



Aquaculture and Agriculture Education

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Recirculating Tank System

- **Requirements**
 - Need at least two tanks
 - Need barrier for the top of the tank (cover or fence)
 - Water testing equipment
 - Good uniform source of water
 - Waste disposal system or site
 - Scale to measure progress
 - Market or Planned Use of Fish

Advantages to your program

- Public Relations and Media Coverage for your program
- Student Interest
- Teach advance subjects like Water Chemistry
- Integrate with Hydroponics to show how systems can benefit each other
- More high level hands-on activities

Location of Your Set Up

- Greenhouse
- Shop
- Outbuildings
- Classrooms
- Separate Fish Barn

Fish Selection

- **Tilapia (need warm temperature)**
 - * grow well in tanks
 - * tolerate rough treatment
 - * readily available
 - * grow fast
 - * good market

Problems/Troubleshooting

- Water Temperature
- Mineral Concentrations
- Automatic water systems
- Organic Deposits
- Electrical Problems
- Biofilter Problems
- Suicides
- Human Error

What We Have Learned

- Greenhouse is not an ideal location
 - Temperature Fluctuation
 - (Submersible Heaters are expensive to buy and Operate-need to emphasize low tech solutions)
 - *Raise the tanks off the floor
 - *Use Hydroponics to raise water temp
 - *Insulate at night

More We Have Learned

- Irrigation System causes problems (Fertilizer in the water)
 - * Build a Canopy to protect the tank
 - * Crop Selection in Hydroponics is limited

Still Learning

- Waste Disposal

- * Home made septic tank with a sump pump to pump effluent into flower beds
- * Difficult to get students to clean tanks
- * Shows the effects of an organic fertilizer- flowers respond well
- * Out of sight - Out of mind

Would we do it all over again?

- **What we would do the same:**
 - Get CTE director to pay for the set up
 - Raise Tilapia in Tanks
 - Let the Students have ownership
 - Integrate with Hydroponics
 - Have Two Tanks with RBC Biofilters
 - Use as an integrate part of the Ag complex - tours offered to other schools in the system, and the fish are a great attraction to greenhouse customers

Never too old to learn:

- What would we do differently this time?
 - Not place the tanks in greenhouse
 - Assign specific students each semester to take care of the tanks
 - Have a separated, heated, insulated and vented structure designed for raising fish

How can we help?

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