

PRODUCTION OF SUNSHINE BASS FINGERLINGS WITHOUT USING ROTIFERS

Gerald M. Ludwig, Steve E. Lochmann

Harry K. Dupree-Stuttgart National Aquaculture Research Center
Agricultural Research Service, USDA-ARS
P.O. Box 1050
Stuttgart, AR 72160
USA
gludwig@spa.ars.usda.gov

Previously reported protocol for culture of sunshine bass larvae to fingerling size in tanks involved an initial feeding of rotifers for several days before the larvae are weaned to feed on *Artemia* nauplii. Maintaining rotifer cultures requires space, time, equipment, supplies, trained culturists and the cultures are often unstable. Elimination of the use of rotifers would greatly enhance the feasibility of reliable tank culture of fingerlings and should reduce its cost. This experiment was comprised of three treatments with three replicates per treatment: larvae fed standard size *Artemia* nauplii (0.48 mm X 0.19 mm), larvae fed microcyst *Artemia* nauplii (0.43 mm X 0.18 mm), and larvae fed rotifers (*Brachionus plicatilis*) (0.26 mm X 0.16mm) and weaned to standard size *Artemia* nauplii by 11 days post hatch (dph). Sunshine bass larvae, 4 dph, were stocked into 100 L tanks at 75 larvae/L. The initial daily feeding rates were 20 rotifers or nauplii/mL. That was increased to 20/mL, twice/d at 5 dph and then changed to 10/ml, twice/d at 6dph. The experiment lasted until 14 dph. At 14 dph, 4.3 % of the larvae fed only standard *Artemia* nauplii survived while significantly more, 43.0%, of those fed microcyst *Artemia* nauplii and 93.6% of those receiving rotifers and standard *Artemia* nauplii survived. At 14 dph, average standard lengths (7.26 mm) of larvae fed microcysts or rotifers and standard *Artemia* nauplii (7.13 mm) were both significantly longer than that of larvae receiving standard *Artemia* nauplii (6.86 mm). During previous experiments, larvae that were not fed had 0% to 0.01% survival by the end of 11 dph. This experiment is the first time that sunshine bass have been cultured to 14 dph while being fed *Artemia* nauplii but without being fed rotifers.