# ARTIFICIAL BREEDING AND FARMING OF BARB (“COC” FISH)

# INTRODUCTION

- Flesh of good taste, a speciality of An Giang province
- Live in moving water environment
- Diversified feeds, with preference of animals
- Rare quantity in the wild

# COLLECTION OF BROODSTOCKS

- Collected from the wild
- Farmed in the pond near the place of collection for 15 days
- Moved to the Center’s pond by truck. Broodstocks were kept in nylon bags with their fins put inside plastic tube in order to avoid breaking the bags

# GROWING BROODSTOCK

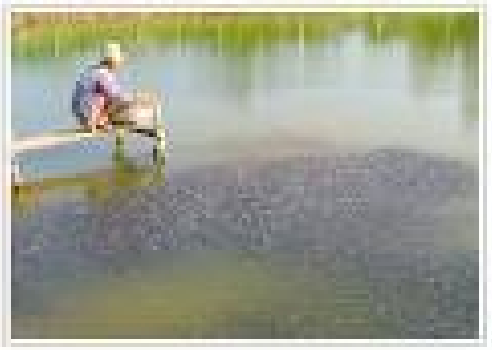
- Pond area: 2,000$m^2$
- Pond depth:1.5m
-Water change regime is carried out 3 times/day for 20% of the pond water volume
- Feeding: with pellet feed Proconco 30-35% Protein, added with snails and crushed squids
- Feed portion: 3% of industrial feed, 1%BW of snails and crushed squids

# ARTIFICIAL BREEDING SIZE

- DT: LH-RHa and pituitary gland
- Egg collection, dry fertilization
- Egg incubation in tank with aeration and running water of low speed

# FRY NURSING

- The first nursing stage is carried out in cement tanks for 1 month, with density of 2,500 ind./$m^2$
- The 2$^{nd}$ stage is carried out in the earthen pond
- Feed for the 1$^{st}$ stage: nutritional powder Milknilac, moina, broken pellet feeds
- Feeds for the 2$^{nd}$ stage: broken or small pellet feeds



# COMMERCIAL GROW-OUT

- Grow-out in pond: with density of 1-2 ind./$m^2$
- Pen culture: 0.2 ind./$m^2$
- Raft culture: 100 ind./$m^2$

# BREEDING BIOLOGICAL CRITERIA

| Year | Maturation percentage (%) | | The highest maturation coefficient of female fish (%) |
|---|---|---|---|
| | Male fish | Female fish | |
| 2002 | 80 | 60 | 5.39 |
| 2003 | 95 | 90 | 7.25 |
| 2004 | 100 | 100 | 9.03 |
| 2005 | 80 | 80 | |

# BREEDING BIOLOGICAL CRITERIA

- Floating eggs
- Egg size upon spawning: 0.9-1.0mm
- Egg size upon being water-swollen: 1.8-2.0mm
- Eggs hatched after 14 hours at the temperature of $29^0$C.
- Relative breeding capacity: 45,000 eggs/kg of female fish

# INDUCED ARTIFICIAL BREEDING

| Stimulator | Preliminary dose | Decisive dose | Dosage for male fish | Time for effectiveness |
|---|---|---|---|---|
| Pituitary gland (PG) | 1 mg | 2 mg | 0.5 | 6h |
| LH-RHa +PG | 0 | 150 µg | 50 µg | 6h |

# RESULTS OF NURSING IN CEMENT TANKS

| Criteria | Unit | Results |
|---|---|---|
| Nursing density | individual/ $m^2$ | 2,500 |
| Nursing time | Day | 25 |
| Individual weight | Gram | 0.026 |
| Length | Cm | 1.6 |
| Survival rate | % | 80 |

# RESULTS OF NURSING IN PONDS

| Criteria | Density of 180 individuals/$m^2$ | Density of 90 individuals/$m^2$ | Density of 45 individuals/$m^2$ |
|---|---|---|---|
| Quantity of 25-day fish | 200,000 | 130,000 | 30,000 |
| Nursing time (day) | 75 | 35 | 75 |
| Weight (g) | 0,7 | 0,7 | 1,7 |
| Length | 4,5 | 4,5 | 6,0 |
| Survival rate | 50 | 58 | 56 |

# RESULTS OF COMMERCIAL GROW-OUT

| Farming system | Stocking density | Feeds | Weight after 15 months | Survival rate | Productivity | FCR |
|---|---|---|---|---|---|---|
| Raft farming + tra catfish | 75c/$m^3$ | Processed feed | 418 | 65 | 12 kg/$m^3$ | 2.05 |
| Pond farming + fish of other species | 1 con /$m^3$ | Processed feeds + agricultural by-products | 326 | 76 | 2.9 tons/ha | 4.9 |
| Pen system + red Tilapia | 0.2 | Industrial feeds | 254 | | | |


THANK YOU VERY MUCH!