



BIOMEDICAL RESEARCH INSTITUTE

NIH NIAID Schistosomiasis Resource Center

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ARTIFICIAL POND WATER

For the cultivation of *Biomphalaria glabrata*, *Bulinus truncatus* and *Oncomelania hupensis*

Prepare 4 stock solutions:

1. $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ – 0.25 g/liter
2. $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$ – 12.9 g/liter
3. $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ – 10 g/liter
4. Phosphate buffer:
 - a. dissolve 34 g KH_2PO_4 in 500 ml H_2O ;
 - b. add approximately 175 mL 1 N NaOH until pH 7.2 is reached
 - c. add 1.5 g $(\text{NH}_4)_2\text{SO}_4$
 - d. add H_2O to 1.0 liter

For 20.0L Pond H_2O

10 mL FeCl_3 solution
50 mL CaCl_2 solution
50 mL MgSO_4 solution
25 mL Phosphate buffer

Bring to 20.0L H_2O and mix

For 100.0L SRC barrel of Pond H_2O

50mL FeCl_3 solution
250mL CaCl_2 solution
250mL MgSO_4 solution
125mL phosphate buffer

Bring to 100.0L and mix

The SRC aerates the pond H_2O in large 100.0L barrels for 72hr before use. Crushed limestone is added to the snail pans/aquaria (0.5g/1.5L H_2O).

Note: The NIH NIAID Schistosomiasis Resource Center uses an ion exchange resin system (organic, anion, cation and mixed-bed tanks) to generate deionized H_2O from Rockville, Maryland tap H_2O . The above recipe for “pond H_2O ” is used to add back select ions into the deionized H_2O . Pond H_2O is used in all SRC operations including snail cultivation (‘snail pans’), parasite collection; percutaneous exposure of rodents to cercariae; and the exposure of snails to miracidia.

REFERENCES

Materials and Methods communicated by: J. Collins, PhD (U of Texas- Southwestern) and P. Newmark, PhD (U of Wisconsin, Madison) by way of D. Williams, PhD (Rush University) and J.L. Bennett, PhD (Michigan State University)
