

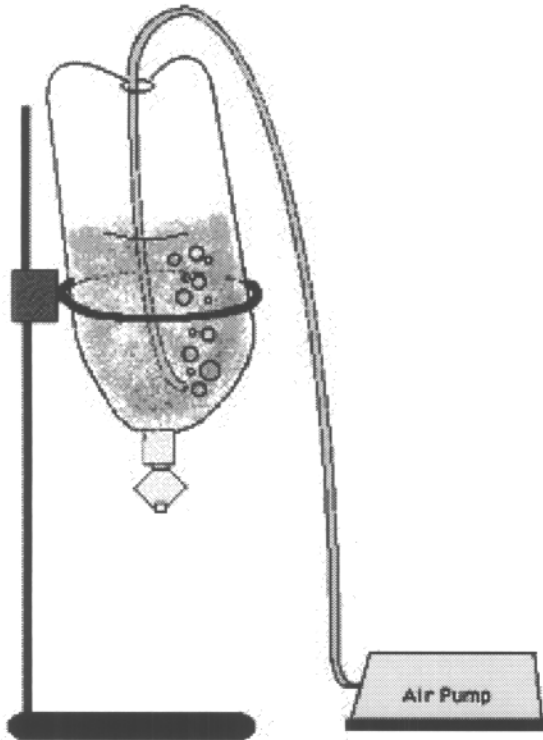
Simple Brine Shrimp Hatchery

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Constructing the Hatchery

Construct a simple shrimp hatchery out of a two-liter clear plastic cola bottle, the pull-up cap from a 32 oz (1 liter) dishwashing detergent bottle (or sports drink bottle), an aquarium air pump, a 3-4 ft (about 1 meter) long piece of tubing that fits onto the air pump outlet to use as an air hose, and a stand of some kind to support the bottle in an inverted position. A heat lamp with a 40-watt bulb is optional.

First, empty and clean the two-liter cola bottle with hot water. Use a sharp knife to cut a hole 1 to 1 1/2 inches (about 3 cm) in diameter in the bottom of the cleaned bottle. Next, rinse the pull-up cap from the detergent bottle very well with warm water. The threads



on the cap and the two-liter bottle should be compatible. Screw the cap onto the two-liter bottle.

This apparatus will be used inverted. The pull-up cap serves as a reclosable drain at the bottom. Fill the bottle half-full of water and draw a line across the bottle at the water line

with a permanent marker. Empty the water back out.

Position the air pump so that the air hose reaches the bottom of the inverted bottle. The diagram shows how the setup should look.

Operating the Hatchery

Rinse out the bottle, clean with a brush if necessary, make sure the drain spout is securely closed, and place it in the stand in inverted position. Add about a cup (about 350 ml) of hot tap water through the hole at the top. Use a funnel to add three tablespoons (45 cc) plain (uniodized) table salt —NaCl— to the hot water. Swirl to dissolve the salt. Fill the bottle the rest of the way to the half-full line with cold tap water. Next, add 1/4 - 1 teaspoon (2-5 cc) brine-shrimp eggs (cysts) to the bottle, depending on how many larvae you need to feed. For fewer than 20 larvae, 1/4 teaspoon (2 cc) should be plenty. Swirl the bottle gently to mix the eggs and brine. Place the air hose through the hole so that it reaches the bottom of the inverted bottle. Make sure that the air hose is positioned properly and bubbling vigorously because the shrimp will not hatch well unless the water is agitated continuously.

Most of the shrimp should hatch within 24 to 48 hours. The length of the cycle depends upon the temperature. The hatched shrimp are orange and can be easily seen through the plastic bottle. When most of the shrimp appear to have hatched, remove the air hose and hold the bottle over a clean shallow pan. After most of the gray shells have floated to the surface, open the drain to empty the newly hatched shrimp and brine into the pan. Close the drain before the last of the brine and the shells enter the pan.

Manipulating the Cycle

To shorten the cycle raise the temperature of the system by putting the apparatus in a warmer location or directing a lamp with a low-wattage bulb at the hatchery. Alternatively add more hot water initially to start with a warmer mixture.

To lengthen the cycle place the hatchery in a cooler location or use less (or no) hot water initially.

Troubleshooting

The percentage of shrimp that hatch depends on the temperature and length of the

cycle, on whether the brine has been continuously and vigorously agitated, and on the quality of the shrimp eggs used. If, after checking that temperature and agitation are appropriate, only poor hatches are obtained, consider changing to a different brand or supplier.

Collecting Shrimp to Feed

Place a large coffee filter across the top of a wide-mouthed jar or similar container. Collect live, swimming brine shrimp from the pans by sucking them up in a large pipette (turkey baster). Do not suck up dead brine shrimp from the bottom of the pan. Avoid getting any floating shells by placing the tip of the pipette just below the surface of the water. For easier collecting, place a light at one end of the pan. The shrimp are phototropic and will swim toward the light, conveniently gathering themselves together.

Squirt the shrimp and brine into the filter

to strain the shrimp out of the brine. Discard the brine, then wash the shrimp off the filter and into the container with axolotl water. Distribute the shrimp suspended in axolotl water among the bowls of larvae with the pipette. Feed very young larvae just enough to make their bellies orange. Feed larger larvae generously to forestall cannibalism. It may take a few days of feeding and observing the results to get a sense of how much to feed.

Care for Larvae

Small larvae (< 2 inches or 5 cm long) are fed brine shrimp. Change the water and feed them daily. Keep their bowls clean but never use soap. If necessary, use a little baking soda and salt mixed together as a cleaning agent (two parts baking soda to one part salt). Scrub, then rinse thoroughly. As the larvae grow, split them up into additional bowls. Keep similar sized larvae together.