16
Closing Cash & Bank Balance	**0.58**	**1.16**	**1.53**	**1.69**

PROJECTED BALANCE SHEET

PARTICULARS	YEAR-I	YEAR-II	YEAR-III	YEAR-IV
SOURCES OF FUND				
Capital Account	-	2.00	4.46	6.89
Add: Addition	0.95			
Add : Net Profit	2.55	4.46	6.43	8.44
	3.50	6.46	10.89	15.33
Less : Drawings	1.50	2.00	4.00	6.00
NET OWN FUNDS	**2.00**	**4.46**	**6.89**	**9.33**
Term Loan	5.26	3.50	1.75	-
Cash Credit	2.00	2.00	2.00	2.00
Sundry Creditors	0.45	0.59	0.74	0.91
Provisions & Other Liab	0.50	0.53	0.55	0.58
TOTAL :	**10.21**	**11.08**	**11.93**	**12.82**
APPLICATION OF FUND				
Fixed Assets	7.30	7.30	7.30	7.30
Less : Depreciation	1.06	1.96	2.72	3.38
Net Fixed Assets	6.25	5.34	4.58	3.92
Current Assets				
Sundry Debtors	2.90	3.94	5.03	6.22
Stock in Hand	0.49	0.64	0.79	0.98
Cash and Bank	0.58	1.16	1.53	1.69
TOTAL :	**10.21**	**11.08**	**11.93**	**12.82**
	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	YEAR-I	YEAR-II	YEAR-III	YEAR-IV
Capacity Ulisation %	**50%**	**55%**	**60%**	**65%**
SALES				
Gross Receipts/Sale	29.00	39.44	50.25	62.23
Total	**29.00**	**39.44**	**50.25**	**62.23**
COST OF SALES				
Purchase & Consumables	13.63	17.75	22.11	27.38
Elecricity Expenses	2.61	3.55	4.52	5.60
Other Direct Expenses	1.74	2.37	3.02	3.73
Cost of Production	17.98	23.66	29.65	36.72
Add: Opening Stock /WIP	-	0.49	0.64	0.79
Less: Closing Stock /WIP	0.49	0.64	0.79	0.98
Cost of Sales	**17.49**	**23.51**	**29.49**	**36.53**
GROSS PROFIT	11.51	15.93	20.76	25.71
	39.68%	**40.38%**	**41.31%**	**41.30%**
Salary to Staff	5.51	6.61	7.93	8.73
Selling & Adm Expenses Exp.	1.45	3.16	5.03	7.47
Depriciation	1.06	0.90	0.77	0.66
Interest on Term Loan	0.72	0.58	0.39	0.19
Interest on Working Capital	0.22	0.22	0.22	0.22
TOTAL (D+G)	**8.96**	**11.47**	**14.33**	**17.27**
NET PROFIT	**2.55**	**4.46**	**6.43**	**8.44**
	8.79%	**11.31%**	**12.79%**	**13.56%**
CASH ACCRUALS	**3.60**	**5.36**	**7.20**	**9.10**

COMPUTATION OF PRODUCTION

Production Capacity	200	Kg/Hr
No. of Working Hour	10	
Total	2,000	Kg/day
No of Working Days per month	25	
No. of Months	12	
Total Production Per Annum	6,00,000	Kg

Year	Capacity Utilisation	Kg
YEAR-I	50%	3,00,000
YEAR-II	55%	3,30,000
YEAR-III	60%	3,60,000
YEAR-IV	65%	3,90,000

COMPUTATION OF SALE

Particulars	YEAR-I	YEAR-II	YEAR-III	YEAR-IV
Op Stock	-	10,000	11,333	12,378
Production	3,00,000	3,30,000	3,60,000	3,90,000
	3,00,000	3,40,000	3,71,333	4,02,378
Less : Closing Stock	10,000	11,333	12,378	13,413
Net Sale	2,90,000	3,28,667	3,58,956	3,88,965
Rate Per Pcs	10.00	12.00	14.00	16.00
Net Sale (in lacs)	**29.00**	**39.44**	**50.25**	**62.23**

COMPUTATION OF DEPRECIATION

Description	Plant/Machinery Equipments	Furniture	TOTAL
Rate of Depreciation	**15.00%**	**10.00%**	
Opening Balance	-	-	-
Addition	6.50	0.80	7.30
	6.50	0.80	7.30
Less : Depreciation	0.98	0.08	1.06
WDV at end of Year-1	5.53	0.72	6.25
Additions During The Year	-	-	-
	5.53	0.72	6.25
Less : Depreciation	0.83	0.07	0.90
WDV at end of Year II	4.70	0.65	5.34
Additions During The Year	-	-	-
	4.70	0.65	5.34
Less : Depreciation	0.70	0.06	0.77
WDV at end of Year III	3.99	0.58	4.58
Additions During The Year	-	-	-
	3.99	0.58	4.58
Less : Depreciation	0.60	0.06	0.66
WDV at end of Year IV	3.39	0.52	3.92

TERM LOAN

Year	Opening Balance	Repayment	Closing Balance	Interest @ 11%
1st	6.57	1.31	5.26	0.72
2nd	5.26	1.75	3.50	0.58
3rd	3.50	1.75	1.75	0.39
4th	1.75	1.75	0.00	0.19

BREAK EVEN POINT & RATIO ANALYSIS				
Particulars	**1st Year**	**2nd Year**	**3rd Year**	**4th Year**
Fixed Cost	8.08	10.54	13.20	16.20
Variable Cost	18.86	24.59	30.79	37.79
Total Cost	26.94	35.13	43.98	53.98
Sales	29.00	39.44	50.25	62.23
Contribution (Sales-VC)	10.14	14.85	19.46	24.45
Capacity	50%	55%	60%	65%
B.E.P in %	40%	39%	41%	43%
Break Even Sales in Rs.	11.55	15.40	20.44	26.80
Net Profit Ratio	**8.79%**	**11.31%**	**12.79%**	**13.56%**

CALCULATION OF D.S.C.R

PARTICULARS	YEAR-I	YEAR-II	YEAR-III	YEAR-IV
CASH ACCRUALS	3.60	5.36	7.20	9.10
Interest on Term Loan	0.72	0.58	0.39	0.19
Total	4.33	5.94	7.58	9.29
REPAYMENT				
Instalment of Term Loan	1.31	1.75	1.75	1.75
Interest on Term Loan	0.72	0.58	0.39	0.19
Total	2.04	2.33	2.14	1.94
DEBT SERVICE COVERAGE RATIO	**2.12**	**2.55**	**3.55**	**4.78**
AVERAGE D.S.C.R.			**3.21**	