

# BMPs for Raising Catfish in Watershed Farm Ponds

David Crosby, Fish Health Specialist

Ofc: 804.524.5620 Email: dcrosby@vsu.edu

BMPs or Best Management Practices are mostly straightforward and lots on common sense in many cases. Most of the time, it is just keeping records of what you are doing. Note most of the BMPs listed here is also applicable to cage production.

## Stocking Watershed Ponds

- No more than 5000 fish per acre for food fish production. A drought will reduce surface area. That 5000 fish per acre now becomes 7000 to 10000 fish per acre.
- Use at least 60 lb per 1000 fish for stocking.
- **Keep Records** on stocking. This includes numbers and weights. Make notes on size of fish stocked.
- Don't lower ponds - you may not get the rainfall to refill what was released.

## Chemicals and Antibiotics

All aquaculture facilities should avoid as much as possible using any chemicals and antibiotics. When used, keep records.

- Before using any chemicals or antibiotics makes sure that, the problems being treated requires its use. For disease recommendation, consult your fish health specialist.
- When using any chemicals or antibiotics make records of its use. This includes the chemicals and antibiotic used. The amount used. The duration and the date started and stop, and most importantly the pond or cage that was treated. Also, state the problem that it was used for. E.g. Diquat for duckweed; Terramycin for Aeromonas in catfish.
- All chemicals and antibiotics should have an EPA aquatic label or FDA label for treating food fish.
- Always, always follow the recommended dosage. Never use more then what is required. There are reasons for this.
- Contact the Cooperative Extension if you have any questions concerning usage and dosage.
- Stored all chemicals and antibiotics in a protected and cool environment. Always stored in the original container.

## Fish Health

Fish Farmers should always be on the guard for possible epizootics.

- When fish start to die, check it out. Don't wait, Act now!
- When fish stop feeding for no apparent reason, a disease problem may be at hand.
- Remove dead fish from pond. This may be impractical under certain conditions. Bury fish and use hydrate lime in the pit.
- Have medicated feeds on hand.
- Check water, especially oxygen levels, TAN and Nitrites.
- Call your Fish Health Specialist.

## Water Quality

You should have a test kit that is at least equivalent to HACH FF1A, Fish Farmers Kit. This should be with you at all times as well as an oxygen meter. The test kit should do Total

Ammonia Nitrogen (TAN), Nitrite, Chlorides, pH, Alkalinity, Hardness, and Oxygen. Most kits come with a thermometer for measuring water temperature.

- Check water once a week for TAN, Nitrites, and pH. Collect the sample in the afternoon when pH is the highest.
- Have a good oxygen meter (YSI has been the standard for the catfish industry for 30-40 years. But, there are other meters available).
- Check hardness and alkalinity twice a year. Once in the spring and once in the fall. Add Calcium carbonate as needed.
- Muddy ponds add gypsum. This will reduce the clay turbidity. In addition, gypsum will add calcium to water.
- When checking oxygen, it should be checked at 30 minutes before sunrise and 30 minutes after sunset. During intense production season-summer, oxygen should be checked every 3 hours starting at midnight. Even with aerators, ponds can still have oxygen problems.
- Maintain at least 50 ppm of Chlorides (salt) in pond when raising catfish. This will protect against any nitrite problem that could occur.
- At least 1-2 hp of aeration per acre. Preferably two hp acre of water.
- Aerators can be timed to go on after sunset and to go off after one hour past sunrise.

## Feeding

Feed fish every day that is possible. More feed, more gain in production.

- This seems obvious, but don't over feed.
- Water shed ponds. No more than 60-80 pounds of feed per acre. Remember these are watershed ponds are not levee ponds that are filled with well water. Again, don't go overboard on feed.
- Feed to satiation. But don't go over the 60 – 80 pounds per acre.
- Feed in the AM rather than the PM when possible. This will allow the feed to digest under full oxygen conditions.
- For every 2 lbs of feed given will produce 1 lb of fish. 1000 lbs of feed produces 500 lbs of fish growth.
- Again, this is obvious, keep feed records. Adjust the amount of feed every two week until maximum amount per acre is reached.
- Record water temperature every time you feed. Fish feed less when water is cold and more when it's hot.
- Always use floating feed. Catfish 32% protein float. Always use a complete ration.
- Feed records are how you keep up with production gains.

## Harvest

- **Keep Harvest Records.**
- Record the weights and numbers of fish from each pond. This includes size of fish harvest.

If you don't follow these BMPs, in a very short time, you will not know what you have done or have in the ponds. And everything becomes a guess! Any questions on these BMP's contact your cooperative extension agent or Specialist.