

FISH FOOD WATER STABILITY TEST
Teacher Edition

Name: _____

Overview: During this activity you will observe and record the water stability of fish feeds using live, or fresh, fish food and store bought fish food pellets.

Materials:

1. Several samples of store bought fish food
2. Several live or fresh fish foods, such as tuna, sardines, worms, etc.
3. 250 ml beaker or similar sized plastic container
4. Water
5. Stop watch or clock

Method:

1. Obtain 4 feed samples from the instructor.
 2. Have students set up 4 beakers with water.
 3. Drop a small piece of eat food item into the water and record the immediate results.
 4. Continue to observe feed.
 5. Record results at 10-minute intervals until 30 minutes have elapsed.
 6. Record final observations.
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FISH FOOD WATER STABILITY TEST: Data Sheet (Each section is worth 1 point, 25 total points)

BEAKER	SAMPLE DESCRIPTION	Time: Minutes	OBSERVATIONS
1.		0	
		10	
		20	
		30	
		Final	
BEAKER	SAMPLE DESCRIPTION	Time: Minutes	OBSERVATIONS
2.		0	
		10	
		20	
		30	
		Final	
BEAKER	SAMPLE DESCRIPTION	Time: Minutes	OBSERVATIONS
3.		0	
		10	
		20	
		30	
		Final	
BEAKER	SAMPLE DESCRIPTION	Time: Minutes	OBSERVATIONS
4.		0	
		10	
		20	
		30	
		Final	

Discussion Questions:

Answer the discussion questions based on your observations of fish feeds and their apparent water stability. (Each question is worth 5 pts.)

1. Describe the characteristics of fish feeds used during this experiment.

A. Live (fresh) fish food:

Pros:

Nutrient rich
Small size often eliminates consumption problems
Complete nutrition for most fish
Technology associated with rearing of live foods is improving rapidly

Cons:

Difficult to maintain stocks
Expensive

B. Store bought food:

Pros:

Complete, uniform quality nutrition in each feed pellet
Easier to maintain a balanced diet
Sold dry or semi-moist (easy shipping, semi-moist provides good texture, more like live foods)
Pellets or flakes

Cons:

Rapid sinking unless the pellet is extruded (made like breakfast cereals)
Ultra small pellet size may be impossible to manufacture for larval fish

C. What happened to each fish food sample you tested at first?

Store bought pellets will usually hold together well, but may break after a short time. Live feed continually disintegrates.

D. What happened as the food sat in the water?

Longer water exposure degrades food.

2. Based on your observations which feed sample (type) would be the best fish food for an aquaculture operation? Why?

Depends on the operation. Fish often eat live foods or fresh foods better than pellets, but pellets are easier to disperse and store.

3. What problems might arise if this food was not used (eaten) right away?

Leaching and fouling of water quality. In large applications eutrophication of lakes and streams.

4. How does water stability of feeds relate to fish feeding practices?

Water stability is critical to fish feeding. Unstable pellets break up and leach nutrients into the environment.