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Components of a Fish Feed Mill

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The design of a feed mill depends on the intended production capacity. For a small scale feed mill (20-50 kg feed production per day), a total area of around 3000 sq. ft will be sufficient, while medium and large feed mills require more area. The major components of a feed mill are (i) Building and (ii) Equipment/ Machinery

(i) Building

The building should preferably be of concrete provided with for pest and rodent proof facility, with proper accessibility to road and electricity. For small and medium scale feed mills, the ingredient receiving and storage area can also be integrated with in the main building. For large scale mills, the ingredient storage facility should be kept separately.

(ii) Equipment/ Machinery

The major essential equipment/ machinery required for a feed mill and their purpose are listed in the following table.

Sl No	Equipment	Purpose	Image
1	Pulverizer/ hammer mill	To grind the ingredients and to reduce particle size	
2	Weighing balance	To weigh the ingredients and feeds	
3	Homogenizer/ bowl mixer	Uniform mixing of ingredients in a feed mix	

4	Extruder and/or pelletizer	To produce feed pellets. Different dies (1, 1.5, 2, 3mm etc.) are used for producing pellets of desirable sizes. Extruder can produce floating pellets, while pelletizer produces sinking pellets	
5	Hot air oven	To dry the feeds and ingredients by blowing hot air	

6	Sieve assembly/ shaker	To sort the feed pellets of desirable particle sizes	
7	Packaging system- impulse sealer	For air tight packing of feed pouches	
8	Fat coater	To coat oil on feed pellets	
9	Spheronizer	For preparation of spherical feeds for larvae	

10	Steam Conditioner	For conditioning/ maturing of feed mix/ dough prior to extrusion. To adjust the moisture and temperature for cooking during extrusion	
11	Spray drier	To produce dry powder from liquid slurry by rapid drying, preferably in the case of thermally sensitive materials	

Table 1: Model estimate for establishment of a fish feed mill

Si No.	Particulars	Approximate price range (Rs.)
1	Pulverizer/ hammer mill	25000-35000
2	Weighing balance	10000- 20000
3	Ingredient homogenizer/ bowl mixer	30000-40000
4	Extruder	25 lakhs- 2 crores
5	Hot air oven	15000-30000
6	Mixer/ Grinder	3000 -6000
7	Sieve assembly/ shaker	1.5- 3 lakhs
8	Packaging system-impulse sealer	5000 - 10000
9	Fat coater	1.5- 3 lakhs
10	Spheronizer	1.5– 7 lakhs
11	Steam conditioner	1.5- 3 lakhs
13	Spray drier	1.5 – 20 lakhs
14	Main building/ warehouse	As per local costs
15	Other civil works (silos, lab, office, road etc.)	As per local costs