UBC Animal Care Guidelines
SOP-008 – Hatching brine shrimp
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How to prepare a brine shrimp culture in a hatching cone

Purpose

This standard operating procedure (SOP) describes methods for preparing brine shrimp cultures to feed young stickleback (*Gasterosteous aculeatus).*

Policy

These parameters must be regularly checked and documented to ensure in compliance with CCAC. Failure to abide by the SOP may result in disciplinary action against the indivdual(s).

Responsibility

Student, technical personnel, investigator who have successfully completed the ethic training requirements of the Canadian Council on Animal Care (CCAC) and National Institutional Animal User Training (NIAUT) Program.

Materials

- Hatching cone
- Can of brine shrimp eggs
- Can opener
- Protective work gloves to wear while opening can
- Clean, dechlorinated saltwater (10-12 ppt)
- Air pump and tubing
- Warm water bath, such as a 3/4-filled aquarium, containing water heated to 27-29 degrees C OR environment chamber heated to 25-29 degrees C
- Aquarium heaters for water bath
- A lamp giving off bright light, day and night
- Scrub pad to clean hatching cone

Opening an unopened can of brine shrimp

1. Put on protective work gloves.
2. Open can using can opener or use easy open tab to peel open. Take precaution because lid has sharp edges.
3. Dispose of tin lid in the regular garbage or directly into the dumpster outside the aquatics facility

Preparing the hatching cone

1. Scrub the hatching cone to remove any bacterial slime from the sides.
2. Fill the cone with salt water, between 10-12 ppt (Note: this low salinity is ideal for hatching brine shrimp, but a higher concentration, 28-32 ppt, is necessary to keep the shrimp alive over 24h, they will die at lower concentrations). Use higher concentration when rotating cultures. Adjust salinity by adding salt or water, as necessary.
3. Add scoop of brine shrimp eggs to hatching cone.
4. Insert the air line tubing into the cone and make sure the straw at the end of the air line is inserted into the hole at the bottom of the cone. The water should be bubbling vigorously. Check that eggs are not collecting at the bottom of the cone, if they are, increase the air pressure.
5. Eggs should hatch within 24 hr.

Harvesting brine shrimp

1. Remove the air line and straw from the cone and leave alone for about 15 minutes. The empty shells, if present, will float to the top. Unhatched eggs will sink to the bottom. The live brine shrimp (bright orange) will be hovering in the middle.
2. Place a small beaker below the cone and open the tap at the bottom of the cone to draw out the separated brine shrimp.
3. Turn off the tap once you've collected the brine shrimp.
4. Pour a portion of the brine shrimp collected into a separate beaker, you will use this to complete the feeding.
5. Place the remainder of the brine shrimp (still in beaker) next to the hatching cone and insert the airstone.
6. Prep the hatching cone for the next day (See "Prepping the hatching cone"). Use dechlorinated water to rinse the brine shrimp collected for feeding.
7. Feed baby fish!
   You may have to repeat the egg separation step a few times. It is important that we separate as many eggs as possible as they will block the digestive systems of the baby fish, which will cause mortality.