

Experiment-7

Water Stability of Formulated Feeds

The water stability of an aqua feeds plays an important role in determining its overall performance. Some fishes like carps are usually slow feeders and therefore required feed that remains stable for at least two hr. in water without much disintegration. The stability of a formulated feed is influenced by several factors such as feed composition, nature of ingredients (source), type of processing and moisture content of the feed. The prepared feed should maintain its integrity in water till it consumed by fish. Feed which is not water stable and if disintegrate rapidly will result in waste of feed and leads to poor water quality and therefore the water stability also depends on feed management. Substances are often added to feeds to improve the durability in order to improve the stability of a feed in water. These substance are referred as binders and generally do not contribute to the nutrition of the target species. Substances such as **lucerne meal, salt, molasses, bone, brewer's grain** act antagonistically to the stability of dry pellets. The degree of water stability require in a feed depends on the species culture and its feeding habit. Water stability of a prepared diets have been examine by incorporating wheat flour, starch, gum acacia or gram flour, guar gum, baffin, cooked rice, cooked sticky rice. In the stable diets for crustacean culture and tested for their dry matter losses in water for ½, 1, 2 and 6 hr. period.

Materials and method:

Pellets, balance, aquarium tank, water, sieve, oven

Procedure:

- Weigh a known quantity of prepared pellet feed and transfer to mesh sieve
- Immerse the sieve gently into a transparent fibre glass aquarium tank containing water and allow the sieve undisturbed for 1, 2, 4 hr.
- After a known period of time take out the sieve from the tank and drain the water
- Later transfer to a hot air oven for drying for 30 min at 60°C.
- Subsequently, after drying take out the sieve and weigh the pellets to determine the stability of the pellets using the formula

Calculation:

$$\% \text{ water stability} = \frac{\text{weight of retained whole pellets}}{\text{Initial total weight of pellets}} \times 100$$