AGRISCIENCE EXERCISE

ANIMAL SCIENCE & BIOTECHNOLOGY

Key Concept: Aquaculture Science

Sub-Concept: Fundamentals of Nutrition and Health in Aquaculture

Agricultural Context: Determination of feed efficiency is important in the management of all types of agricultural animal production.

Exercise: **Calculating Feed Conversion Rates for Fish**

Applied Principle: Efficient use of nutrients, Mathematical skills

Goals: 1. Determine feed efficiency.

Preparation Time:

Materials:
- Data Sheet
- Scales to weigh fish and feed
- Seine/Net
- Container for fish (bucket)

References: Parker, R. (1995). Aquaculture Science. Albany, NY: Delmar Publishers.

Teacher Preparation:

▸This activity may be enhanced by some background research into the ideal feed conversion rates for the particular species of fish you are working with. This may be carried out either by the instructor, or as an assignment for the class.

Procedures for Conducting the Activity:

1. Place amount of feed to be provided to fish each day in a container. Use a permanent marker to indicate the level of feed on the outside of the container.
2. Weigh the container and feed.
3. Empty the container, and weigh it.

4. Subtract the weight of the container from the weight of the container with feed to arrive at the weight of feed to be provided.

5. Weigh all fish in the tank. Record this initial weight on the attached data sheet.

6. Feed the fish the same amount of feed each day for a period of four to six weeks. Be sure to note any days that were missed, as well as any changes in the amount of feed provided.

7. One week after obtaining the initial fish weight, weigh the fish. Record weight on data sheet.

8. Calculate the feed conversion rate by dividing the total pounds gained by the total amount of feed provided. Record on data sheet.

9. Continue to feed the fish daily and weigh them every seven days for a period of four to six weeks, recording appropriate information on the data sheet.

10. Engage the class in a discussion of the applications of the skills practiced in this activity.

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STUDENT DATA SHEET

	Total Fish Wt. (Lbs.)	Difference in Fish Weight	Total Wt. of Feed (Lbs.)	Lbs. Gain/ Lbs. Feed
Initial Record		XXXXXXXXX	XXXXXXXXX	XXXXXXXXX
Week 1				
Week 2				
Week 3				
Week 4				
Week 5				
Week 6				