

Farm Made Fish Feeds by Small Scale Carp Farmers

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SUMMARY

As aquaculture grows more important for feeding the world's growing population, the natural resources required to produce aquaculture feed become more expensive. Farm-based feed management is a key to the aquaculture industry's development. Fish farmers required nutritionally adequate and cost-effective feeds, along with good feed management systems, to accomplish high levels of aquaculture production. One of the prerequisites for successful fish farming is availability to high-quality and cost-effective feeds, which has assured that all farmers have access to high-quality farm products. Feed management strategies have a significant impact on the economic performance of fish farming. As a result, improving aquaculture output requires the use of appropriate farm-made feed management systems and feeding practices. Limited access to capital, a lack of relevant technical advancements, and a lack of understanding in farm made feed formulation and processing are some of the key issues faced by fish farmers in the feed sector. On-farm feed formulations designed with locally accessible feed materials enable fish farmers to minimize feed costs, promote feeding efficiency, and increase profitability.

INTRODUCTION

An aquafeed which is prepared farm levels using locally available low-cost ingredients is called farm- made feed. These feeds can be a single ingredient (Eg; Rice bran or mixture of ingredients in the form of mash, moist ball or dry pellet. In India, more than 80% of fish culture is based on farm- made feed.

Feed ingredients

The common ingredients such as rice bran (RB), De-oiled rice bran (DORB), Wheat bran (WB), mustard oil cake (MOC), groundnut oil cake (GNOC), Sun flower oil cake (SOC), Sesame oil cake (SOC), Broken rice (BR), Wheat flour (WF), Maize flour (MF), Silk worm pupae (SWP), De-oiled silk worm pupae (DSWP), Fish Waste Meal (FWM), Leaf Meal Powder (LMP) etc. can be used for preparation of farm made feed.



Rice bran (RB)



De-oiled rice bran (DORB),



Wheat bran (WB),



mustard oil cake (MOC)



groundnut oil cake (GNOC)



Sun flower oil cake (SOC),



Sesame oil cake (SOC),



Wheat flour (WF)



Silk worm pupae (SWP)



De-oiled silk worm pupae (DSWP)



Fish waste Meal (FWM),



Leaf Meal Powder (LMP)

Feed Formulation

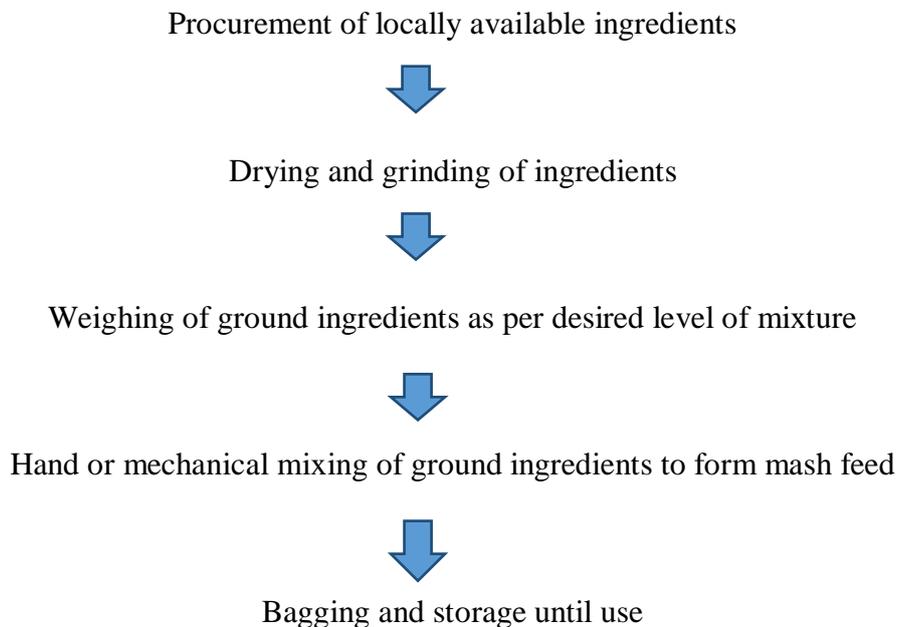
There is no situated formula for farm- Made feeds. Locally available ingredients can be mixed in different proportion for preparing farm- made feed. The commonly used combinations are as follows;

Sl. No	Ingredient composition	Ratio
1	GNOS: RB	1:1 or 3:2 or 7:3
2	MOC:DORB:RB:SOC	4:5:1
3	MOC: SOC: DORB:RB:SWP	9:3:7:1
4	MOC:WB	1:1 or 3:2 or 7:3
5	FW:DORB:RB	8:2

Different leaf meals such as sweet potato, seabania, subabul, groundnut, gokulakanta, black gram, ipomia leaf meals etc, can also be used in place of DORB. For making the pellet feed wheat flour at 10-15% level is used in the mixture for better pelletization and water stability of pellet. If it is affordable, vitamin – mineral premix can also be added in the farm made pelleted feed for getting better growth and survival. Commercially available vitamin- mineral premix such as Agrimin forte powder, halo etc. can be added at 2% level in the pelleted feed.

Feed preparation

Preparation of Mash Feed:





Preparation of Moist Ball:

Procurement of locally available ingredients



Drying and grinding of ingredients



Weighing of ground ingredients as per desired level of mixture



Hand or mechanical mixing of ground ingredients to form mash feed



Addition of desired level of water to make dough



Preparation of small moist balls and used immediately



Preparation of steam- compressed pelleted feed:

Procurement of locally available ingredients



Drying and grinding of ingredients



Weighing of ground ingredients as per desired level of mixture



Hand or mechanical mixing of ground ingredients except vitamin- minerals mixture



Addition of desired level of water to make dough



Dough should be kept in a plastic bag for conditioning and steam cooking in pressure cooker for 15- 20 min

Cooling the dough and mix the vitamin- mineral mixture if used



Preparation of pellets using either hand pelletizer or mechanical pelletizer



Drying of pellets under sunshine



Bagging and storage until use



CONCLUSION

Farm made Feed based aquaculture is gaining importance in India. However, due to high price of commercial feed and less farm gate price realization by carp farmers, most of the carp farmers unable to afford such feed for their farming practices. Farm made feed which can be made by utilizing locally available feed ingredient represents a promising alternative to carp farmers to utilize such feed for enhance aquaculture production at an affordable cost.

REFERENCES

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