

- 7• Record daily how much has been actually consumed.

Weeks in Prd'n	Fish Size (g)	Growth (g/day)	Daily feed (% BW)	Daily Feed / Fish (g)	FCR	Type of feed protein / (mm)	Number of feedings / day
Recommended Size at Stocking							
1	0 - 10	0.4	5.0	0.5	1	40% - crumble	4
2	13	0.6	4.8	0.6	1	40% - crumble	3
3	17	0.7	4.8	1.0	1	40% - crumble	3
4	22	1.0	4.6	1.0	1	40% - crumble	3
5	29	1.1	4.5	1.3	1.2	35% - 2mm	3
6	37	1.3	4.5	1.7	1.2	35% - 2mm	3
7	46	1.4	3.8	1.7	1.2	35% - 2mm	3
8	56	1.9	3.7	2.1	1.2	35% - 2mm	3
9	69	2.0	3.5	2.4	1.2	35% - 2mm	3
10	83	2.1	3.4	2.8	1.2	35% - 2mm	3
11	98	2.4	3.4	3.3	1.2	35% - 2mm	3
12	115	2.4	3.2	3.7	1.2	35% - 2mm	3
13	132	2.4	3.2	4.2	1.5	35% -3mm	3
14	149	2.6	3.0	4.5	1.5	35% -3mm	3
15	167	2.6	3.0	5.0	1.5	35% -3mm	3
16	185	2.7	2.9	5.4	1.5	35% -3mm	3
17	204	2.7	2.8	5.7	1.5	35% -3mm	3
18	223	2.9	2.6	5.8	1.5	35% -5mm	3
19	243	2.9	2.5	6.1	1.5	35% -5mm	3
20	263	3.0	2.4	6.3	1.8	30% -5mm	3
21	284	3.0	2.3	6.5	1.8	30% -5mm	2
22	305	3.0	2.3	7.0	1.8	30% -5mm	2
23	326	3.0	2	6.5	1.8	30% -5mm	2
24	347	3.0	2	6.9	1.8	30% -5mm	2
25	368	3.0	2	7.4	1.8	30% -5mm	2
26	389	3.0	2	7.8	1.8	30% -5mm	2
27	410	3.0	2	8.2	1.8	30% -5mm	2
28	431	3.0	1.8	7.8	1.8	30% -5mm	2
29	452	3.0	1.8	8.1	1.8	30% -5mm	2
30	473	3.0	1.8	8.5	1.8	30% -5mm	2
31	494	3.0	1.7	8.4	1.8	30% -5mm	2
32	515	3.0	1.7	8.8	1.8	30% -5mm	2
33	536	3.0	1.4	7.5	1.8	30% -5mm	2

NOTE:

if the pond water is not fertilized adequately (ie. is not green always), continue with the 30% protein feed.

- The estimated total amount of feed the fish in a pond per day:**
 - Fish size (g) x total amount per day x the total number of fish in the pond
- The amount of feed to give at each meal:**
 - Total feed requirement for the day (calculated in 1 above) / number of feedings per day

Remember:

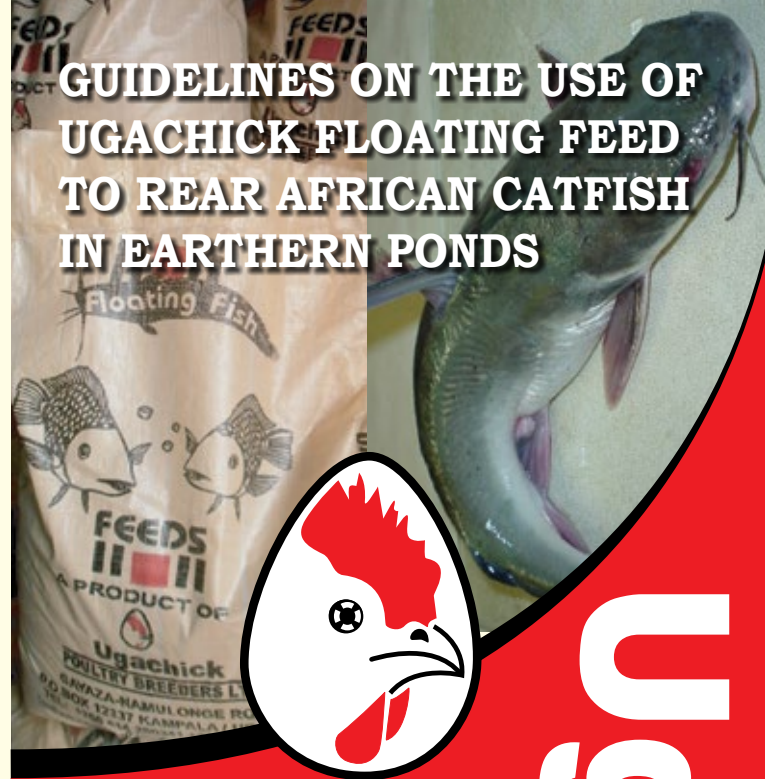
- 1• Feed by response
- 2• If the fish donot finish the amount calculated, keep the balance in a closed container for the following meal as shown in the picture below.

40% and above crude protein feed is requirement for fish that is below 10gms. Produced in a crumbled form and is slow sinking crumble diet for fresh water fish species. This diet is based on high quality ingredients and has a high digestability. Have 40% or above crude protein and a fat level of 11% protein is a body building unit yet fat is the most revesible energy and storage source.

- Is a complete starter diet for the early development stages of fish.
- This feed is based on high quality fish meal and chicken oil and contains adequate amounts of vitamins and minerals.
- This diet is very water stable which minimizes water pollution.
- The protein and energy level target good growth and optimal development of all body tissues especially the skeleton.
- Crumble is a complete feed with a good nutritional balance and contains all the necessary vitamins.

These are only guidelines

Results will vary based on local pond water temperatures, the farmers specific management practices and the pond's characteristics.



GUIDELINES ON THE USE OF UGACHICK FLOATING FEED TO REAR AFRICAN CATFISH IN EARTHEN PONDS



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Ugachick

THE PERFORMANCE OF A FISH FEED DEPENDS ON:

- 1• Its ability to meet the nutritional needs of the growing fish.
- 2• Its water stability and impact on water quality.
- 3• On whether or not all fish in the pond are able to consume the required amount.

Ugachick's floating fish feed meets these requirements because they are tailored to meet the specific nutritional requirements of the fish at the different stages of growth. Each pellet is complete in nutritional value and remains intact in water for at least 15-20 minutes. This coupled with the fact that the pellets do not sink to the pond bottom, reduces potential negative effects on pond water quality resulting from excess feed decomposing in the pond.

Catfish are naturally omnivorous, adults tend to be more canivorous, eating other fish or aquatic animals. Adults hunt in packs and feed about once a day. Hence, catfish have large stomach that can hold large amounts of food. Unlike tilapia, catfish do not forage on planktons. Consequently, they are entirely dependant on the feed given for their nutritional requirements in ponds. Their grow-out feed should therefore have a high protein, they tend to eat each other so as to supplement their protein level not less than 30% CP. Growth rates are also poor when the protein levels are less than 30% CP. Because of their social characteristics and natural adaptation to water of low quality, catfish can be farmed at higher densities than tilapia.

For best results, the following are the recommendations when rearing catfish in pond using ugachick floating fish feed. The following preconditions need to be met before and during the course of production.

PRECONDITIONS

- 1• **Pond preparation**
 - Ensure the pond is not leaking
 - Screen the inlet to ensure no wild fish enter the pond

2• Filling the pond with water

- Only fill through a screened inlet
- Ensure the water depth is on average 1mtr (about 80cm towards inlet and not more than 1.2 mtr towards outlet)

3• Stocking

- Stock within 10 days of filling once water quality looks optimal. This limits chances of predators (eg frogs) dominating the pond and competing with fish for the feed.
- Survival rates of fish stocked at less than 7g each is low. Fish less than 7g should be stocked in a nursery pond first till they get to 7g or more.
- Stock fish of the same size. if the fish are of different sizes, the large one will eat the smaller fish.

4• Pond management

- Keep inlet and outlet screens on right through the cycle.
- Do not let water through the pond continuously. Only add water when topping water levels or when water quality becomes poor.

Targeted average marketable size per fish	Number of fingerlings to stock per m ²
400g	5
600g	3
800g	2.5
1,000G	2

- Do not fertilise catfish ponds.
- Catfish tend to stir the pond bottom. The pond water will therefore look muddy with sometimes a green film on top. This is normal.
- Maintain recommended average water depth of 1 meter.

5• Other measures

- Do not feed wet or mouldy feed.
- Store feed in a cool dry place, away from direct sunlight and on pallets off the floor and off the walls.
- Harvest pond before it gets to carrying capacity.

HOW TO FEED WITH FLOATING FEED

- Refer to the **feeding chart as a guide.**
- **Use the** correct type and size of feed for the size of fish being reared.
- **Feed the right amount** the amount of feed the fish need each day is based on their body weight and affected by water quality and their health at the time.
- **Feed the correct number of times a day.** The feeding chart shows how many times a day, fish at different sizes should be fed.
- **Feed by response:** feed based on the fishes interest in coming to eat. Once the fish show no interest in feeding, do not add any more.
- Re-adjust the feeding based on the actual average weight obtained.
- **Keep daily records** of the amount fed to enable you monitor growth rates and feeding performance.
- If one follows the guidelines, by harvest time a farmer should have used about 1.8Kg of feed to produce 1kg of fish. The amount of feed used to produce a kilo of fish is called the **feed conversion ratio (FCR).**

HOW TO TRAIN FISH FEED RESPONSE

To feed by response, fish need to be trained to come and eat from the same place at the same time at the water surface.

- 1• Call the fish to feed at the designated fixed time and place. Eg. By making a sound or stump the ground just before feeding.
- 2• Pour in a handful of feed first. If the fish come, add more. If they do not come do not add any feed.
- 3• The following day, do the same until the fish eventually learn that if they donot come to feed on time, there will be nothing left for them. This may take several days.
- 4• The first week do not give more than half the estimated Required ration (see feeding chart) to train the fish to feed very intensively and rapidly.
- 5• **Do not** trickle food into the pond. **Use containers to broadcast the feed rapidly.**
- 6• The fish should finish all the feed given in 15 minutes. If not, reduce the ration. If they finish it all in less than 5 minutes, add more.