

Feeding Station for Floating Fish Feed

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What is the problem or challenge?

In aquaponic systems, feeding fish, especially with floating juvenile fish feed such as pellets or dried larvae for growing and adult fish, can lead to considerable feed losses. Often, the light feed is carried by the skimmer into the rest of the system. This results in two main problems:

- The fish do not receive enough food; and
- Organic residues enter the filters and impair water quality.

Therefore, it is necessary to prevent the feed from entering the rest of the system via the skimmer, while ensuring the feed remains available to the fish, in order to minimize losses and maintenance effort.

What solution was developed?

The combination of the feeding ring and skimmer bell emerged from multiple testing and adjustments, providing a practical solution that minimizes feed losses, particularly for dried larvae, and ensures efficient and reliable feeding in the tank. It combines two very simple parts:

- A floating feeding ring that keeps the feed centralized in the tank; and
- A cover (bell) over the skimmer that prevents feed particles from being sucked in.

Together, they keep the feed where the fish can eat it.

First, the feeding ring is placed on the water surface of the tank (Figure 1). It is made from a cut, food-grade bucket (Figure 2), and a closed-loop plastic tube attached to it improves buoyancy. This keeps the feed in place. The skimmer bell is made from a repurposed water container, which is cut on the side (Figure 3) and placed over the skimmer (Figure 4). The bell extends about 20 cm into the water, creating a calm zone that keeps the feed away from the skimmer.

Table 1: List of required materials

Component	Description	Quantity
Food-grade bucket (commercial)	e.g., 5–10 L, cut to serve as outer ring	1 piece
Water container (e.g., gallon)	For skimmer bell, with lateral cut	1 piece
Cable ties (UV-resistant)	For fixing in the tank	4 pieces
Plastic tube + double connector	80 cm tube	1 piece
Cutter/saw/drill	For adjusting buckets and containers	–



Figure 1: Feeding ring



Figure 2: Close-up view of the feeding ring



Figure 3: Close-up view of the skimmer bell



Figure 4: Skimmer bell



Figure 5: Feeding ring with skimmer bell

What are the benefits for farmers?

- **Less feed loss:** Feed stays in the fish tank.
- **Better feeding:** Fish always find feed in the same place.
- **Cleaner water:** Less feed enters the filters.
- **Less maintenance:** No clogged sieves or extra cleaning.
- **Low cost:** Made from cheap, locally available materials.
- **Easy to copy:** No special equipment needed.
- **Flexible:** Can be adapted for larger fish and bigger tanks.

This feeding station works especially well in small and medium aquaponic systems using floating feed. For larger systems, the same idea can be used with bigger containers. Because plastic buckets and canisters are widely available, the solution is practical and affordable, including in Sub-Saharan Africa.