

CATTLE & POULTRY FEEDS

1. INTRODUCTION

Compound cattle feed is an important constituent of ration, considering the fact that dairy animals in India have limited access to cultivated green fodder and grasses. Most of the macro and micro nutrients to meet animals' requirement are provided by compound feed, especially on crop residue based diets. It is possible to formulate balanced rations for growing and lactating animals only if the feed used conforms to the laid down specifications, for energy, protein, minerals, vitamins etc. The feed shall be free from harmful constituents, metallic pieces and adulterants. The feed shall also be free from fungal growth and insect infestation and from fermented Musty or rancid or any other objectionable odor.

2. PRODUCTS AND ITS APPLICATION:

Properly composited balance cattle feed having like taste of animals of nearby of project site will provide nutritive diet to milch animals and would definitely help in increasing the present animal productivity. Increase in the milk productivity ensures the gain of more income and self-sufficiency which is the key object or application of producing cattle feed.

Plant Capacity & Product Mix:

Generally, cattle and poultry feed plants need to be higher capacities say 100 tons to 500 tons per day but here is considered for 20 tons/day for MSME entrepreneur as being this is a viable capacity for small scale production. The plant must be versatile to produce cattle and poultry feeds both as markets are potential for both these segments.

3. DESIRED QUALIFICATION FOR PROMOTER:

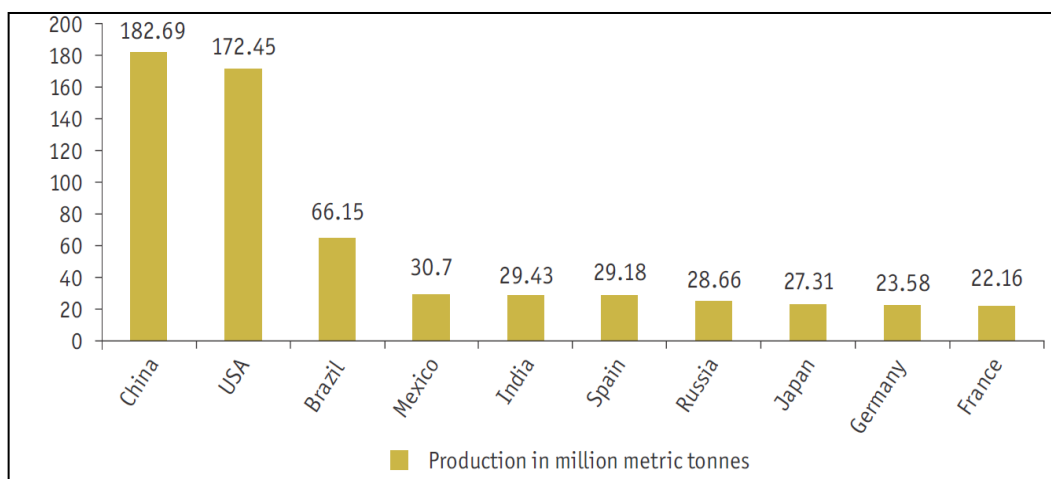
The entrepreneur must well aware of type of feed, nutrition and taste required for cattle of area where the product to be marketed as well of procurement of right quality of raw materials, processing equipments for producing feed of right consistency and marketing strategy in view of prevailing such available feeds in that specific region.

4. MARKET POTENTIAL AND MARKETING ISSUES, IF ANY:

The world's population is projected to grow from about 7 billion in 2012 to 9.6 billion people by 2050. More than half of this growth is expected in Sub-Saharan Africa (SSA); China and India. In addition to population growth, per capita meat and milk consumption is also growing—especially in China and India—and is projected to remain high in the European Union, North America, Brazil, and Russia. These trends will lead to higher requirement of processed dairy, aqua and poultry products; in turn leading to a trigger for higher feed requirement. The animal feed is produced in more than 130 countries globally.

India has emerged as one of the largest and fastest growing compound feed markets in the world. The feed industry is growing at a CAGR of 8%, with poultry, cattle and aqua feed sectors emerging as major growth drivers. According to estimates by leading industry sources, the demand of animal protein and dairy products in India will increase the compound feed consumption volumes to 28 million tons by 2017/18.

Indian feed industry is presently growing at a CAGR of 8 percent. Poultry, aqua and dairy industry occupies the major share in overall feed demand. While the potential feed requirements is huge and stands at around 96 million tones, only 20.3 million tones was produced during 2012-13. There is a huge scope for the growth in the sector, with industry becoming more organized. With this growth rate India will soon become the largest feed market in the coming years. The feed industry requirements that are met with the compound feed are only 11 percent for cattle, 14 percent for aqua feed and 55 percent for poultry feed. India is the world fifth ranking country to produce and supply cattle feed with an annual production of 29.43 Million tons as shown in the following table.



5. RAW MATERIAL REQUIREMENTS:

Sr. No.	INGREDIENTS	Qty/yr. MT
1	Maize	720.00
2	Groundnuts Spilt	780.00
3	Rapseed	360.00
4	Deoiled CS Cake	480.00
5	Deoiled Rice Bran	2,160.00
6	Polished Rice Fine	480.00
7	Pre-Mix	420.00
8	Molasses	600.00
	Total	6,000.00

6. MANUFACTURING PROCESS:

All major raw materials receiving at plant must be weighed on Weigh Bridge and store them at their pre-allotted ware houses or silos (specifically molasses to store in silos). It is necessary to verify quality of each raw material before allowing them for inventory. The minor raw materials like salt, urea, mineral mix or vitamin mix are in small quantities and need to pre-mix for adding into batch. All raw materials in raw forms need to weigh for batch making in a batching plant based on load cells. The weighed ingredients are pulverized and then mixed into mixer thoroughly. This mixture is then taken to molasses mixer where pre-heated molasses is added into required proportion. Thus made mix is then conditioned and pelletized into a pellet mill of required sizes of pellets followed by bagging, labelling and dispatching.

7. MANPOWER REQUIREMENT:

Sr. No.	CATEGORIES	Nos.
1	Technical Staff	7.00
2	Administrative Staff	4.00
3	Marketing Staff	4.00
4	Labour	30.00
	Total	45.00

8. IMPLEMENTATION SCHEDULE:

Project Stages	MONTHS									
	1	2	3	4	5	6	7	8	9	10
Purchase of Land	Yellow	Yellow	Yellow							
Completion of Building			Green	Green	Green	Green				
Ordering of Machinery	Grey	Grey								
Delivery of Machinery			Orange	Orange	Orange	Orange				
Term/Wkg Loan Sanction		Blue	Blue	Blue						
Installation of Machinery					Green	Green				
Commissioning of Plant						Red				
RM/Inputs Procurement						Yellow				
Manpower Appointments						Blue				
Commercial Production						Green				

9. COST OF PROJECT:

Sr. No.	Costing Heads	Qty	Rate/Unit	Rs. Lakh
1	Land in Sq. M. + Expenses	2,000.00	1,000.00	20.00
2	Building, Sq. M. MS Structure	1,000.00	7,000.00	70.00
3	Plant & Machinery			200.01
4	Contingency			5.00
5	Total Cost of Project			295.01

10. MEANS OF FINANCE:

Sr. No	Means Heads	Rs. Lakhs
1	Promoters Capital	73.75
2	Term Loan	188.51
3	Cash	32.75
4	Unsecured Deposits	-
	Total Means of Finance	295.01

11. WORKING CAPITAL CALCULATION:

Particulars	Total Amount	Stock Period Days	Value of Stock Period	Promoter Margin	Promoter Share	Bank Borrowings
Raw Material	1,209.60	15	60.48	0.50	30.24	30.24
Packing Material	36.00	30	3.60	0.40	1.44	2.16
Work in Process	1,559.59	3	15.60	0.40	6.24	9.36
FP Stock	1,740.00	15	87.00	0.40	34.80	52.20
Bills Receivable	1,740.00	15	87.00	0.40	34.80	52.20
Working Expense	12.00	30	1.20	1.00	1.20	0.00
Total:	6,297.19			0.00	108.72	146.16

12. LIST OF MACHINERY REQUIRED:

Sr. No	Equipment	Qty
1	Intake conveyors	2
2	Intake elevators	2
3	Distribution conveyors	10
4	Batching Silos, 100 kg capacity	10
5	Bottom hoppers for silos	10
6	Discharge conveyors	1
7	Weighing hopper	1
8	Batch conveyor	1
9	Batch elevator	1
10	Batching controller	1
11	Connecting & gravity pipes	2
12	Air compressor	10
13	Aspiration units	2
14	Hopper for grinding mill	1
15	Grinding mill	1
16	Powder conveyor	1
17	Hopper for batch mixer	1
18	Batch mixer	1
19	Bucket elevator	1
20	Feed conveyor	1
21	Mixed feed storage bin	1

Sr. No	Equipment	Qty
22	Screw feeder, pellet mill	1
23	Molasses mixer	1
24	Conditioner	1
25	Molasses Day Tank Unit	1
26	Pellet Mill Unit	1
27	Pellet cooler	1
28	Pellet conveyor & elevator	1
29	Pellet sieve machine	1
30	Crumbler for Poultry Feed	1
31	Bin for bagging machine	1
32	Bagging machine	1
33	Stitching machine	1
34	Slat conveyor	1
35	Connecting & gravity pipes	1
36	Boiler & Furnace oil tank/pump	1
37	Electricals	1
38	DG set & change over panel	1
39	Transformer with VCB	1
40	Weigh bridge	1
41	Mineral Plant	1
42	Essential spares (make a list)	1
43	Supporting structure	1
44	Miscellaneous	1
45	Erection & commissioning	1

13. PROFITABILITY CALCULATIONS:

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
A	Gross Sales	1218	1392	1566	1566	1566
	Less:					
1	Raw Materials	846.72	967.68	1088.64	1088.64	1088.64
2	Packing Material	25.2	28.8	32.4	32.4	32.4
3	Fuel	50.4	57.6	64.8	64.8	64.8
4	Power	23.52	26.88	30.24	30.24	30.24
5	Manpower	47.9778	54.1288	60.2798	60.2798	60.2798

Sr. No.	Particulars	Year 1	Year 2	Year 3	Year 4	Year 5
6	Depreciation	44.45	50.8	57.15	57.15	57.15
7	Sundry Expenses	8.4	9.6	10.8	10.8	10.8
8	Interest on Term Loan	15.834	18.096	20.358	20.358	20.358
9	Interest on WC Loan	15.225	17.4	19.575	19.575	19.575
9	Repairs & Maintenance	8.4	9.6	10.8	10.8	10.8
10	Marketing Expenses	10.5	12	13.5	13.5	13.5
B	Production Cost	1096.627	1252.585	1408.543	1408.543	1408.543
C	Gross Profit (A-B):	121.3732	139.4152	157.4572	157.4572	157.4572
	Taxes @ 30%	36.41196	41.82456	47.23716	47.23716	47.23716
	Net Profit	84.96124	97.59064	110.22	110.22	110.22

14. BREAKEVEN ANALYSIS:

Break Even Point	
Annual Fixed Cost x100/ Annual Fixed Cost + Profit	56.83

15. CRITICAL FACTORS FOR THE PROJECT:

- The relationship between feed quality and animal performance, i.e., requirements for maintenance, growth, pregnancy and production of milk, to reduce the risks of animal health and to minimize excretions and emissions into the environment, is important. So, composition of feed, raw material quality, processing parameters and quality control at all stages are of utmost critical and important.
- Selection of plant and machinery is utmost important with respect to produce feed for both cattle and poultry as well maintenance cost. Generally, maintenance cost is higher in feed plants.
- Plant must be accessible by roads mainly to avail all raw materials in time and must be in vicinity of raw materials centres and markets for feeds.

